ARMIDALE Regional Council

ATTACHMENTS

ORDINARY MEETING OF COUNCIL

To be held on

Wednesday, 25 November 2020
4pm

at

Armidale Council Chamber

INDEX

Date	Briefing/ Workshop	Topic	Details	Council Report Date	Council Report Outcome/Resolution	Previous Council Reports
11/10/2017	Workshop	Financial Sustainability	Report from consultant. Facilitator Morrison Low. Final report and powerpoint emailed to Councillors 23 May 2018.	Doesn't appear to have been presented.		
11/10/2017	Workshop	Update on current Federal and State funding Opportunities for ARC – Lindsay Woodland	Regional Infrastructure Priorities Document (AINT/2017/17979), which includes: *Water Security for Guyra - Malpas Dam Pipeline - $10m+ *Airport Development - $30m+ (New runway and Instrument Landing System (ILS) - $30 - $40m; future proofing Armidale Regional and Airport and Airport Security Scanning ($1m)) *Armidale Regional Airport Industrial Precinct - $7m+ *Armidale CBD Precinct Development: Central Mall ($4 - $5M), East Mall ($3 - $5M), West Mall ($3 - $5M) *Bellevue Stadium Upgrade - $10m *Saumarez Homestead Development ($1.77m requested, $730k ARC and $200k philanthropic) *Dumaresq Dam Recreation Development $3.31m *New England Rail Trail $4.08m *NERAM Extension $4.7m *Old Courthouse Creative Arts Industry Development $1M total cost *Upgrade/Replacement of 32 Timber Bridges - $5.8m *Dumaresq Dam Safety Project ($3 -$5m) *Airport Parking *Armidale Showground *Super School *Glasshouses or Controlled Environment Horticulture (CEH)	Doesn't appear to have been presented		
7/11/2017	Workshop	Committees - Resolve committee structure and Councillor assignment to committees		22/11/2017	310/17 - Structure adopted and Councillors assigned.	
10/11/2017	Workshop	CEO Delegations		22/11/2017	308/17 - (a) That any previous delegation to the Chief Executive Officer be revoked. (b) That Council delegate to the Chief Executive Officer, the "Instrument of Delegation CEO" attached. (c) For the period 27 September 2017 and ongoing appoint one of the two Group Leaders to act as Chief Executive Officer if the Chief Executive Officer is sick or otherwise absent from work on leave, with such appointment to cease upon the return to work of the Chief Executive Officer or other resolution of the Council. (d) That Council delegate to any person acting as Chief Executive Officer, pursuant to this resolution, all the functions, delegations and sub-delegations given to the Chief Executive Officer by the Council.	
10/11/2017	Workshop	Draft Media Policy		22/11/2017; 28/03/2018	311/17 (to go on public exhibition) and 32/18 adopted	
10/11/2017	Workshop	Draft Councillor and Staff Interaction Policy		22/11/2017;	312/17 (to go on public exhibition and adopted retrospectively if no submissions received)	
10/11/2017	Workshop	Related Parties Disclosures and Designated Persons Return	Workshop reported meant to go to 13 December 2017 Council meeting	Doesn't appear to have been presented		
13/11/2017	Workshop	Proposed Guyra to Malpas Pipeline	With Department of Premier & Cabinet. Reviewing: Revised Community Engagement Approach; Revised FAQs; Revised Milestone and Engagement Matrix; Media statement to be released following Council meeting	13/12/2017	340/17 (report noted and endorsed Council continuing to seek funding from the NSW Government towards augmentation of Guyra's water supply, including pipeline)	
13/11/2017	Workshop	Presentation: Armidale Mall Update (Mall Vibrancy Plan)	Grant funding applications, advised ARC contribution for $1.4m minimum and community consultation	28/02/2018; 28/03/2018	10/18 - community consultation survey results noted and Committee tasked with reviewing design. 40/18 and 42/18 (progress report noted and report amendment)	Note: OCM 22/3/17 - 79/17 (Funding for mall of $558k committed including $279k Stronger Regions Fund and $279k from ARC over 4 years). OCM 26/7/17 - 201/17 - Approval for SCCF grant applications for:1. City Cycle Ways; 2. Mall Vibrancy Stage Two; 3. New England Mountain Bikers Inc. - Project Gonzo; 4. Guyra Museum; 5. Makers Centre at the new Armidale War Memorial Library; 6. NERAM expansion project; and noted $2-3 Million funds will be needed to be funded from the 2017/18 budget.
21/11/2017	Workshop	Economic Development	Armidale Region Economic Development Strategy (EDS) 2017-2025	13/12/2017	338/17 - a) That the Armidale Region Economic Development Strategy (EDS) 2017-2025 in its current format be adopted. b) That the strategy is reviewed by 30 September 2018.	
21/11/2017	Briefing	Financial Briefing	Summary of Financial Reporting Cycle, legislative and audit requirements and LTFP. Summary of processes. No decisions made.	Not required to be presented		
22/11/2017	Workshop	New Armidale High School Briefing and Opportunities with Dept Education	Nil information available.	Not required to be presented		
11/12/2017	Workshop	Settlement Services International	3.1 Presentation from SSI (the lead agency on settlement) on plan for refugees. No decisions made.	Not required to be presented		
11/12/2017	Workshop	Customer Service Charter		28/02/2018	15/18 - Endorsed for public exhibition. No submissions received, therefore adopted.	

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11/12/2017	Workshop	Establishment of Joint Organisation (NEJO)		13/12/2017; 28/2/2018	336/17 - a) That Council endorse the formation of a New England Joint Organisation, which would 'nest' within the New England North West planning boundary; and b) That Council approve Armidale Regional Council becoming a member of the New England Joint Organisation. 12/18 - That Council in accordance with Part 7 of Chapter 12 of the Local Government Act 1993 (Act), the Armidale Regional Council (Council) resolves: a) That the Council informs the Minister for Local Government (Minister) of the Council's endorsement of the Minister recommending to the Governor, the establishment of a Joint Organisation (Joint Organisation) in accordance with this resolution. b) To approve the inclusion of the Council's area in the Joint Organisation's area. c) That the Joint Organisation be established to cover the Council's area and any two or more of the following Council areas: Glen Innes Severn Council, Inverell Shire Council, Moree Plains Shire Council, Tenterfield Shire Council and Uralla Shire Council. d) That, on the expiry of a period of 28 days from the making of this resolution, the General Manager provide the Minister: (i) with a copy of this resolution including the date on which Council made this resolution, and (ii) informs the Minister that this resolution has not been rescinded, for the purpose of the Minister issuing a certificate under section 400P of the Act.	
11/12/2017	Workshop	Briefing on the Dumaresq Creek Master Plan	Nil information available.	Not presented		
12/12/2017	Site Visit	Kolora Aged Care	Nil information available.	Site visit only. Not required to be presented		
12/12/2017	Workshop	Community Connect	Report available	Not presented		
12/12/2017	Workshop	Our Plan to Engage the Community on Service Levels	Report available	Not presented		
12/12/2017	Workshop and Site Visit	Guyra Preschool and Long Day Care	Business Case presented	25/07/2018	147/18 - a) Council accept the two offers of funding from the Department of Education and Training under the Community Child Care Fund Grants – Sustainability Support stream and the Capital Support stream; b) That Council further investigate the most cost effective and efficient option, for either a new Greenfield centre or the staged redevelopment of the existing centre in Guyra; and c) That should the above investigations identify that a new Greenfield centre is a more cost effective option which provides the same or better amenity, and within the funds available, then the Chief Executive Officer be delegated the authority to seek the concurrence of the funding body to alter the project from the staged expansion of the existing centre to a new "Greenfield" centre.	
7/02/2018	Workshop	Greenprint (EcoARC)		28/11/2018	259/18 - Resolved that the Draft EcoARC (Greenprint) be considered at a Councillors Workshop.	
7/02/2018	Workshop	Community Satisfaction Survey 2017		28/02/2018	18/18 - That Council note the Community Satisfaction Survey 2017 results which showed that all eight (8) services and facilities scored above the 3.0 "neutral" rating of satisfaction compared to only two being rated above 3.0 in 2016.	
7/02/2018	Workshop	New England Rail Trail (NERT)		28/02/2018	3/18 - a) That Council note its previous in principle support for a New England Rail Trial from Black Mountain to Ben Lomond as per the economic strategy that has already been adopted by Council. b) That Council: • Engage with the State Government following the community consultation conducted by the Office of Premier and Cabinet as to its current position on the New England Rail trial • Conduct a comprehensive investigation and discovery of all relevant information and conduct extensive community consultation once the investigations have been completed as per the Economic Development Strategy.	
7/02/2018	Workshop	Presentation from Arts North West	Nil information available.	Not required to be presented.		
20/02/2018	Workshop	Media Policy	Facilitator – Lindsay Taylor, Lindsay Taylor Lawyers	28/03/2018	32/18 - a) That the views expressed in the submissions be noted; and b) That the Media Policy, as amended, be adopted.	27/09/2017 - That the Draft Media Policy be deferred and workshopped. 22/11/2017 - (311/17) endorsed for public exhibition.
6/03/2018	Workshop	Land Divestment Strategy	Nil information available.	26/04/2018	77/18 - FOR DECISION: Land Portfolio Divestment Strategy and Plan: a) That Council endorse the recommendations detailed in the report; b) That the CEO be delegated authority to dispose of the following properties based on the Reserve Prices detailed in the report: - Lot 24 DP 1166745 - Lot 41 DP 1166745 - Lot 53 DP 1166745 - Lot 50 DP 732610 - Lot 15 DP 237379 - Lot 16 DP 237379 c) That the Council seal be affixed to the documents associated with the Contracts of Sale for the above Lots; and d) That a status report on the Land Portfolio Divestment Strategy be submitted to Council in July and December 2018.	
6/03/2018	Workshop	Homes North Business Plans	Nicki Purcell to present. Nil other information available.	Not required/doesn't appear to have been presented		22/3/2017 - 71/17 - That Council enter into a Memorandum of Understanding with Homes North Community Housing in accordance with the terms detailed in the report.
6/03/2018	Workshop	IPR – council engagement and delivery program. Budget Session 1 (key assumptions IPR, fees and charges)	Development of Delivery Program 2018-2022. Nil information available.	16/05/2018	81/18 - endorsed for public exhibition	
6/03/2018	Workshop	Capital Portfolio Framework Overview	Nil information available.	Not required/doesn't appear to have been presented		
6/03/2018	Workshop	Tingha Direction	Powerpoint available.	25/07/2018	143/18 9.1 FOR DECISION: Boundary Change Joint Proposal - Armidale Regional Council And Inverell Shire Council - Community Of Tingha and Surrounding Area. a). That Council reconfirm its support for the joint proposal for a boundary alteration, as contemplated by section 218B of the Local Government Act 1993; etc	
14/03/2018	Workshop	Update on design Guyra main street redevelopment	Rescheduled to 21/3.	N/A		

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14/03/2018	Workshop	Draft Whole ARC Revenue Policy 2018/2019 and Draft Fees and Charges	Rescheduled to 21/3.	N/A		
21/03/2018	Workshop	Guyra Main Street upgrade including inspection	Nil information/powerpoint available.	27/06/2018	122/18 - (a) That the scope of work on the Guyra Main Street Upgrade project be reduced to match the funds available, as per Option 1 in the report; and (b) That an update report be submitted to Council at the 50% completion stage.	8/2/2017 - 42/17 - a) That Council endorses the Guyra Main Street upgrade plan. b) That support be sought from the Stronger Regions and Stronger Communities Assessment Panel for a contribution of $2.0m towards the project.
21/03/2018	Workshop	IPR Delivery Program and Operational Plan	Brainstorming Session on Delivery Program	16/05/2018	81/18 - adopted for public exhibition	
21/03/2018	Workshop	Draft Whole ARC Revenue Policy 2018/2019 and Draft Fees and Charges	Drafts presented. Note were also presented to 11 April 2018 Workshop.	16/05/2018	81/18 - adopted for public exhibition	
11/04/2018	Workshop	Executive Briefing: ELT and Councillors	Nil information available.			
11/04/2018	Workshop	Draft Revenue Policy 2018-2019 Part A Fees and Charges. Part B Ordinary Rates and Annual Charges		16/05/2018	81/18 - adopted for public exhibition	
11/04/2018	Workshop	Grants Update	Review of Grant Applications – presentation by Greg Lawrence. Nil information available.			
11/04/2018	Workshop	Update on flying foxes	Nil information available.	26/04/2018	50/18 - (a) That the Draft Black Gully Flying Fox Camp Management Plan be endorsed; (b) That the Draft Black Gully Flying Fox Camp Management Plan go on public exhibition for a period of not less than 28 days, from Monday 30 April 2018 to Monday 28 May 2018; (c) That a further report be provided to the June 2018 Council meeting for consideration of any submissions received; and (d) That if no submissions are made within the submission period, then the Black Gully Flying Fox Camp Management Plan be adopted retrospectively.	
19/04/2018	Workshop	Draft Development Contributions Plans	Report prepared	24/10/2018	224/18 - That the following plans, as amended by (b) and (c) above, be approved and come into effect on 1 November 2018: i) Armidale Regional Council Section 7.11 Development Contributions Plan 2018 – Heavy vehicles; ii) Armidale Regional Council Section 7.12 Development Contributions Plan 2018; and (e) That copies of the approved Development Contributions Plans be forwarded to the Minister for Planning.	
23/04/2018	Workshop	Operational Plan (Budget) 2018-2019	Draft documents provided	16/05/2018	81/18 - endorsed for public exhibition	
24/04/2018	Site Visit	DA-19-2009/A		26/4/2018; 23/5/2018	64/18 - That the report on Modification to DA-198-2016/A - New Boarding School constructed at The Armidale School - Modification concerns the re-calculation of Water and Sewer Contributions under Section 64 of the Local Government Act, 1993 be deferred. 87/18 - That Resolution 64/18 be rescinded which RESOLVED - "That Council delete Conditions 7 and 47 from DA-19-2009/A"	28/3/20 - 35/18 - item presented and deferred to allow a site visit
2/05/2018	Workshop	Operational Plan (Budget) 2018-2019 Long Term Financial Plan Delivery Program and Operational Plan Resourcing Strategy		16/05/2018	81/18 - endorsed for public exhibition	
8/05/2018	Workshop	Delivery Program and Operational Plan Community Strategic Plan Submissions Operational Plan (Budget) 2018-2019 Resourcing Strategy		16/05/2018	81/18 - endorsed for public exhibition	
8/05/2018	Workshop	Council Ordinary Meeting Cycle		23/05/2018	91/18 - Meetings schedule adopted.	
9/05/2018	Workshop	Executive Briefing	Nil information available.			
9/05/2018	Workshop	Evocities presentation	Kevin Mack, Chair of Evocities and Mayor of Albury City, will make a brief presentation on Evocities, and answer any questions from Councillors	27/02/2019; 22/05/2019	15/19 - a) That Armidale Regional Council's commitment to the continuation of the Evocities program for the period 2019/20 to 2022/23 be confirmed. b) That the MOU is to contain a clause that Evocities will conduct an external review of its operations and circulate the review findings to the Evocities member Councils. c) That Council authorise the Mayor and the CEO to execute the Memorandum of Understanding between ARC and Evocities for the period. 109/19 - That the Minutes of the Regional Growth Advisory Committee meeting held on 11 April 2019 be endorsed. a) That the commitment to the Evocities program be withdrawn. b) That Economic Development Department presents to the Committee a report providing options an costings for promoting the Armidale Region, with specific outcomes and how to make best use of budget allocation commitment of $80k.' c) That Council consider the stand alone Evocities report. That Council note the following recommendation was made by the Committee. d) That Council consider continuing with the prior budget allocation commitment for Evocities and investing it in a Regional Marketing Campaign for Armidale LGA.	
9/05/2018	Workshop	Modification DA-198-2016/A	New Boarding School constructed at The Armidale School - Modification concerns the recalculation of Water and Sewer Contributions under Section 64 of the Local	26/4/18; 23/05/2018	63/18 - Deferred 98/18 - That Council resolve to investigate the application of Developer Servicing Plan (DSP) contributions based upon the devising of an Equivalent Tenement (ET) per person, being either an enrolled student or full-time staff member. The method of devising an ET would be based upon water usage data retained by Council.	
9/05/2018	Workshop	Subdivision	Advice re DA subdivision and Land and Environment Court proceedings	Not required		
9/05/2018	Workshop	Saleyards	A presentation will be made on options for council's saleyards following receipt of an independant report from RDA. Item deferred - ran out of time.	Not required		
16/05/2018	Workshop	Meeting Procedures	Nil information available			
16/05/2018	Workshop	Council image and building relationships	Nil information available			
17/05/2018	Workshop	Saleyards	A presentation will be made on options for council's saleyards following receipt of an independant report from RDA. Report from RDA available.	Doesn't appear to have been presented		
17/05/2018	Workshop	Financial Management	ICEO Presentation - potential financial considerations for Council into the future. Nil information available.			
6/06/2018	Workshop	Executive Briefing	Nil information available			

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6/06/2018	Workshop	Tourism Strategy 2018-20	Considered by Regional Growth Advisory Committee meeting 14/2/19	27/02/2019	14/19 - a) That Council adopts the Tourism Strategy as presented. b) That the 2018-2020 Tourism Strategy be placed on public exhibition for a period of 28 days and if no substantive amendments be proposed during that period it then be adopted. c) That the Regional Growth Advisory Committee have carriage of the Tourism Strategy and collaborate with the Arts, Cultural and Heritage Advisory Committee and Business Advisory Committee.	
6/06/2018	Workshop	Draft Locals Approval Policy - Solid Fuel Heating Appliances		27/06/2018 and 27/02/2019	120/18 - (a) That the Draft Local Approvals Policy – Local Approvals Policy for Solid Fuel Heating Appliances be endorsed for public exhibition, subject to the change to the Draft Policy to have an appliance particulate emission factor of not greater 1.5g/kg, in accordance with Standard 4013; (b) That the Draft Local Approvals Policy be placed on public exhibition for 28 days and be open for submissions for a period of no less than 42 days, in accordance with the legislation; (c) That additional public notice be given in accordance with Regulation 77 of the Local Government (General) Regulation 2005; and (d) That the Draft Local Approvals Policy – Local Approvals Policy for Solid Fuel Heating Appliances be submitted to the Departmental Chief Executive of the Office of Local Government for approval, prior to the Policy being adopted by Council, as the Policy contains exemptions for approval under Section 68 Local Government Act 1993. 18/19 - That the item be deferred and dealt with in conjunction with Item 8.3 (resolution 5/19). 5/19 - a) That the following be deferred until after the Mayor's External Woodsmoke Advisory Group has reported its findings to Council: i. That Council notes its adopted Delivery Plan Objective of meeting National Air Quality and develops a strategy that sets out the steps required to meet this objective with the aim of starting to implement it before the beginning of winter 2019; and b) That Council brief other levels of government on the urgent need for financial assistance to improve Armidale's winter air quality which will support ARC's efforts towards attracting regional growth, year round tourism, economic development and decentralisation.	
6/06/2018	Workshop	Strategic Direction of Waste Management	Referred to: Waste Strategic Business Plan *Scheduled for completion and endorsement in 2018 *Armidale Regional Council Waste Strategy - Scheduled for completion and endorsement in 2018 *China Sword Grant Applications In preparation three levels – MRF/Sales Partnership, Return and Earn and Guyra model proof NIRW *Regional Waste Strategy & Action Plan Where to from here:- Grant Applications *China Sword Response and Resource Recovery Facility *Alignment of all contracts in 2024 *October Councillors Workshop - Waste Strategy; Strategic Business Plan Concepts including Regional Landfill Transition Plan *December Councillors Workshop - Draft 2019/20 Fees and Charges; Draft 2019/20 to 2023/24 Waste Budget and Communication Strategy	Various items. Doesn't look to have been presented.		
6/06/2018	Workshop	Flying Fox Plan of Management		26/4/18 and 25/7/18	(50/18) (a) That the Draft Black Gully Flying Fox Camp Management Plan be endorsed; (b) That the Draft Black Gully Flying Fox Camp Management Plan go on public exhibition for a period of not less than 28 days, from Monday 30 April 2018 to Monday 28 May 2018; (c) That a further report be provided to the June 2018 Council meeting for consideration of any submissions received; and (d) That if no submissions are made within the submission period, then the Black Gully Flying Fox Camp Management Plan be adopted retrospectively. (146/18) (a) That the amended Black Gully Flying Fox Camp Management Plan be adopted; (b) That Council approve the waiver of fees associated with Tree Removal Applications in order to reduce costs for residents wishing to remove trees to create a buffer to the Flying Fox Camp; and (c) That Council approve a subsidy of up to $50,000 in total for residents based on a percentage of the costs of tree removals that will be borne by the affected residents.	
6/06/2018	Workshop	Cattle Grids Policy	Deferred. Ran out of time.	N/A		
6/06/2018	Workshop	Aboriginal Directions	Deferred. Ran out of time.	N/A		
18/06/2018	Briefing	Armidale Activation Plan	For information only. Presented by McGregor Coxall (engaged by the Department of Planning and Environment to facilitate preparation of an Activation Plan for Armidale). The purpose of the Councillors' Briefing session is to introduce the project, explain the tasks and methodology including the community workshops, next steps beyond the workshops, and project deliverables.	Not presented. Not a Council plan.		
20/06/2018	Workshop	Saleyards	Follow-up Workshop. One page summary located. Lease and other terms of agreement with New England Livestock Agents commencing 1 July 2018 with 5 year term. Base lease fee $132,000pa etc	Doesn't appear to have been presented		
20/06/2018	Workshop	Draft Cattle Grids Policy	Different policies for installation and maintenance between ADC and Guyra Shire	27/06/2018; 23/9/2020	121/18 - That the report be deferred to the next Ordinary Council Meeting. Not presented to October. Council Officer (Rob Shaw) advised 31/10/18 matter deferred until after the drought. 229/20 - Public consultation on Policy for Stock Grids on Council Roads: That the Officer's recommendation be adopted subject to the consultation including an assessment of the policies of adjoining Councils on the control and management of grids.	
20/06/2018	Workshop	SmartCities Grant Funding Submission	Proposal for submission including $125,000 ARC investment: 1. Air quality; and 2. Energy demand	27/06/2018	123/18 - That Council approve the submission of an application to the second round of Smart City funding grants and commit to its matching contribution as indicated in this report under financial implications.	
20/06/2018	Workshop	TfNSW Regional Automated Vehicle Trial		27/06/2018	138/18 - That Council approve Armidale Regional Council's proposal to enter into a contract with Transport for NSW to participate in the Regional Automated Vehicle Trial initiative.	
20/06/2018	Workshop	Airport Landing Fees	Consider submissions received on Airport landing fees	27/06/2018	116/18 - Council at its meeting held on 27 June 2018 resolved: "That the Revenue Policy (Part A) – Fees and Charges be adopted...and that the fees and charges for the Airport Landing Fees be deferred until the July Ordinary Council meeting, with the current 2017-2018 landing fees remaining in place pending the review."	

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20/06/2018	Workshop	IP&R Public Exhibition Submissions	Review submissions	27/06/2018	116/18 - adopted.	
4/07/2018	Workshop	Airport Inspection and Business Park Update	Presentation available. "To realise this investment, ARC is seeking $6.5M of funding through the Restart NSW Growing Local Economies Fund. For the two large blocks 1- 72 SERVICE CENTRE & 1 - 73 BUSINES PARK, we will be calling for EOI to ensure transparency and ensuring we maximise ARC return on these two premier blocks."	27/02/2019; 11/12/2019	41/19 - That the recommendation from the tender evaluation panel for Lot 1-72 New England Highway from Hargreaves Property Group with the tendered purchase price of $2,250,000.00 be accepted, subject to Armidale Regional Council GLE Grant application for the building of the Business park, being successful and the grant deed signed. 287/19 - a) That Council Officers be authorised to enter into direct negotiations with other interested parties for the sale of the Armidale Airport Service Centre lot. b) That Council write to the unsuccessful tenderers, advising that the tender process is now terminated, and they can make enquiries and purchase offers with First National Real Estate Armidale, with regard to the purchase of land. 288/19 - a) That the tender submitted by KCE Pty Ltd be accepted for the Construction of the Armidale Regional Airport Business Park Stage 1. b) That the CEO is granted authority to certify all documents in relation to the execution of the contract.	8/2/2017 - 41/17 - That Council: a) Endorse preparation of an application for Building Better Regions Fund funding (BBRF) of 50% Federal Contribution towards the Airport Industrial Subdivision and additional airport parking if it meets the guidelines. b) Note the main grant selection criteria by which applications will be assessed is economic development and jobs. c) Note the importance of economic development and jobs to the ARC LGA with such being a priority in multiple strategic documents such as the draft Community Strategic Plan. d) Acknowledges a commitment to fund 50% of the project, being estimated at $3.8m. 28/2/2018 - 19.1 FOR DECISION: Armidale Airport Business Park Land Pricing - 28/18 - a) That Council adopt the Reserve sale prices for Stage I, being Lots 1-08, 1-12, 1-16, 1-20, 1-24, 1-32, 1-36, 1-37 and Lots 1-43 to 1-73 inclusive, as detailed in the confidential report; and b) That the Council seal be affixed to the documents associated with the Contract of Sale for the relevant Lots. -- In September 2018, Council called Expressions of Interest (EOIs) for the sale of two lots at the entrance to the Armidale Regional Airport Business Park. Council received 5 responses. Council issued a request to tender for the sale of 1 of those lots, to the 4 parties that submitted compliant EOIs. The request to tender closed on 22 January 2019.
4/07/2018	Workshop	Executive Briefing	Nil information available.	Not reported		
4/07/2018	Workshop	Airport Fees and Charges	Further discussion following resolution 116/18	26/09/2018	199/18 - a) That Council adopt the Draft 2018/19 Revenue Policy Airport Fees and Charges as described in Table 1; and b) That the adopted General Aviation Armidale Airside based Exemptions and Annual Concessions take effect retrospectively from 1 July 2018.	
4/07/2018	Workshop	Best practice Pricing – Water, Waste Water and Trade Waste	Presentation available. Outlined elements: 1. Drinking water quality plan 2. Strategic business plan 3. Integrated Water Cycle plan 4. Water conservation plan 5. Drought management plan 6. Performance monitoring 7. Pricing incl. Trade Waste	Has not been presented to Council		
4/07/2018	Workshop	Water availability, water licencing, demand forecasting	General overview. Presentation available.	Doesn't look to have been presented to Council		
11/07/2018	Workshop	Dumaresq Creek Master Plan	Consultant Presentation. Powerpoint not available.	28/10/2020	276/20 - a) Receive and note the submissions contained in the report. b) Adopt the Creeklands Master Plan with the following amendments: i. The option to retain the Civic Park pond. ii. The option to retain the labyrinth in its current location. c) At a quarterly budget review, consider the engagement of appropriately qualified consultant to review Council's 2004, ERM Australia, 'Armidale Creeklands Environmental Management Plan', and to: i. Undertake soil testing within the area covered by the Creeklands Master Plan ii. Provide an updated management plan to ensure compliance with current EPA legislation. iii. Provide an updated management plan that provides WHS compliant procedures to ensure environmental and human health safeguards can be effectively implemented and managed for any works that disturb these soils. d) Endorse the proposed stage 1 Implementation Plan. e) Note the community priorities are to be reported at the next available Council meeting.	
11/07/2018	Workshop	Settlement Services International (SSI)	Mr Stephen O'Neill, Chief Operations Officer for Settlement Services International (SSI) will provide an overview of the Humanitarian Settlement Program which has been rolling out in Armidale since February 2018.	Not required		
11/07/2018	Workshop	Aboriginal Directions	Presented outcomes of consultation. Workshop with Councillors on structure of Aboriginal consultative committee.	28/11/2018	262/18 - a) That the Armidale Region (Gayinyaga) Aboriginal Advisory Committee be renamed the Armidale Regional Aboriginal Advisory Committee; and b) That the Terms of Reference for the Armidale Regional Aboriginal Advisory Committee be adopted.	25/10/2017 - 270/17 - That the Gayinyaga Aboriginal Advisory Committee be retained and the following items be workshopped: a) That the Armidale Region Aboriginal Advisory Committee be established. b) That the Gayinyaga Aboriginal Advisory Committee be reconstituted as a reference group and be renamed the Armidale Aboriginal (Gayinyaga) Liaison Reference Group. 22/11/2017 - 309/17 - d) That the Gayinyaga Aboriginal Advisory Committee be renamed the Armidale Region Gayinyaga Aboriginal Advisory Committee, and that a discussion paper be developed to enable consultation with the ATSIC people of Armidale, Guyra and Tingha, on the preferred governance and engagement model for the future.

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17/07/2018	Workshop	CBD Parking Study	David Tooby and Glen H of King & Campbell presented.	24/10/2018	222/18 - a. That Council acknowledges the completion of the Car Parking and Mobility study of Armidale's Central Business District (CBD) and the findings and recommendations identified within the report; b. That Council approves the implementation of the following recommendations in accordance with the Armidale CBD Parking and Mobility Study: i. Council adopts the "CBD Heart, Core and Frame" Parking Framework as described in the report; ii. Council adopts the "CBD Road and Street Planning" Framework as described in the report; iii. Council undertakes a detailed review of the duration of parking periods throughout the CBD in consultation with the Local Traffic Committee, with a view to reduce or eliminate 3hr parking durations and transition to 1hr and 2hr parking durations for on-street and off-street parking within the CBD Heart and Core zones; iv. Council addresses the level of unrestricted on-street and off-street parking in an endeavour to achieve a level and balance that is more aligned with standard practice for regional centres (40%); v. Council improves parking enforcement and increases the issuing of infringement notices to a level that will support the effective management of parking supply in the CBD (infringements are proposed to be increased to approximately 25% of non-compliant vehicles which equates to approximately 1% of all parked vehicles); vi. Council upgrades the parking detection technology (current system is at end of life) to assist with the enforcement of parking compliance; vii. Council examines the option to introduce paid parking in strategic on-street and off-street locations in the CBD precinct; and viii. Council reviews its car parking policy in relation to future new retail and commercial developments in the CBD with a view to bring the current parking requirements for new developments in line with standard practice for regional centres (3.33 car spaces per 100sqm). c. Council Officers to work closely with Armidale Plaza and Armidale Centro Shopping Centres Management to achieve a more holistic parking management plan for the Armidale CBD; d. Council examines opportunities in relation to the Moore Street Car Park to achieve improved CBD car parking outcomes for the community; and e. Council to further examine options and opportunities related to the provision of parking for employees of businesses and organisations located within the CBD and requiring all day parking.	"The Car Parking Study was identified as a key component of the Mall Vibrancy Plan which has been identified in the Community Strategic Plan, Delivery Program and Operational Plan. The Mall Vibrancy Plan included the recommendation: "Undertake a review of car and bike parking, its location, access, parking duration and signage" and included an estimate of $50,000 in 2017/18 for "Parking and Mobility Study". The Mall Vibrancy Plan was adopted 22/3/2017 79/17 - a) That Council adopt the Armidale City Mall Vibrancy Plan. b) That a total amount of $558,000 be approved to fund the Mall Vibrancy Plan: o 50% contribution from the Stronger Regions Fund ($279,000) o The balance to be funded from Council's budget over 4 years ($279,000).
17/07/2018	Workshop	Mall/CBD design presentation	David Tooby and Glen H of King & Campbell presented. Report available.	22/08/2018; 27/2/2019; 22/04/2020	177/18 - (a) That the Minutes of the Business Advisory Committee meeting held on 1 August 2018 be noted; (b) That the new Mall design be placed on public display for 3 weeks and that feedback be referred to the Mall Reference Group for review; (c) That the Committee composition be broadened to include representatives from the Mall Reference Group, being Michelle Wheatley and Craig Ritchie (Mall Traders), Chris Jordan (Police) and Peta Light (Disability) and also Aileen MacDonald (Renew Armidale); and (d) That the Terms of Reference – Committee Composition be amended accordingly. 33/19 - b) That the following recommendations from the Business Advisory Committee meeting held on 17th October 2018 be adopted; i. That the Mall Engagement be placed on hold until after the completion of the Masterplan. 81/20 - (Traffic Committee Minutes - traffic through the mall etc.)	22/3/2017 - 79/17 - a) That Council adopt the Armidale City Mall Vibrancy Plan. b) That a total amount of $558,000 be approved to fund the Mall Vibrancy Plan: o 50% contribution from the Stronger Regions Fund ($279,000) o The balance to be funded from Council's budget over 4 years ($279,000). 28/02/2018 - 10/18 - a) That the community consultation survey results, submission feedback summary and management responses on the proposed mall design concept be noted. b) That the Business Advisory Committee be charged with the responsibility to: i. undertake a review of the community's feedback on the Mall design; ii. establish a Reference Group to work with Council Officers to prepare a new design for the mall; and iii. report back to council at regular intervals. 28/3/18 - 40/18 - That Council note the progress report on the Mall Development Project.
26/07/2018	Workshop	Local preference (procurement)	Presentation from Cindy Garrahy - ARC Procurement Manager and Michael Robinson ARCBlue	26/09/2018	193/18 - (a) That the Draft Procurement Policy be endorsed; (b) That the Draft Procurement Policy be placed on public exhibition for a period of not less than 28 days, from Friday 28 September 2018 to Friday 26 October 2018; (c) That a further report be provided to the November 2018 Council meeting for consideration of any submissions received; and (d) That if no submissions are made within the submission period, then the Procurement Policy be adopted retrospectively.	
8/08/2018	Workshop	New Financial Accounting Standards	Nil information available.	Not required. Update only.		
8/08/2018	Workshop	APVMA	Deferred.			
8/08/2018	Workshop	Kempsey Road	At this workshop it is proposed to provide a brief presentation concerning the condition of Kempsey Road and the status of the proposed submission to Roads Minister Melinda Pavey seeking a review of the declassification of Kempsey Road. Nil powerpoint available.			25/07/2018 - 151/18 - a) That the letter of support from Kempsey Shire Council be received and noted; and b) That Council endorse the actions taken to date, and future actions seeking restoration of regional roads status of the 66.5km gravel section of Kempsey Road.
8/08/2018	Workshop	Onsite Sewage Management Systems Local Approval Policy	Nil information available.	22/08/2018; 27/03/2019	168/18 - a) That the Draft Local Approvals Policy – Local Approvals Policy Onsite Wastewater Management be endorsed; b) That the Draft Local Approvals Policy be placed on public exhibition for 28 days and be open for submissions for a period of no less than 42 days, in accordance with the legislation; and c) That additional public notice be given in accordance with Regulation 77 of the Local Government (General) Regulation 2005. 55/19 - That the one (1) written submission received by the public in relation to the exhibition of the "Local Approvals Policy – On-Site Wastewater Management" be noted and acknowledged by Council. b) Council adopts the amended draft local policy under Section 161 of the Local Government Act 1993.	
8/08/2018	Workshop	Airport Bus Case and Business Plan	Presentation by AEC Group. Nil information available.			
29/08/2018	Workshop	Drought Initiatives	Nil information available. Note: 9/10/18 Workshop.			
12/09/2018	Workshop	Overview of the APVMA	Lisa Croft, Deputy CEO, APVMA. Nil information available.	Not required.		
12/09/2018	Workshop	Monitoring community attitudes to refugee settlement	Dr Sue Watt, UNE presented Survey Results on17/09/2020: Monitoring community attitudes during refugee settlement in Armidale, NSW.	Not required.		

Date	Briefing/ Workshop	Topic	Details	Council Report Date	Council Report Outcome/Resolution	Previous Council Reports
12/09/2018	Workshop	Guyra main street project	1. Council meeting 27 June at Guyra 2. Fuel tanks - procedures and consequences 3. Legal opinion 4. Community meeting 29 Aug - discussed • Sequence of work • Construction methodology • Parking arrangements and access to shops during construction • Awnings	26/09/2018; 28/11/2018; 28/08/2019	208/18: (e) That a working group from the Arts, Cultural and Heritage Committee develop an EOI proposal for local Guyra artists to create further public art work in the Guyra main street redevelopment as a stage two project subject to funding. 280/18: a) That Council accepts the tender from Ground Doctor for the Guyra CBD Underground Fuel Tank Remediation at Bradley Street, Guyra; and b) That the Guyra Main Street reconstruction project be deferred until the full extent and costs of the fuel tank removal and remediation works is determined. 164/19: b) apply to the NSW Government to redirect the following project savings towards the Guyra Main Street Upgrade: a. Platform Road $320,344 b. Central Park Armidale $10,429 d) make representations to the NSW Government for the reimbursement of the additional cost of removing the fuel tanks in Guyra main street.	8/2/2017 - 47/17 - a) That Council endorses the Guyra Main Street upgrade plan. b) That support be sought from the Stronger Regions and Stronger Communities Assessment Panel for a contribution of $2.0m towards the project.
12/09/2018	Workshop	Paid parking at the Airport	Status: Estimate for the new carpark is $2.5M* • Parking Revenue Year 1 $275,000 (to be modelled) • No borrowing capacity until 2022/23 • No availability of capital funding in long term financial forecast until 2023/24 • No funding available from reserves • Loan repayment (P&I) $283,524 pa (3.99% - 12 years repayment period) * Preliminary Estimate based on staged construction	Doesnt look to have been presented		205/17 (26/07/2017): a) That the submissions received on the proposal to introduce paid overnight parking at the airport be noted. b) That the following airport parking fee structure be approved and capped for a period of three (3) years: (i) Parking for up to 3 hours – free (ii) Parking for over three hours, but not past midnight – $5 (iii) Parking for over three hours, and past midnight (i.e. overnight) - $10 c) That Council prepare a communications plan for the implementation of paid parking. d) That the parking fees do not commence until after upgrading and expansion of airport parking has occurred. e) That any revenue from paid parking, be used to fund the cost of parking infrastructure, maintenance and operations. Further, that should any surplus funds become available that these be used to offset costs of other airport infrastructure. f) That the potential for improved public transport options to and from the airport be further investigated.
9/10/2018	Workshop	2018-19 Drought Initiatives - $75 million Federal Funding	Powerpoint available. Funding required to be expended by 30 June 2019. Below list presented: 1. UNE Undergrad Scholarship Programme 2. Mobile Drought Support Van 3. Support for Rural Financial Counselling Services 4. Potable Water Supply and Conveyance 5. Community Outreach/Engagement/Support Events 6. Cattle Grids 7. Boorolong Road - upgrade for freight truck access 8. Water filling stations 9. Backtrack Farm Help Relief 10. Farm and Drought Water Infrastructure Development Grant Relief 11. ARC Rates Discounting (not eligible) 12. Feasbility Study to raise flood gates on Malpas Dam	Doesn't look to have been presented		
9/10/2018	Workshop	Finance – current status including financial sustainability and unrestricted cash reserves	Powerpoint available. Objectives: • Understanding Current State – Financial Position • Immediate budget repair • Establishing a path to ongoing financial sustainability • Reposition Council so that it has options around service delivery and service levels • Understanding the Transformation Journey Advised General Fund not sustainable. Potential solutions to be advised at workshop on 18 October.	Not presented. ARC2022 Transformation Program not presented.		
16/10/2018	Workshop	Model Code of Conduct 2018	Facilitator – Lindsay Taylor, Lindsay Taylor Lawyers	27/03/2019	51/19 - Adopted	
18/10/2018	Workshop	Financial Position and our Future Status (follow-up to 9 October Workshop)	Powerpoint available. Strategies for improvement and Transformation Program presented	Doesn't look to have been presented.		
15/11/2018	Workshop	CEO Performance Review Committee – TOR	TOR presented	28/11/2018	252/18 - Adopted	25/10/17 - 276/17; 22/8/18 - 165/18
15/11/2018	Workshop	Armidale Activation Plan/Masterplans	Advised New England North West Regional Plan 2036 was released in August 2017 by the NSW Minister for Planning and Activation Plans being developed for Armidale and Tamworth. Councillors advised of intention to develop a city/region wide masterplan.	Doesnt look to have been presented. 27/02/2019	33/19 - b) That the following recommendations from the Business Advisory Committee meeting held on 17th October 2018 be adopted; I. That the Mall Engagement be placed on hold until after the completion of the Masterplan. d) That the following recommendations from the Business Advisory Committee meeting held on 4th December 2018 be endorsed; V. That the Business Advisory Committee supports the concept of a master plan that weaves all the other masters plans into one single document and that the Business Advisory Committee has carriage of this master plan. f) That the following recommendations from the Business Advisory Committee meeting held on 5th February 2019be endorsed; VI. That it be noted the focus points for the Business Advisory Committee for 2019, include: a) Putting the Buzz in Business; b) Scope support for the DA process; c) Master Plan	

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15/11/2018	Workshop	Airport update logistics	Update provided on Armidale Region's Economic Development Vision: • GLE grant application announcement imminent • Have 4 EOI's to build a service centre • Have one contract to purchase a double block • In discussions with OzMedicann to purchase the Croft Block	27/02/2019; 11/12/2019	41/19 - That the recommendation from the tender evaluation panel for Lot 1-72 New England Highway from Hargreaves Property Group with the tendered purchase price of $2,250,000.00 be accepted, subject to Armidale Regional Council GLE Grant application for the building of the Business park, being successful and the grant deed signed. 287/19 - a) That Council Officers be authorised to enter into direct negotiations with other interested parties for the sale of the Armidale Airport Service Centre lot. b) That Council write to the unsuccessful tenderers, advising that the tender process is now terminated, and they can make enquiries and purchase offers with First National Real Estate Armidale, with regard to the purchase of land. 288/19 a) That the tender submitted by KCE Pty Ltd be accepted for the Construction of the Armidale Regional Airport Business Park Stage 1. b) That the CEO is granted authority to certify all documents in relation to the execution of the contract.	8/2/17 - 41/17 - That Council: a) Endorse preparation of an application for Building Better Regions Fund funding (BBRF) of 50% Federal Contribution towards the Airport Industrial Subdivision and additional airport parking if it meets the guidelines. b) Note the main grant selection criteria by which applications will be assessed is economic development and jobs. c) Note the importance of economic development and jobs to the ARC LGA with such being a priority in multiple strategic documents such as the draft Community Strategic Plan. d) Acknowledges a commitment to fund 50% of the project, being estimated at $3.8m. 28/2/2018 - 19.1 FOR DECISION: Armidale Airport Business Park Land Pricing - 28/18 - a) That Council adopt the Reserve sale prices for Stage I, being Lots 1-08, 1-12, 1-16, 1-20, 1-24, 1-32, 1-36, 1-37 and Lots 1-43 to 1-73 inclusive, as detailed in the confidential report; and b) That the Council seal be affixed to the documents associated with the Contract of Sale for the relevant Lots. -- In September 2018, Council called Expressions of Interest (EOIs) for the sale of two lots at the entrance to the Armidale Regional Airport Business Park. Council received 5 responses. Council issued a request to tender for the sale of 1 of those lots, to the 4 parties that submitted compliant EOIs. The request to tender closed on 22 January 2019.
15/11/2018	Workshop	Best Practice Pricing – update Water & Sewer	Report prepared. Recommendation: DRAFT Armidale Regional Water Supply Policy which is to be further considered by Council before being publicly exhibited for Community comment: • The new Policy to apply the "User Pay" and "Polluter Pay" principles; • Quarterly billing for all water, sewer and trade waste accounts; • The Armidale Hospital and Guyra MPS are identified as Critical Infrastructure properties; • Stricter guidelines included regarding the taking/filling of water tankers from designated and metered fill points; • A 2 year "Sunset Clause" be incorporated to rescind any and all previous resolutions of Council and the former Council's regarding concessions, rebates and variations; • User pay charges applying to all Council owned, operated or managed facilities, parks, gardens and sporting fields; • Education and awareness being incorporated and delivered to the community; • Definitions and terminology in the Policy to align with existing definitions within the Local Government Act and the Environmental Planning and Assessment Act wherever possible; • Connection requirements and guidelines being incorporated relating to Secondary Dwellings, Residential Flats, Multi Residential Development, Strata Title Developments (residential and non-residential), Community Title Developments; • Clear Policy statement and guidelines relating to home dialysis use;	Doesn't look to have been presented		
15/11/2018	Workshop	Aboriginal Services community engagement	Advised: Second round of community engagement held in Tingha (26 Sept), Guyra (26 Sept) and Armidale (25 Sept). Community members also invited to provide feedback by Monday 15 October via email or ARC website. Next Steps: • Terms of Reference to be presented at November Council meeting to be endorsed. • Advertise for expressions of interest for sub-committee membership. • Hold first sub-committee meetings. • Nominate representatives from each sub-committee for Aboriginal Advisory Committee	28/11/2018	262/18 - a) That the Armidale Region (Gayinyaga) Aboriginal Advisory Committee be renamed the Armidale Regional Aboriginal Advisory Committee; and b) That the Terms of Reference for the Armidale Regional Aboriginal Advisory Committee be adopted.	
15/11/2018	Workshop	Economic Development Strategy, 2017-2025 - Review	Advised: Successful State Government Grant Funding Applications: • Malpas Dam to Guyra Pipeline$12.3M • Saumarez Homestead Expansion$ 1.7M • Autonomous Vehicle Trial$ 1.5M • Armidale Golf Club Upgrade$ 0.4M • Aboriginal Cultural Centre and Keeping Place Upgrade$ 0.8M • Roundabout NE Hwy – providing access to Industrial Land $ 1.0M Pending State and Federal Government Grant Funding Applications • Armidale Business Park $ 6.5M • Smart Cities Sustainability Initiative$ 1.6M • NERAM expansion~$ 3.0M	27/02/2019	25/19 - a) That the review as per the attached spreadsheet be noted; and b) That the Regional Growth Advisory Committee have carriage of further reviews.	13/12/17 - 338/17 - a) That the Armidale Region Economic Development Strategy (EDS) 2017-2025 in its current format be adopted. b) That the strategy is reviewed by 30 September 2018.

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15/11/2018	Workshop	Stronger Country Communities Fund (SCCF) Update	•The NSW Government increased the funding for Round 2 of the SCCF by an additional $100 million for local sports infrastructure. •A total of $200 million was available in for local sports and amenity projects across Regional NSW. •ARC submitted 13 applications and was successful with 10 (includes total project cost): - Super Playground -Curtis Park$999,700 (ARC lead) - Hydrotherapy Facility $1, 438,196 (grant required: $1093,196) $345k ARC funding (ARC lead) - Mother of Ducks Lagoon Upgrade $459,182 (ARC lead) - Tingha Skate Park Upgrade $114,000 (ARC lead) - Guyra Community Hub $400,000 (Community lead) - Armidale Gymnastics Centre $998,039 (Community lead) - North Armidale Tennis Club $52,000 (Community lead) - Guyra Gun Club $100,141 (Community lead) - New England Mountain Bike Club $147,780 (Community lead) - Moran Oval Retaining Wall & Drainage $80,164 (ARC lead) • A draft deed has been sent to ARC for all 10 projects • For the 5 community funded projects we have created deed of agreement between ARC and community project organiser	Acceptance of grant funding for successful applications doesn't look to have been reported to Council.		26/7/17 - 201/17 - That Council support an application(s) to the 2017-18 Stronger Country Community Fund for project(s) as detailed in the report: 1. City Cycle Ways 2. Mall Vibrancy Stage Two 3. New England Mountain Bikers Inc. - Project Gonzo 4. Guyra Museum 5. Makers Centre at the new Armidale War Memorial Library 6. NERAM expansion project 26/4/18 - 61/18 - a) That Council rank the twelve (12) listed projects in order of merit; b) That the grant applications be submitted by the 4 May 2018 closing date; and c) if practical and feasible, that the $95,000 funding as described in the Sports Council minutes also be considered in the funding submission. (Projects listed: Super Playground - Curtis Park /Hydrotherapy Facility Mother of Ducks Lagoon Upgrade/ Tingha Skate Park -Cover / Guyra Community Hub / Armidale Gymnastics Centre / Armidale Tennis Club /North Armidale Tennis Club /Guyra Polocrosse Club /Guyra Gun Club / Hockey New England / New England Mountain Bike Club)
5/12/2018	Workshop	Greenprint (EcoARC)	Nil information available.	27/03/2019	54/19 - That the Draft GreenPrint be placed on public exhibition for a period of at least 40 days for members of the community to provide comment; b) That a further report be provided to Council following the public exhibition period for consideration of any submissions received; and c) That if no submissions are made within the submission period, then the GreenPrint be adopted retrospectively. Notes from staff: 18 Jun 2019 Six written responses have been received. Waiting on the Wood Smoke Advisory Group report to finalise the document, due mid-end June.	28/11/2018 - 259/18 - Resolved that the Draft EcoARC (Greenprint) be considered at a Councillors Workshop.
5/12/2018	Workshop	Integrated Planning and Reporting update: Delivery Program Review and Operational Plan 19/20	Advised Councillor involvement would include: • Final Draft provided – March • Councillor Workshops – January to April • Councillor participation in Community Engagement – March/April • Council Meeting – endorsement – Mid-May	15/05/2019	91/19 - adopted for public exhibition	
5/12/2018	Workshop	Harmonisation of Water, Sewer & Trade to Best Practice	Report presented, including communications plan.	Doesn't look to have been presented		
5/12/2018	Workshop	Tourism Strategy		27/02/2019	14/19 - a) That Council adopts the Tourism Strategy as presented. b) That the 2018-2020 Tourism Strategy be placed on public exhibition for a period of 28 days and if no substantive amendments be proposed during that period it then be adopted. c) That the Regional Growth Advisory Committee have carriage of the Tourism Strategy and collaborate with the Arts, Cultural and Heritage Advisory Committee and Business Advisory Committee.	
5/12/2018	Workshop	Guyra Preschool and Long Daycare Centre	Advised: Since 25th July Council Meeting: Both Funding Agreements accepted and Capital Project Plan submitted to the funding body. Capital funding consists of a total of $300,00.00 over 2 years and requires a $ for $ contribution from council. - Operational funding consist of $205,000.00 for sustainability over 2 years. - Operational funding was successful, based on the requirement of capital expansion works planned for the centre - First funding instalments received. Greenfield and renovation options investigated - Purpose built centre option $1,168,296.00 (inc GST), - Renovation and expansion of current premises $891,136.00 (inc GST) Identified need to reduce Councils operational budget by $3.6 million. All unstarted capital projects put on hold, including the $540,000.00 of reserves for the preschool expansion project. Latest update: Submitted new funding application on 15th November 18, under the Building Better Regions Fund for $624,000.00 (exc GST) for a purpose built centre. If successful with the BBRF application, we will have - $300,000.00 CCCF grant, - $624,000.00 BBRF grant = Total: $924,000.00 - BBRF grant will be used as CCCF Co-contribution requirement. If unsuccessful with the BBRF application, - Unable to proceed with any expansion project - Return the CCCF $300,000.00 Capital funding - Probable return of $205,000.00 sustainability funding.	BBRF application does not appear to have been presented		25/7/18 - 147/18 - a) Council accept the two offers of funding from the Department of Education and Training under the Community Child Care Fund Grants – Sustainability Support stream and the Capital Support stream; b) That Council further investigate the most cost effective and efficient option, for either a new Greenfield centre or the staged redevelopment of the existing centre in Guyra; and c) That should the above investigations identify that a new Greenfield centre is a more cost effective option which provides the same or better amenity, and within the funds available, then the Chief Executive Officer be delegated the authority to seek the concurrence of the funding body to alter the project from the staged expansion of the existing centre to a new "Greenfield" centre. As at September 2018: "The Capital Support funding is a $ for $ program and at the time of making and being successful with the application, Council held matching funding of $500,000 in reserves specifically identified for this project providing an overall construction budget of $800,000. The $500,000 previously identified in reserves for this project was not rolled over at the end of the 2017/18 financial year and without this funding leaves the project stranded as the grant funds alone are insufficient and Council has entered into the funding agreement on the $ for $ basis. The budget therefore needs to be reviewed and re-determined before proceeding any further with the project."
16/01/2019	Workshop	Update cattle	No further information available			
16/01/2019	Workshop	Update Kempsey Road	No further information available			
16/01/2019	Workshop	Update Ops Plan & Budget	Powerpoint available.	15/05/2019	91/19 - adopted for public exhibition	
16/01/2019	Workshop	Model Code of Meeting Practice	Draft documents presented. Report available.	27/03/2019	52/19 - resolved to go on Public Exhibition	
16/01/2019	Workshop	Model Code of Conduct		27/03/2019	51/19 - adopted	
6/02/2019	Workshop	Community Strategic Plan 4 Year Delivery Plan Annual Operational planning	Councillors Corporate Planning Workshop with Facilitator David Wright (powerpoint available). Agenda: 2. 2018/19 Operating Plan and Budget Review 3. Transformation Program Update 4. Services Review 5. PESTEL Analysis	15/05/2019 Transformation Program/Services Review/PESTEL doesn't look to have been presented	91/19 - Op plan and budget adopted for public exhibition	

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13/02/2019	Workshop	Greenprint (EcoARC)	No further information available	27/03/2019; 11/12/2019	54/19 - That the Draft GreenPrint be placed on public exhibition for a period of at least 40 days for members of the community to provide comment; b) That a further report be provided to Council following the public exhibition period for consideration of any submissions received; and c) That if no submissions are made within the submission period, then the GreenPrint be adopted retrospectively. Notes from staff: 18 Jun 2019 Six written responses have been received. Waiting on the Wood Smoke Advisory Group report to finalise the document, due mid-end June. 278/19 - a) That the public submission comments, staff comments and recommendations are noted. b) That the EcoARC be adopted.	
13/02/2019	Workshop	Local Approvals Policy – solid fuel heating	No further information available	27/02/2019	Deferred by Councillors, on account of 5/19 - 8.3 FOR DECISION: National Air Quality and World Health Organisation Standards	27/06/2018 - 120/18 (approved for public exhibition)
13/02/2019	Workshop	Update Airport	No further information available			
13/02/2019	Workshop	Update Farm (cattle)	No further information available			
13/03/2019	Briefing	Farm Update	Chronology of events and summary of actions provided.	Doesn't look to have been presented		
13/03/2019	Briefing	Airport competitive dialogue EOI	Powerpoint available. Advised: EOI – Competitive Dialogue Aims: 1. Maximise public returns on Armidale Airport Assets over the next thirty years from 2019 2. Provide a modern airport precinct as a vital economic driver for business and tourism growth in the New England Region. What it is: Means of exploring the mkt when there is no pre-determined services option / Enables dialogue with EOI responders to develop options / Enables Council to understand the benefits and disadvantages of all options for optimal long term returns / Enables Council to tailor options it wants to pursue / Explores all options for ownership/equity share/investment/ management What it is not: A tender to the market place for known services or product / Committing Council to a tendered proposal / Locks the Council into accepting from a single proposal and supplier / Locks Council into what it is currently being offered by the market without customisation / A call for outright sale. EOI – Process • Notification to all airport businesses 21st February • EOI Opened 26th February 2019 / Closes 19th March 2019 • Dialogue begins • Council determines what option (s) or combination will be tendered or not at all • Tender to the dialogue participants • Council can at any time terminate the dialogue and choose not to tender.	Doesn't look to have been presented		
13/03/2019	Briefing	Airport Roundabout	No further information available			
13/03/2019	Briefing	Greenprint (EcoARC)	No further information available	27/03/2019	54/19 - That the Draft GreenPrint be placed on public exhibition for a period of at least 40 days for members of the community to provide comment; b) That a further report be provided to Council following the public exhibition period for consideration of any submissions received; and c) That if no submissions are made within the submission period, then the GreenPrint be adopted retrospectively. Notes from staff: 18 Jun 2019 Six written responses have been received. Waiting on the Wood Smoke Advisory Group report to finalise the document, due mid-end June.	
8/04/2019	Thinktank	Councillors Thinktank - discuss community and civic matters	No staff attended. Facilitated by Mayor.	N/A		
10/04/2019	Briefing	Tingha Fire Recovery	Report available.	Not presented.		
10/04/2019	Briefing	Water and Sewer 30 Years Infrastructure	Powerpoint available. Water and Sewer Transformation Infrastructure Program. Best Practice Water Pricing.	Doesn't appear to have been presented.		
10/04/2019	Briefing	Organisational Structure	Nil information available.	24/04/2019	90/19 - a) That Council adopts level one and level two of the leadership structure as proposed in the report. b) That Council notes that level one and two of the leadership structure set the platform for the review of the rest of the leadership and organisational structure.	26/09/2018 - 195/18 - a) That Council endorse the Organisation Structure, which incorporates a CEO and two (2) senior staff positions within the organisation; and b) That a Councillors Workshop be held by the end of December 2018 on the progress of the Organisation Structure.
6/05/2019	Workshop	Budget 2019/20 and Operational Plan		15/05/2019	91/19 - adopted for public exhibition	
12/06/2019	Briefing	Council Committee Review	Powerpoint available.	26/06/2019; 24/7/2019	124/19 - that the matter be deferred to the July meeting 151/19 - (a) That Council notes that the report on the Review of Council Committees is being re-examined and will be provided to a future Ordinary Council meeting for consideration	12/12/2018 - 284/18 - That Council request the CEO to undertake a review of the current Committee Structure including the number of committees, composition and terms of reference. Ian Reynolds undertook review.

Date	Briefing/ Workshop	Topic	Details	Council Report Date	Council Report Outcome/Resolution	Previous Council Reports
17/06/2019	Briefing	Preschool EOI	Powerpoint available. Advised: Building Better Regions Funding application was unsuccessful As part of the Armidale Regional Council Transformation Project, Guyra Preschool and Long Day Care Centre has began a strategic review. Council is now investigating if there may be other childcare providers, organisations, or interested persons within the community who may be better placed to take over the operation and management of the Guyra Pre School and Long Daycare Centre and the Guyra OSHC service through an Expression of Interest. The Expression of Interest will be advertised in the very near future and Council looks forward to responding to any and all enquiries from people interested in this wonderful and rewarding business opportunity. Possible future options: Continue Business as usual. Move operations over to Successful Expression of Interests applicant. Possible future issues: Without expanding the current service as per the CCCF application guidelines we may have to return the $205 000.00 operational funding and $300 000.00 capital funding as we will not meet the milestones required.	EOI doesn't appear to have been presented.		25/7/18 - 147/18 - a) Council accept the two offers of funding from the Department of Education and Training under the Community Child Care Fund Grants – Sustainability Support stream and the Capital Support stream; b) That Council further investigate the most cost effective and efficient option, for either a new Greenfield centre or the staged redevelopment of the existing centre in Guyra; and c) That should the above investigations identify that a new Greenfield centre is a more cost effective option which provides the same or better amenity, and within the funds available, then the Chief Executive Officer be delegated the authority to seek the concurrence of the funding body to alter the project from the staged expansion of the existing centre to a new "Greenfield" centre.
17/06/2019	Briefing	Development Presentation - Masterplan/Merged LEP/DA Process	Overview/refresher on Development Assessment processes etc	28/08/2019	168/19 - a) That the Planning Proposal to merge the Armidale Dumaresq Local Environmental Plan 2012 and Guyra Local Environmental Plan 2012 into one merged Local Environmental Plan be placed on hold until the completion of the State mandated Local Strategic Planning Statement. b) That Council commence the process of preparing the Local Strategic Planning Statement for the whole Armidale Regional Council Local Government Area in conjunction and with the Masterplan.	
25/06/2019	Briefing	Drought Response	Presented by James McTavish (NSW Cross-Border Commissioner and NSW Regional Town Water Supply Coordinator)	Not required		
10/07/2019	Briefing	Settlement Services International (SSI)	Samantha Airs from Settlement Services International (SSI) will provide an overview of the Humanitarian Settlement Program which has been rolling out in Armidale since February 2018. SSI is committed to keeping Council up to date with the Settlement Program. Councillors will have the opportunity to ask questions regarding SSI, Refugees and the Settlement Program.	Not required		
7/08/2019	Site visit	Councillors Inspection of Water Treatment Plant/Cattle facilities and Parking Strategy Tour	Nil information available.			
14/08/2019	Briefing	Water Crisis	Powerpoint available. Update on usage and storages Reduce water use: • Water restrictions • Enforcement • Leak detection • Audits/Rebates • Work with large volume users Drought Support Initiatives: • Water Carting • Malpas to Guyra pipeline • Crisis Management Campaign and Communication and Engagement Plans Long term options for water security: • Hydrogeology Investigations • Malpas Dam Augmentation • Investigate desilting options at Guyra and Malpas • Malpas $650k for 0.3% increase in capacity • Guyra $52k for 0.5% increase in capacity Presentation from GHD (crisis communication and engagement campaign consultant) - Powerpoint available.	Various items. Doesn't look to have been presented.		
14/08/2019	Briefing	Solar Farms DAs	Powerpoint available. Outline of Oxley/Olive Grove/Stringybark proposals and processes for approvals. Oxley State Significant Minister is consent authority (300 MW). Olive Grove/Stringybark Joint Regional Planning Panel consent authority (30 MW each).	Not required - eventually would be presented if required under relevant process.		
14/08/2019	Briefing	Business Symposium and HUB	Nil information available.	Doesn't look to have been presented.		
11/09/2019	Briefing	Koala Corridor	Nil information available. Presentation from Stringybark Ecological - David Carr	Not reported		
11/09/2019	Briefing	Bushfire Update	Nil information available.	Not reported		
11/09/2019	Briefing	Water Situation and Restrictions	Nil information available.			
23/09/2019	Site Visit	DA-91-2019	Erection and Construction of Silos/Additions of Elevators and Augers – Warehouse and Distribution (Drew Street/Shambrook Avenue)	25/09/2019	190/19 - That having regard to the assessment of DA-91-2019, that: a) Council refuse the Application for the reasons set out in this report, and as detailed in Appendix 1. b) Notify all those who made a submission on the Application of the determination.	

Date	Briefing/ Workshop	Topic	Details	Council Report Date	Council Report Outcome/Resolution	Previous Council Reports
9/10/2019	Briefing	Business Symposium and HUB	Powerpoint available. Business Symposium: • First meeting held 24 July, 60 participants (approx), Groups of 8 answered a of set questions Key Recommendation: That Armidale Regional Council works with other key stakeholder groups and the business community in establishing a physical "business hub" in CBD to help facilitate regional business development. Business HUB: • UNE SRI Primary tenant, with ARC (and others) sub-let $980K ($680K fitout UNE, $300K 'shell' to be funded by ARC) • ARC alone option. Conservative estimate $600K to fitout/make safe (TBC) • UNE SRI have submitted SCCF-3 funding application outcome should be known early Feb 20. • Options to explore BBRF-3 Funding Application with RDANI. Development team relocated to "The Hub": • Development process easier and more legible for businesses and the community • Opportunity to engage with growing businesses, UNE and other elements of our Business Ecosystem Next Steps: • Open up Business Hub in Old Library • Second Business Symposium/workshop scheduled 7th November (AM) • Aim 30 participants. Mix of previous attendees and others who have expressed interest since • Business Engagement	Doesn't look to have been presented		
9/10/2019	Briefing	Rates Harmonisation and SRV	Powerpoint available.	28/10/2020	268/20 - That Council: a) Commence community engagement on the following Special Rate Variation (SRV) options: 1. A permanent SRV of 18.5% plus 2.0% rate peg (total 20.5%) commencing in 2021-22; 2. A permanent SRV of 8.5% plus 2.0% rate peg (total 10.5%) commencing in 2021-22; and 3. Discontinuation of the temporary SRV of 10% (above the rate peg) applied by the former Armidale Dumaresq Council and ending on 30 June 2021; b) On or before 27 November 2020, formally notify IPART that Council intends to submit a Special Rate Variation application; c) Note that the community engagement will also cover rates harmonisation impacts effective 1 July 2021; and d) Note that the Special Rate Variation and Rates Harmonisation community engagement period runs from Monday, 2 November 2020 through to Thursday, 10 December 2020.	28/8/19 - 162/19 - That Council resolves to advise the Office of Local Government that Armidale Regional Council wishes to opt out of the rates path freeze extension resulting in implementation of rates harmonisation from 1 July 2020. 28/08/2019 - 163/19 - That Council resolves to pursue the application of a Special Rate Variation effective 1 July 2021.
9/10/2019	Briefing	Drought Update Level 5 Restrictions	Powerpoint available. Dam levels, days to Day Zero, water security update on supplementing dam supplies: Finding ground water: engaged hydrogeologist to identify likely sites for groundwater / sites identified in and around Guyra and Armidale / exploratory drilling began second week of October Malpas Dam to Guyra pipeline - construction completed ahead of schedule / construction cost $13 million / commissioning completed / progressively increased flows to full capacity of treatment plant / official opening 8 October 2019 Hidden leak detection - audit of town water distribution systems for Guyra and Armidale / led to a number of leaks being repaired Trucking water to Guyra - June – September 2019 / while pipeline being finalised and commissioned / total cost over $750,000. Consumption figures: Water Saving Actions Plans - Encouraging business to commit to: water use reduction pledge to reduce consumption by up to 25% / Display pledge certificate at premises. Bore water test drilling is commencing: 37 sites across Guyra and Armidale. Council is in discussions with the NSW Government about the potential investment required if a bore network is developed and piped to the Water Treatment Plant. ARC received confirmation from the NSW Government it was successful in obtaining 50% funding for the Puddledock Dam to Armidale WTP pipeline. ARC engineers have commenced developing the scope for design for tender.	Restrictions do not appear to have been presented to Council. Staff took decisions.		
7/11/2019	Briefing	Water and Sewer Update	Powerpoint available. Impact of drought on ARC financial sustainability: Long Term Water Security - Increasing capacity of Malpas Dam: • 5 year lead time to commence building – feasibility, technical design, regulatory approvals • Raising the storage level by 5.5m will double capacity of the reservoir • Final cost unknown. NSW announced potential funding of capital works • ARC will incur significant costs in doing the preliminary work ($3.5M) Upgrade sewage treatment plants for commercial reuse: • Approx cost of $43M. Timeframe of 3 to 5 years Puddledock Dam to Armidale pipeline augmentation $11.54m project. ARC has been offered 50/50 funding from NSW Government **Unbudgeted projects = $79,749,480.** Reported on water and sewer reserve balances - in deficit in $2.5 years - ($2.7 m) based on indicative State Government infrastructure contribution. Water and sewer treatment plants are 50+ years – no ability to repair ageing plant and has to be replaced. Reserve balance goes into negative during FY21/22 Ongoing Actions: Mayor's letter to the NSW Premier regarding: • Drought impact on the community, businesses and farms • Financial impacts on Council – imperilling financial stability • Consideration of emergency levels of water availability (2nd half of 2020) • Raised with NSW Drought Commissioner • Received assurance all strategies are being considered by the State • Alerted NSW Government that human welfare will be impacted by mid-2020 if water is restricted to basic needs	Restrictions do not appear to have been presented to Council. Staff took decisions.		

Date	Briefing/ Workshop	Topic	Details	Council Report Date	Council Report Outcome/Resolution	Previous Council Reports
4/12/2019		ARC Councillors meeting with Master Plan Consultants		Not reported		28/08/2019 - 168/19 - a) That the Planning Proposal to merge the Armidale Dumaresq Local Environmental Plan 2012 and Guyra Local Environmental Plan 2012 into one merged Local Environmental Plan be placed on hold until the completion of the State mandated Local Strategic Planning Statement. b) That Council commence the process of preparing the Local Strategic Planning Statement for the whole Armidale Regional Council Local Government Area in conjunction and with the Masterplan.
12/02/2020	Briefing	Project List for Disaster Recovery Funding	Powerpoint available (does not specify projects) Proposed Expenditure of $1M Untied Bushfire Grant Commonwealth Criteria Funds are untied and intended to be spent immediately on: 1. Rebuilding damaged or destroyed council assets 2. Employing additional local staff to help coordinate and plan the rebuilding effort; 3. Hosting new public activities and events to bring communities together and attract visitors back to affected regions and 4. Immediate maintenance and repairs to relief and evacuation centres.	22/04/2020	20.1 FOR DECISION: Proposed Expenditure of $2.2M Grant Funding: a) That Council acknowledge the distress caused by recent bushfires, ongoing drought and water crisis on the community of Armidale Regional Council local government area. b) That Council acknowledges the $1.3M grant from the Federal Government and $900k grant from the State Government and expresses their gratitude for this financial assistance. c) That Council note the list of Projects & Activities for Bushfire Recovery & Drought Stimulus Funding which are being pursued.	
12/02/2020	Briefing	Water update	Powerpoint available. Advised Bore testing at Guyra and Armidale nearly complete. Full report to Council in 4th Quarter. Expenditure on bore testing and infrastructure is forecast to be $2.5m to 30/6/20. Consultancy work will commence on Best Practice Water Pricing in 20/21. Harmonisation of fees and charges continues and will be reported to Council. $5.77million committed to the upgrade of the Puddledock Dam to Armidale WTP pipeline (full project cost is $11.5M). Design and Build tenders expected to be released in 2020.	Various items, some do not appear to have been presented. 26/02/2020	16/20 - a) That Council meets its funding obligation of $5,770,000 under the Deed of Agreement with Infrastructure NSW for the Puddledock Dam Raw Water Transfer System Augmentation through the use of borrowings tied to the Water Fund. b) That the borrowing value and timing of borrowings be confirmed as part of the development of the 2020-21 budget.	
12/02/2020	Briefing	Waste - Waterfall Way Landfill	Cost Recovery - Previous Council decisions have burdened today's and future households across the LGA with approximately $815,000 extra costs each year. Divided by 13,000 households = $63 pa. This is additional to 'normal' waste charges and their annual increases. It is also in addition to the WWL loan levy currently paid by Armidale residents and shortly to be paid by Guyra residents. Currently the Armidale Regional Council Domestic Waste Reserve is $600,000. First contribution to the Reserve was in 18/19 for many years. The Reserve was run down by previous Councils. The Reserve needs to be at a level that can fund the on-going remediation of landfill cells (at LSR and WWL) and facilities/equipment that are needed to operate two landfills. To build the Reserve to a fiscally responsible position of at least $3million, each household/business would need to contribute $35 pa each year for five years (assuming there were minimal profits from the Waste operations). Calculate fair and on -going costs to operate the Waterfall Way landfill. Specifically what extra costs are required to operate the new landfill. Incorporate these costs in the 20/21 Fees and Charges.	29/07/2020	173/20 - f) That pursuant to Section 496 and 501 of the NSW local Government Act 1993, Council make and levy the following annual charges for Waste Management Services for the year 1 July 2020 to 30 June 2021: – Waterfall Way Regional Landfill Operation Charge $65.00 (in Operational Plan)	
14/03/2020	Briefing	Citizen Panel re Armidale Regional 2040 Plan	Councillors advised: The consultant team has been progressing with the development of the Armidale Regional 2040 Plan. As part of the community and stakeholder engagement for the project a Citizen Panel will be held in March 2020. The Panel involves, as close as possible, a demographically and attitudinally representative group of residents deliberating key themes for the Plan. These themes have been identified from reviewing prior consultation and background analysis undertaken by CM+ to inform the Plan's development. They include population settlement, housing, employment, retail, tourism and sustainability. There are a number of issues under each theme, such as water security and the town centre, and potential options the team preparing the Plan can shape based on feedback from the Panel. Councillors are invited to attend a briefing session.	22/04/2019	79/20 - That the report providing an update on the Armidale Regional 2040 Plan be noted.	28/08/2019 - 168/19 - a) That the Planning Proposal to merge the Armidale Dumaresq Local Environmental Plan 2012 and Guyra Local Environmental Plan 2012 into one merged Local Environmental Plan be placed on hold until the completion of the State mandated Local Strategic Planning Statement. b) That Council commence the process of preparing the Local Strategic Planning Statement for the whole Armidale Regional Council Local Government Area in conjunction and with the Masterplan.
8/04/2020	Briefing (Go To Meeting)	Financial Position	Powerpoint available - 2019/20 Budget Impacts Operating result reported. Unrestricted cash reported. Third Quarter Budget Review. COVID-19. Drought. Water reserve. Water security. Outstanding claims.	24/06/2020	137/20 - Third Quarter Budget Review	
13/05/2020	Briefing	20/21 Budget	Powerpoint available.	18/06/2020	133/20 - Endorsed for public exhibition.	
27/05/2020	Workshop	Meeting with Facilitator to determine response to Minister for Local Government re Notice of Intention to Suspend		1/06/2020	129/20 - a) Welcomes the opportunity to respond to the Notice of Intention to Issue a Suspension Order from the Minister for Local Government under section 438M of the Local Government Act 1993. b) Welcomes the appointment of an administrator for a period of three months to ensure that matters are resolved. c) Would welcome the opportunity to resume representing our community in the future. d) Is committed to working with the administrator and any other available support during the period of administration to address the issues raised by the Minister in her Notice.	
9/06/2020	Workshop	2020/21 Budget	Powerpoint available. Summary of Questions taken on notice prior to Workshop available.	18/06/2020	133/20 - Endorsed for public exhibition.	

TRIM:

Draft Legislation Compliance Policy

ADOPTED BY COUNCIL: [DATE TO BE COMPLETED BY GOVERNANCE]

1. PURPOSE

This policy aims to facilitate an open, transparent and legislative compliant organisation through:

- Establishing a Legislation Compliance Framework
- Outlining Council's commitment to legislative compliance
- Building the capacity of Council and its employees to achieve the highest standards of governance
- Identifying and responding to non compliance.

2. APPLICATION

This Policy applies to all Councillors, and all Council employees commensurate with their roles, functions, authority and span of control.

3. POLICY INTENT

Council is committed to promoting a culture of legislative compliance and as a result enhance the level of openness and transparency we provide to the community. Council's many functions are conferred or imposed upon it by way of multiple legislation and statutory requirements in addition to those mandated by the *Local Government Act 1993*.

An effective, organisation-wide compliance management system enables an organisation to demonstrate its commitment to compliance with relevant laws, including legislative requirements, industry codes and organizational standards, as well as standards of good corporate governance, best practices, ethical behaviour and community expectations.

Legislative Compliance Framework

This policy supports the development and maintenance of legislative compliance framework for the monitoring and management of legislative compliance within and across Council. The framework, including the legislation compliance register and system of delegations, is the main component of Council's overall governance and risk management. The framework is aligned to the *Australian Standards AS/ ISO 19600:2015* which provides the requirements for designing, implementing, maintaining and improving an effective compliance management system framework.

Legislation Compliance Register

Council's digital Legislation Compliance Register is maintained and kept current through a third part legislation advisory service and software.

Delegation of Legislative Authority

Section 377 of the *Local Government Act 1993,* establishes Council's authority to delegate its range of responsibilities and authorities in a hierarchical system, i.e. delegation by legislation to the Mayor and Councillors; delegated authority from the elected Council to the General Manager and from the General Manager to Council employees.

Council will maintain its delegation database to ensure council employees have the correct delegations to perform their role.

General Principles

Council has adopted the following principles based on the *Australian Standard AS ISO 19600:2015 Compliance Management Systems - Guidelines.* Council will:

- Remain committed to achieving legislative compliance in all areas of its operations
- Provide sufficient resources to support ongoing legislative compliance
- Ensure all Council delegates understand, promote and be responsible for compliance with relevant laws, regulations, codes and Council standards that apply to activities within their day-to-day responsibilities
- Maintain its commitment to continuous improvement in legislative compliance
- Use its established risk management practices to identify, assess, evaluate and treat compliance risks
- Support integration of compliance requirements into day-to-day operating procedures as appropriate
- Maintain a Legislation Compliance Register in association with its Risk Register
- Identify, investigate, rectify and report all non compliance to the relevant authority as may be required
- Allocate appropriate responsibility for managing compliance at various levels
- Provide appropriate practical education and training of staff in order for them to meet their compliance obligations
- Actively promote the importance of compliance to staff, contractors and other relevant third parties
- Monitor legislative compliance through activities approved within its Internal Audit Plan.

Policy Implementation Guidelines

Council will commit to implementation actions required based on the *AS ISO 19600:2015 Compliance Management Systems – Guidelines* to achieve the intent of this policy.

Council will have processes in place to:

- Identify its compliance obligations
- Identify new and changed laws, regulations, codes and other compliance obligations to support ongoing compliance
- Evaluate the impact of changes and implement any changes in management of compliance obligations
- Periodically identify, analyse and evaluate its compliance risks.

Compliance can be promoted and maintained, and non compliance identified by appropriate monitoring and assessment. Monitoring may also occur through an assessment of:

- Complaints made through Council's Complaints Management Policy and Framework
- Internal Audit activities in line with the Council's approved Internal Audit Plan
- External Audit activities

Assessment and investigation of instances of non compliance should include recommendations for improvement to processes.

4. COMMUNITY STRATEGIC PLAN OBJECTIVES

Leadership for the Region

- Community Outcome 3 – Council demonstrates sound organisational health and has a culture which promotes action, accountability and transparency.

5. RELATED LEGISLATION/POLICIES/STANDARDS

- *Local Government Act 1993*
- *Interpretation Act 1987*
- AS/ISO 19600:2015 Compliance Management Systems
- Code of Conduct
- Complaint Management Policy

6. POLICY REVIEW

This Policy will be reviewed every two years from the date of the previous version adoption, or as required.

7. RESPONSIBLE OFFICER

Whilst the General Manager holds ultimate responsibility for legislative compliance across Council, Council's Governance, Risk and Safety Coordinator is responsible for the day to day oversight and maintaining the Legislative Compliance Framework, incorporating the Legislation Compliance Register and Delegation Database.

APPROVAL AND REVIEW		
Responsible Business Unit	Governance, People and systems	
Responsible Officer	Governance Risk and Safety Coordinator	
Date/s adopted	*Council Executive* [updated by policy owner]	*Council* [DD Mmmm YYYY]
Date/s of previous adoptions	[Dates of previous adoptions]	
Date of next review	[Two years from last adoption]	
TRIM Reference		

TRIM:

Fraud and Corruption Prevention Policy

ADOPTED BY COUNCIL: [DATE TO BE COMPLETED BY GOVERNANCE]

1. PURPOSE

Armidale Regional Council is committed to a 'zero tolerance' approach to fraudulent and corrupt behaviour, and seeks to minimise the incidence of fraud by implementing and regularly reviewing a range of strategies that aim to prevent, detect and respond to such behaviour.

This policy serves to outline the high standards of ethical behaviour expected by Council and introduces a Fraud and Corruption Control Framework to ensure appropriate mechanisms are in place to prevent, deter, detect and respond to fraud and corruption and are in accordance with the *Independent Commission Against Corruption Act 1988* (ICAC Act 1988).

2. SCOPE

This policy applies to everyone who has any interaction with Council or Council staff to the maximum extent that Council has the authority to require it. This includes Councillors, Council staff members, committee members, consultants, contractors, suppliers, applicants and volunteers who all have obligations in the prevention of fraud and corruption and the fostering of an ethical and accountable work environment at Council.

Expectations of this policy also apply to customers, community and any relevant third parties with regard to the functions and/or operations undertaken for or on behalf of Council.

3. PRINCIPLES

Council is committed to building a corruption resistant culture through:

- Promoting an organisational environment that encourages professionalism, integrity and ethical conduct.
- Minimising the opportunity for fraudulent or corrupt conduct.
- The detection, investigation and disciplining and/or prosecuting fraudulent or corrupt conduct.
- The Reporting of any fraud or corrupt conduct to the Independent Commission Against Corruption (ICAC) and other authorities where appropriate.

Relevant Legislation

This Framework links with the following legislation:

- *Local Government Act 1993*

- *Local Government (General) Regulation 2005*
- *Independent Commission Against Corruption Act 1988*
- *Public Interest Disclosures Act 1994*

Relevant Council Policies and Documents

The following Council policies and procedures support this Policy:

- Code of Conduct
- Internal Audit Framework and associated documents and systems
- Public Interest Disclosures - Internal Reporting Policy
- Secondary Employment Policy
- Enterprise Risk Management Policy and Framework
- Statement of Business Ethics
- Staff Grievance Policy and other associated policies

Definitions

To assist in interpretation, the following definitions apply:

Term	Definition
Fraud	Dishonest activity causing actual or potential financial loss to any person or entity including theft of moneys or other property by employees or persons external to the entity and whether or not deception is used at the time, immediately before or immediately following the activity. This also includes the deliberate falsification, concealment, destruction or use of falsified documentation used or intended for use for a normal business purpose or the improper use of information or position.
Corruption **(or corrupt conduct)**	As per the ICAC Act 1988 (Sect 7, 8, 9): • any conduct of a person (whether or not a public official) that adversely affects, or could affect the honest and impartial exercise of public official functions, or • any conduct of a public official that involves the dishonest or partial exercise of any of his or her public official functions, or • any conduct of a public official or former public official that constitutes or involves a breach of public trust, or • any conduct of a public official or former public official that involves the misuse of information or material that he or she has acquired in the course of his or her official functions, whether or not for his or her benefit or for the benefit of any other person.
Maladministration	As per *Public Interest Disclosure Act 1994*: Conduct that involves action or inaction of a serious nature that is contrary to law; or unreasonable, unjust, oppressive, improperly discriminatory; or based wholly or partly on improper motives. Refer Armidale Regional Council Public Interest Disclosures Policy.

Serious or substantial waste	Refers to the uneconomical, inefficient or ineffective use of resources, authorised or unauthorised, which results in a loss/wastage of public funds/resources.
Stakeholders	Stakeholders refer to Councillors, Council staff members, committee members, consultants, contractors, suppliers, applicants and volunteers

4. POLICY

Armidale Regional Council is committed to a culture of good governance and ethical behaviour. As such, it will not tolerate fraudulent or corrupt behaviour and is committed to building a sound ethical culture supported by appropriate policies, procedures and strategies that prevent fraudulent and corrupt behaviour through:

- Ongoing education and training of all Council officials in relation to their obligations in combating dishonest and fraudulent behaviour.
- Regular review of fraud and corruption risk assessments to identify circumstances where fraud and corruption could occur.
- Implementation of procedures that have regard to, and mitigate, the risks identified in day to day activity.
- Promote an organisational environment that encourages professionalism, integrity and ethical conduct.
- Use of formal procedures upon detection, investigation and disciplining and/or prosecuting fraudulent or corrupt conduct.
- The reporting of any fraud or corrupt conduct to the Independent Commission Against Corruption (ICAC) and other authorities where appropriate.

Council's commitment to preventing fraudulent or corrupt activity, and avoiding or managing conflicts of interests, will be supported by implementing appropriate auditing systems to deter and identify corrupt activities, included in the following Fraud Control Framework.

5. FRAUD CONTROL FRAMEWORK

In order to achieve best practice, Armidale Regional Council is adopting the following processes which are sourced from the Fraud Control Framework of the Audit Office of NSW. The Audit Office framework is acknowledged as being best practice and widely used in State and Local Government organisations, providing for a consistent, effective and systematic approach to preventing fraud and corruption across the organisation.

The Fraud Control Framework of the Audit Office of NSW encompasses ten key attributes which sit within the themes of prevention, detection and response. Each attribute has a checklist of high-level processes and behaviours that should be present.

Attribute	Theme
Leadership	Prevention
Ethical Framework	Prevention, Detection, Response
Responsibility Structures	Prevention, Detection, Response
Fraud Control Policy	Prevention
Prevention Systems	Prevention
Fraud Awareness	Prevention, Response
Third Party Management Systems	Prevention, Response
Notification Systems	Detection, Response
Detection Systems	Detection
Investigations Systems.	Response

6. PREVENTION

1 LEADERSHIP

A successful fraud control framework is led by a committed and accountable Executive Leadership Team who demonstrate and reinforce the high ethical standards expected of public officials, who are resistant to improper behaviour or practice and promote an open culture of accountability and transparency. The General Manager has ultimate responsibility for fraud and corruption prevention within Council and is supported by the Executive Leadership Team, Audit Risk and Improvement Committee, and the Governance, People and Systems Department.

2 ETHICAL FRAMEWORK

The Fraud and Corruption Prevention Policy and associated framework builds upon Armidale Regional Council's commitment to ethical, transparent and accountable behaviour. Armidale Regional Council has clear policies, such as its Code of Conduct, setting out acceptable standards of ethical behaviour which are available to all staff on Council's intranet and/or website.

3 RESPONSIBILITY STRUCTURES

This policy applies to everyone who has any interaction with Council or Council staff to the maximum extent that Council has the authority to require it. This includes Councillors, Council staff members, committee members, consultants, contractors, suppliers, applicants and volunteers who all have obligations in the prevention of fraud and corruption and the fostering of an ethical and accountable work environment at Council.

Expectations of this policy also apply to customers, community and any relevant third parties with regard to the functions and/or operations undertaken for or on behalf of Council.

3.1 All Staff

It is important that all Council staff contribute to a workplace culture that has a 'zero tolerance' approach towards fraudulent and corrupt behaviour. As such, all staff have responsibilities in accordance with this policy, specifically:

- Maintain awareness and compliance with the requirements of this policy.
- Perform their duties to the best of their abilities with honesty, integrity and impartiality.
- Have regard to fraud and corruption related risks when performing their duties, and support processes that report and mitigate risks.
- Prevent, mitigate and report on (suspected, actual or attempted) fraud, corruption, maladministration and waste. This shall be done in accordance with Council's Code of Conduct and Public Interest Disclosures - Internal Reporting Policy.
- Cooperate with and provide assistance to investigators or officials investigating suspected or reported fraud or corruption.
- Manage and declare pecuniary and non-pecuniary interests in compliance with Council's Code of Conduct.

3.2 General Manager

The General Manager is responsible for the efficient and effective operation of Council and the implementation of systems and practices that proactively minimise risks of fraud and corruption while promoting an ethical workplace culture that has 'zero tolerance' towards fraudulent and corrupt behaviour and is readily reported should it occur.

- In addition to the responsibilities of all staff, the General Manager is required to:
- Promote Council's commitment to fraud and corruption prevention.
- Lead by example through ethical workplace behaviour, decision making and acting with honesty, integrity and impartiality when dealing with others.
- Ensure processes exist to monitor Directors' and Managers' compliance with their duties in accordance with this policy.
- Ensure Councillors are aware of their obligations in accordance with this policy.
- Monitor and review fraud and corruption risk assessments on a regular basis.
- Ensure any allegations of wrongdoing are fully investigated and report actual or suspected corrupt conduct to the Independent Commission against Corruption (ICAC) in accordance with Section 11 of the ICAC Act 1988.
- Report criminal offences to the NSW Police Force.

3.3 Mayor and Councillors

Responsibilities in accordance with this policy, specifically:

- Maintain awareness and compliance with the requirements of this policy.
- Perform their duties to the best of their abilities with honesty, integrity and impartiality.
- Have regard to fraud and corruption related risks when performing their duties, and support processes that report and mitigate risks.
- Prevent, mitigate and report on (suspected, actual or attempted) fraud, corruption, maladministration and waste. This shall be done in accordance with Council's Code of Conduct and Public Interest Disclosures - Internal Reporting Policy.

- Cooperate with and provide assistance to investigators or officials investigating suspected or reported fraud or corruption.
- Reporting all instances of possible fraud or corrupt conduct, in accordance with Council's Code of Conduct and Internal Reporting Policy.
- Provide support to the General Manager to implement adequate strategies to prevent fraud and corruption.
- Implementing and promoting Council's commitment to fraud and corruption prevention.
- Manage and declare pecuniary and non-pecuniary interests in compliance with Council's Code of Conduct.

3.4 Directors and Managers

In addition to the general responsibilities of all staff, Directors and Managers have a supervisory role in the implementation of this policy and promotion of an ethical workplace culture by demonstrably supporting the objectives of this policy, specifically:

- Leading by example through ethical workplace behaviour, decision making and acting with honesty, integrity and impartiality when dealing with others.
- Promoting and disseminating this policy and the standards of ethical behaviour expected by Council.
- Ensure training is provided to employees surrounding fraud and corruption awareness, Council's expectations and the reporting requirements in accordance with Council's Code of Conduct and Council's Public Interest Disclosures - Internal Reporting Policy.
- Provide ethical advice and support to staff.
- Identify and ensure appropriate internal controls are in place to manage potential fraud and corruption risks. This includes systematic review of risks and controls over time as well as initial identification, and assessment of training needs including refresher training.

3.5 Internal Auditor

In addition to the general responsibilities of all staff, the Internal Auditor is responsible for:

- Examining and evaluating the effectiveness of internal controls;
- Making recommendations to enhance the effectiveness of internal controls;
- Making notifications of suspected, actual or attempted instances of fraud and corruption in accordance with Council's Code of Conduct and Public Interest Disclosures-Internal Reporting Policy.

3.6 Audit Risk and Improvement Committee (ARIC)

The ARIC provides independent assistance to the Council by providing advice on the adequacy of the fraud control framework and the processes and systems in place to capture and effectively manage the identified fraud and corruption risks, internal controls and proposed risk treatment action plans which will be documented and recorded in Council's Risk Register.

The responsibilities of the ARIC are set out in the ARIC Charter as resolved by Council. At the time of adopting this Fraud and Corruption Prevention Policy, the responsibilities included:

- Financial reporting process
- Business ethics, policies and practices
- Management and internal controls

- Monitoring the integrity of the Council's financial reporting practices and finance and accounting compliance
- Reviewing internal controls, key corporate risks and all audit related matters
- Encouraging continuous improvement of Council's systems and practices
- Adoption of the Internal Audit Plan
- The Council's process for monitoring compliance with policies, laws and regulations and the Council code of conduct.

3.7 Volunteers and Contractors acting for Council

Volunteers and Contractors providing services or otherwise acting on behalf of Council are required to;

- Perform their duties to the best of their abilities with honesty, integrity and impartiality.
- Have regard to fraud and corruption related risks when performing their duties, and support processes that report and mitigate risks.
- Prevent, mitigate and report on (suspected, actual or attempted) fraud, corruption, maladministration and waste. This shall be done in accordance with Council's Code of Conduct and Public Interest Disclosures - Internal Reporting Policy.
- Cooperate with and provide assistance to investigators or officials investigating suspected or reported fraud or corruption.

3.8 External Parties

Council requires that all external parties act ethically and honestly in their business dealings with Council and that:

- Actual or perceived conflicts of interest are declared at the point any conflict becomes apparent;
- Any persons doing business with Council are to provide accurate and reliable information to Council when required, and;
- Take all preventative measures to prevent the unauthorised disclosure of confidential Council information.

External parties include Contractors, Consultants, Suppliers, Applicants, other Government Agencies or any other party engaged in business dealings with Council.

3.9 Residents and members of the public

Council encourages residents, customers and members of the public to support Council in preventing and responding to fraudulent or corrupt behaviour and invites those who suspect fraud or corruption that involves Council, to report their suspicions to the General Manager or other appropriate authority.

7. FRAUD AND CORRUPTION PREVENTION POLICY

This Fraud and Corruption Prevention Policy reinforces Council's commitment to fraud and corruption prevention by providing clear guidance and expectation of staff that responsibility falls with every individual who is involved with the functions and/or operations undertaken for, or on behalf of Council.

Fraud and Corruption risks are to be monitored in accordance with Council's Enterprise Risk Management Policy.

8. PREVENTION SYSTEMS

Council's main objective is to minimise the occurrence of fraud and corruption within Council. This objective will be achieved by:

- Identifying fraud and corruption risks
- Determining strategies to control those risks
- Defining responsibility and timeframes for strategies to be implemented

Council's identified fraud and corruption risks, internal controls and proposed risk treatment action plans will be documented and recorded in Council's Risk Register.

Council recognises that internal audit complements the internal assessment of fraud and corruption related risks and controls. Independent identification and assessment of Council's fraud and corruption risks will be arranged with Council's Internal Auditor to the extent that the Audit Risk and Improvement Committee (ARIC) deems warranted.

9. FRAUD AWARENESS

One of the most common ways in which fraud and corruption is detected is by observation, investigation and reporting by those who work with, or deal directly with, the perpetrator(s).

Council will commit to providing all staff with a general awareness of fraud and corruption, and provide guidance on how they are to respond if such behaviour is suspected, detected or attempted.

This will be achieved in a number of ways by:

- Incorporating a brief session on fraud and corruption prevention into induction training for new staff;
- Providing fraud awareness training sessions to Management and staff;
- Making Council's Code of Conduct and the Fraud and Corruption Prevention Policy available to all staff and the general public via Council's website;
- Disseminating articles of interest on fraud and corruption to staff via staff newsletters, publications and circulars;
- Promotion of this strategy and associated documents through Council's procurement framework and procurement documentation;
- Regular attendance at relevant industry forums and seminars.

Additionally, Council routinely interacts with a wide range of stakeholders such as residents, ratepayers, suppliers, contractors and developers to volunteers, applicants, media, community organisations and various other interested parties. There is a need to ensure that these stakeholders are actively aware of Council's attitude towards fraud and corruption and that such behaviour will not be tolerated, through the promotion of this strategy in an effort to reduce the likelihood of improper dealings and/or attempts by external parties to influence Councillors or Council staff.

10. THIRD PARTY MANAGEMENT SYSTEMS

Armidale Regional Council ensures that appropriate controls are in place via an assortment of policies to manage our dealings with third parties and conflicts of interest. In doing so we provide a copy of our

Statement of Business Ethics to contractors and suppliers to ensure understanding of the standards of behaviour expected by Council.

Third party management also covers managing staff conflicts of interest in accordance with Council's Code of Conduct, Related Parties Disclosure policy and secondary employment declaration requirements in accordance with Section 353 *Local Government Act 1993*.

11. NOTIFICATION SYSTEMS

Council's Code of Conduct compels all employees to report any instances of possible fraud, corruption, maladministration or serious and substantial wastage. Members of the public are actively encouraged to report any such behaviour that is known or suspected. Council supports and encourages a supportive culture of reporting and any person who makes a report in accordance with Armidale Regional Council's Public Interest Disclosure-Internal Reporting Policy will be protected under the *Public Interest Disclosures Act 1994.*

Reports of all suspected unethical activity including corruption be made to Council's Disclosures Coordinator. Alternatively, anyone wishing to make a report can direct matters of corruption to the Independent Commission against Corruption, maladministration to the NSW Ombudsman and serious and substantial wastage to the Office of Local Government.

12. DETECTION SYSTEMS

Internal controls are effective at detecting fraudulent and corrupt behaviour with Council maintaining appropriate controls such as:

- segregation of duties
- approvals and delegations authorisation
- verification
- reconciliations
- management reviews
- data mining tools
- risk assessments
- physical security
- job rotation
- Independent reviews like internal and external audits and peer reviews.
- Audit Risk and Improvement Committee

Council will not tolerate any reprisal action against staff who uncover and report such behaviour and will ensure appropriate methods are in place for their protection. If someone believes that detrimental action has been or is being taken against them, or someone else who has reported suspected fraud or corruption, they should advise a disclosure officer in accordance with the Public Interest disclosure and Internal Reporting Policy immediately.

13. INVESTIGATION SYSTEMS

Armidale Regional Council will undertake the assessment, investigation and handling of any allegation of fraud and corruption in accordance with its Public Interest Disclosures – Internal Reporting Policy.

REVIEW

This policy will be reviewed every two years.

APPROVAL AND REVIEW		
Responsible Business Unit	Governance	
Responsible Officer	Manager Governance, People and Systems	
Date/s adopted	*Council Executive* [updated by policy owner]	*Council* [DD Mmmm YYYY]
Date/s of previous adoptions	[Dates of previous adoptions]	
Date of next review	November 2022	
TRIM Reference		

TRIM:

Statement of Business Ethics Policy

ADOPTED BY COUNCIL: [DATE TO BE COMPLETED BY GOVERNANCE]

1. PURPOSE

This policy outlines the ethical standards required of both Armidale Regional Council delegates and its private industry business partners when engaged by Council. Adherence to these standards by both parties will enable the development of a mutually beneficial business relationship.

2. APPLICATION

This policy applies to tenderers, suppliers, contractors and consultants and their sub-contractors/employees, councillors, and all Council employees.

3. POLICY

Council will ensure its business relationships are ethical, honest, fair and consistent. Our business dealings will be transparent and open to public scrutiny wherever possible.

Council's business principles are as follows

- All procurement is conducted as per Council Policy to ensure the best outcomes for the community
- All business relationships with external parties will be transparent
- Procurement and appointment decisions will be base on merit and will be impartial and will not take extraneous issues into account

Value for money means an estimate of the worth or desirability of the goods or services offered. This can include such factors as initial cost, whole of life cost, quality, the extent to which the goods or services meet the specified requirements and also social and environmental responsibilities.

Transparency means visible and verifiable confirmation of the integrity of the purchasing process and compliance with relevant legislation and adopted Council procedures.

Impartiality means the purchasing process must be undertaken in a fair, objective, consistent and business like manner, leading to improved performance and cost effective methods of doing business for Council. It does not mean pleasing everyone. We strive to be impartial by ensuring that our processes are appropriate.

These principles enable suppliers to promote their interests productively and avoid potentially questionable activity. Those providing goods and services also benefit from the assurance that their competitors are required to behave in accordance with the same guidelines.

What to expect from us

Council employees are bound by Council's Code of Conduct. They are accountable for their actions and are expected to:

- Respect and follow Council policy and procedures
- Treat all tenderers for the supply of goods and services equitably
- Promote fair and open competition while seeking best value for money
- Protect confidential information
- Meet or exceed public interest and accountability standards
- Avoid situations where private interest could conflict with public duty
- Never solicit or accept remuneration, gifts or other benefits from a supplier for the discharge of official duties
- Respond promptly to reasonable requests for advice and information.

What we ask of you

We require all providers of goods and services to:

- Respect the conditions set out in documents supplied by us
- Respect the obligation of our employees to abide by Council's procurement policy
- Abstain from collusive practices
- Prevent unauthorised release of privileged information, including confidential Council information
- Refrain from offering Council employees or Councillors any financial or other inducement which may give any impression of unfair advantage
- There is to be no unsolicited contact by tenderers with Councillors, employees and/or delegates of the Council regarding their submitted tender until such time that the tender has been determined.

Compliance

Compliance with this statement will not disadvantage your organisation in any way. However, your organisation should be aware of the potential consequences of not complying with Council's Statement of Business Ethics.

Proven corrupt or unethical conduct could result in:

- Termination of contracts
- Loss of reputation
- Loss of future contracts
- Matters being referred to investigative bodies

Intellectual Property Rights

In business relationships with Council, parties will respect each others intellectual property rights and will formally negotiate any access licence or use of intellectual property.

Public Gifts and Benefits

In general, Council expects its employees to decline gifts, benefits, travel or hospitality offered during the course of their duties.

Council only permits employees to accept gifts if:

- Gifts are token and of nominal value
- Returning a gift is likely to be perceived as rude or offensive
- The offer is not targeted at an individual officer.

If a gift or benefit is taken, the staff member must record the gift in Council's public Gifts and Benefits Register. Council delegates including Councillors and employees should refer to Council's Code of Conduct for more detail on this issue.

Statement of Business Ethics - Who to contact?

If you are concerned about a possible breach of this statement or about any conduct that could involve fraud, corrupt conduct, maladministration or serious and substantial waste of public funds, please contact Armidale Regional Council's **General Manager or Public Officer on 1300 136 833.**

4. COMMUNITY STRATEGIC PLAN OBJECTIVES

Leadership for the Region

- Community Outcome 2–Council exceeds community expectations when managing its budget and operations
- Community Outcome 3–Council demonstrates sound organisational health and has a culture which promotes action, accountability and transparency.

5. LEGISLATIVE REQUIREMENTS

- Local Government Act 1993
- Independent Commission Against Corruption (ICAC) Act 1998
- Protected Disclosures Act 1994

6. REVIEW

This policy will be reviewed every two years from the date of each adoption of the policy, or more frequently as required.

RELATED POLICY AND PROCEDURES

- Council Code of Conduct
- Fraud and Corruption Prevention Policy

APPROVAL AND REVIEW		
Responsible Business Unit	Governance	
Responsible Officer	Manager Governance, People and Systems	
Date/s adopted	*Council Executive* [updated by policy owner]	*Council* [DD Mmmm YYYY]
Date/s of previous adoptions	[Dates of previous adoptions]	
Date of next review	November 2022	
TRIM Reference		

TRIM:

Public Interest Disclosures - Internal Reporting Policy

Contents

1. PURPOSE

The purpose of this policy is to establish an internal reporting system for staff and councillors to report wrongdoing without fear of reprisal. This policy sets out who you can report wrongdoing to at Armidale Regional Council (Council), what can be reported and how reports of wrongdoing will be dealt with by Council.

This policy is designed to complement normal communication channels between supervisors and staff. Staff are encouraged to raise matters of concern at any time with their supervisors, but also have the option of making a report about a public interest issue in accordance with this policy and the Public Interest *Disclosures Act 1994 (*PID Act).

The internal reporting system established under this policy is not intended to be used for staff grievances, which should be raised through the grievance policy. If a staff member makes a report under this policy which is substantially a grievance, the matter will be referred to Human Resources to be dealt with in accordance with the Armidale Regional Council Grievance Policy.

2. ORGANISATIONAL COMMITMENT

Armidale Regional Council has a strong commitment to:

- create a climate of trust, where people are comfortable and confident about reporting wrongdoing
- encourage staff to come forward if they are aware of wrongdoing within the council
- keep the identity of the staff member disclosing wrongdoing confidential, where this is possible and appropriate
- protect staff from any adverse action resulting from them making a report
- deal with reports thoroughly and impartially and if some form of wrongdoing has been found, taking appropriate action to address it
- keep staff who make a report informed of their progress and the outcome
- encourage the reporting of wrongdoing within the council, but respect any decision to disclose wrongdoing outside the council that is made in accordance with the provisions of the PID Act
- ensure managers and supervisors at all levels in the council understand the benefits of reporting wrongdoing, are familiar with this policy, and aware of the needs of those who report wrongdoing
- review the policy periodically to ensure it is relevant and effective
- provide adequate resources, to:
  - encourage reports of wrongdoing
  - protect and support those who make them
  - provide training for staff about how to make reports and the benefits of internal reports to the council and the public interest generally
  - properly assess and investigate or otherwise deal with allegations
  - properly manage any workplace issues that the allegations identify or that result from a report
  - appropriately address any identified problems.

Under the PID Act, the General Manager as the head of Council is responsible for ensuring that:

- Council has an internal reporting policy
- Council staff and councillors are aware of the contents of the policy and the protection under the PID Act for people who make public interest disclosures

- Council complies with the policy and the council's obligations under the PID Act
- the policy delegates at least one staff member as being responsible for receiving public interest disclosures. Clause 3.15 of the Procedures for the Administration of the Model Code of Conduct for Local Councils in NSW requires the Complaints Coordinator to be a Disclosures Coordinator. The NSW Ombudsman recommends councils nominate more than one person as being responsible for receiving public interest disclosures.

3. WHO DOES THIS POLICY APPLY TO?

This policy applies to:

- council staff and councillors
- permanent, temporary and casual employees
- consultants and individual contractors working for Armidale Regional Council
- employees of contractors providing services to Armidale Regional Council
- other people who perform council official functions whose conduct and activities could be investigated by an investigating authority, including volunteers.

The policy also applies to public officials of another council or public authority who report wrongdoing relating to Armidale Regional Council.

4. ROLES AND RESPONSIBILITIES

a) The role of council staff and councillors

Staff and councillors play an important role in contributing to a workplace where known or suspected wrongdoing is reported and dealt with appropriately. All council staff and councillors are obliged to:

- report all known or suspected wrongdoing and support those who have made reports of wrongdoing
- if requested, assist those dealing with the report, including supplying information on request, cooperating with any investigation and maintaining confidentiality
- treat any staff member or person dealing with a report of wrongdoing with courtesy and respect
- respect the rights of any person who is the subject of reports.

Staff and councillors must not:

- make false or misleading reports of wrongdoing
- victimise or harass anyone who has made a report.

Additionally, the behaviour of all council staff and councillors involved in the internal reporting process must adhere to the *Council's Code of Conduct*. A breach of the Code of Conduct could result in disciplinary action.

b) The role of Armidale Regional Council

Armidale Regional Council has a responsibility to establish and maintain a working environment that encourages staff and councillors to report wrongdoing and supports them when they do. This includes keeping the identity of reporters confidential where practical and appropriate, and taking steps to protect reporters from reprisal and manage workplace conflict.

Council will assess all reports of wrongdoing it receives from staff and councillors and deal with them appropriately. Once wrongdoing has been reported, Council takes 'ownership' of the matter. This means it is up

to Council to decide whether a report should be investigated, and if so, how it should be investigated and by whom. Council will deal with all reports of wrongdoing fairly and reasonably, and respect the rights of any person who is the subject of a report.

Council must report on our obligations under the PID Act and statistical information about public interest disclosures in our Annual Report and to the NSW Ombudsman every six months.

To ensure the Council complies with the PID Act and deals with all reports of wrongdoing properly, all staff and councillors with roles outlined below and elsewhere in this policy will receive training on their responsibilities.

c) Roles of key positions

General Manager

The General Manager has ultimate responsibility for maintaining the internal reporting system and workplace reporting culture, and ensuring the Council complies with the PID Act. The General Manager can receive reports from staff and councillors and has a responsibility to:

- assess reports received by or referred to them, to determine whether or not the report should be treated as a public interest disclosure, and to decide how the report will be dealt with
- deal with reports made under the Council's Code of Conduct in accordance with the council's adopted Code of Conduct procedures
- ensure there are strategies in place to support reporters, protect reporters from reprisal and manage workplace conflict that may arise in relation to a report
- make decisions following any investigation or appoint an appropriate decision-maker
- take appropriate remedial action where wrongdoing is substantiated or systemic problems are identified
- refer actual or suspected corrupt conduct to the Independent Commission Against Corruption (ICAC)
- refer any evidence of a reprisal offence under section 20 of the PID Act to the Commissioner of Police or the ICAC.

Disclosures Coordinator

The Disclosures Coordinator has a central role in the Council's internal reporting system. The Disclosures Coordinator can receive and assess reports, and is the primary point of contact at Council for the reporter. The Disclosures Coordinator has a responsibility to:

- assess reports to determine whether or not a report should be treated as a public interest disclosure, and to decide how each report will be dealt with (either under delegation or in consultation with the General Manager)
- deal with reports made under Council's Code of Conduct in accordance with Council's adopted Code of Conduct procedures
- coordinate Council's response to a report
- acknowledge reports and provide updates and feedback to the reporter
- assess whether it is possible and appropriate to keep the reporter's identity confidential
- assess the risk of reprisal and workplace conflict related to or likely to arise out of a report, and develop strategies to manage any risk identified
- where required, provide or coordinate support to staff involved in the reporting or investigation process, including protecting the interests of any officer the subject of a report
- ensure the Armidale Regional Council complies with the PID Act
- provide six-monthly reports to the NSW Ombudsman in accordance with section 6CA of the PID Act.

Disclosures Officers

Disclosures Officers are additional points of contact within the internal reporting system. They can provide advice about the system and the internal reporting policy, receive reports of wrongdoing and assist staff and councillors to make reports.

Disclosures Officers have a responsibility to:

- document in writing any reports received verbally, and have the document signed and dated by the reporter
- make arrangements to ensure reporters can make reports privately and discreetly when requested, if necessary away from the workplace
- discuss with the reporter any concerns they may have about reprisal or workplace conflict
- carry out preliminary assessment and forward reports to the Disclosures Coordinator or General Manager for full assessment.

Mayor

The Mayor can receive reports from staff and councillors about the General Manager. Where the Mayor receives such reports, the Mayor has a responsibility to:

- assess the reports to determine whether or not they should be treated as a public interest disclosure, and to decide how they will be dealt with
- deal with reports made under Council's Code of Conduct in accordance with Council's adopted Code of Conduct procedures
- refer reports to an investigating authority, where appropriate
- liaise with the Disclosures Coordinator to ensure there are strategies in place to support reporters, protect reporters from reprisal and manage workplace conflict that may arise in relation to a report
- refer actual or suspected corrupt conduct to the ICAC
- refer any evidence of a reprisal offence under section 20 of the PID Act to the Commissioner of Police or the ICAC.

Supervisors and Line Managers

Supervisors and line managers play an important role in managing the immediate workplace of those involved in or affected by the internal reporting process. Supervisors and line managers should be aware of the Internal Reporting Policy and are responsible for creating a local work environment where staff are comfortable and confident about reporting wrongdoing. They have a responsibility to:

- encourage staff to report known or suspected wrongdoing within the organisation and support staff when they do
- identify reports made to them in the course of their work which could be public interest disclosures, and assist the staff member to make the report to an officer authorised to receive public interest disclosures under this policy
- implement local management strategies, in consultation with the Disclosures Coordinator, to minimise the risk of reprisal or workplace conflict in relation to a report
- notify the Disclosures Coordinator or General Manager immediately if they believe a staff member is being subjected to reprisal as a result of reporting wrongdoing, or in the case of suspected reprisal by the General Manager, notify the Mayor.

5. WHAT SHOULD BE REPORTED?

You should report any suspected wrongdoing within Council, or any activities or incidents you see within the Council that you believe are wrong.

Reports about five categories of serious misconduct:

1. corrupt conduct
2. maladministration
3. serious and substantial waste of public money
4. breach of the GIPA Act, and
5. local government pecuniary interest contravention – which otherwise meet the criteria of a public interest disclosure, will be dealt with under the PID Act and according to this policy.

See below for details about these types of conduct.

More information about what can be reported under the PID Act can be found in the NSW Ombudsman's Guideline B2: What Should be Reported?

All other wrongdoing or suspected wrongdoing should be reported to a supervisor, to be dealt with in line with the relevant policies. This might include:

- harassment or unlawful discrimination
- practices that endanger the health or safety of staff or the public.

Even if these reports are not dealt with as public interest disclosures, Armidale Regional Council recognises such reports may raise important issues. We will respond to all reports and make every attempt to protect the staff member making the report from reprisal.

a) Corrupt conduct

Corrupt conduct is the dishonest or partial exercise of official functions by a public official.

For example, this could include:

- the improper use of knowledge, power or position for personal gain or the advantage of others
- acting dishonestly or unfairly, or breaching public trust
- a council official being influenced by a member of public to use their position in a way that is dishonest, biased or breaches public trust.

b) Maladministration

Maladministration is conduct that involves action or inaction of a serious nature that is contrary to law, unreasonable, unjust, oppressive or improperly discriminatory or based wholly or partly on improper motives.

For example, this could include:

- making a decision and/or taking action that is unlawful
- refusing to grant an approval for reasons that are not related to the merits of their application.

c) Serious and substantial waste of public money

Serious and substantial waste is the uneconomical, inefficient or ineffective use of resources that could result in losing or wasting public money.

For example, this could include:

- not following a competitive tendering process for a large scale contract
- having bad or no processes in place for a system involving large amounts of public funds.

d) Breach of the GIPA Act

A breach of the *Government Information (Public Access) Act 2009* (GIPA Act) is a failure to properly fulfil functions under that Act.

For example, this could include:

- destroying, concealing or altering records to prevent them from being released
- knowingly making decisions that are contrary to the legislation
- directing another person to make a decision that is contrary to the legislation.

e) Local government pecuniary interest contravention

A local government pecuniary interest contravention is a failure to comply with requirements under the *Local Government Act 1993* relating to the management of pecuniary interests. These include obligations to lodge disclosure of interests returns, disclose pecuniary interests at council and council committee meetings and leave the meeting while the matter is being discussed. A pecuniary interest is an interest that a person has in a matter because of a reasonable likelihood or expectation of appreciable financial gain or loss to the person.

For example, this could include:

- a senior council staff member recommending a family member for a council contract and not declaring the relationship
- a councillor participating in consideration of a DA for a property they or their family have an interest in.

6. ASSESSMENT OF REPORTS

All reports will be promptly and thoroughly assessed to determine what action will be taken to deal with the report and whether or not the report will be treated as a public interest disclosure.

The Disclosures Coordinator is responsible for assessing reports, in consultation with the General Manager where appropriate. All reports will be assessed on the information available to the Disclosures Coordinator at the time. It is up to the Disclosures Coordinator to decide whether an investigation should be carried out and how that investigation should be carried out. In assessing a report the Disclosures Coordinator may decide that the report should be referred elsewhere or that no action should be taken on the report.

7. WHEN WILL A REPORT BE TREATED AS A PUBLIC INTEREST DISCLOSURE?

Armidale Regional Council will treat a report as a public interest disclosure if it meets the criteria of a public interest disclosure under the PID Act. These requirements are:

- the report must be about one of the following five categories of serious wrongdoing – corrupt conduct, maladministration, serious and substantial waste of public money, breach of the GIPA Act, or local government pecuniary interest contravention
- the person making the disclosure must honestly believe on reasonable grounds that the information shows or tends to show wrongdoing

- the report has to be made to either the General Manager or, for reports about the General Manager the Mayor, a position nominated in this policy (see section 8), an investigating authority or in limited circumstances to an MP or journalist (see section 9).

Reports by staff are not public interest disclosures if they:

- mostly question the merits of government policy (see section 17)
- are made with the sole or substantial motive of avoiding dismissal or other disciplinary action (see section 18).

8. WHO CAN RECEIVE A REPORT WITHIN THE COUNCIL?

Staffs are encouraged to report general wrongdoing to their supervisor. However the PID Act requires that, for a report to be a public interest disclosure, it must be made to certain public officials identified in this policy or any supporting procedures.

The following positions are the only people within Council who are authorised to receive a public interest disclosure. Any supervisor who receives a report that they believe may be a public interest disclosure is obliged to assist the staff member to make the report to one of the positions listed below. The broader responsibilities of these positions are outlined under Roles and Responsibilities (section 4).

If your report involves a councillor, you should make it to the General Manager. If your report relates to the General Manager, you should make it to the Mayor.

- General Manager
- Mayor (for reports about the General Manager only)
- Disclosures Coordinator
- Disclosures Officers

The nominated Disclosures coordinator/Officers and their contact details are in Appendix 1 can be updated at any time by the General Manager.

9. WHO CAN RECEIVE A REPORT OUTSIDE OF THE COUNCIL?

Staff and councillors are encouraged to report wrongdoing within Council, but internal reporting is not your only option. You can also make a public interest disclosure to:

- An investigating authority.
- A Member of Parliament or a journalist, but only in the limited circumstances outlined below.

a) Investigating authorities

The PID Act lists a number of investigating authorities in NSW that staff and councillors can report wrongdoing to and the type of wrongdoing each authority can deal with. In certain circumstances it may be preferable to make a report of wrongdoing to an investigating authority, for example a report about either the General Manager or the Mayor.

The relevant investigating authorities for Armidale Regional Council are:

- the Independent Commission Against Corruption (ICAC) — for disclosures about corrupt conduct
- the Ombudsman — for disclosures about maladministration
- the Auditor-General — for disclosures about serious and substantial waste
- the Information Commissioner — for disclosures about a breach of the GIPA Act
- the Office of Local Government – for disclosures about local councils

You should contact the relevant investigating authority for advice about how to make a disclosure to them. Contact details for each investigating authority are provided at the end of this policy.

You should be aware that the investigating authority may well discuss any such reports with the Armidale Regional Council. We will make every effort to assist and cooperate with the investigating authority to ensure the matter is dealt with appropriately and there is a satisfactory outcome. We will also provide appropriate support and assistance to staff or councillors who report wrongdoing to an investigating authority, if we are made aware that this has occurred.

b) Members of Parliament or journalists

To have the protections of the PID Act, staff reporting wrongdoing to a Member of Parliament (MP) or a journalist must have already made substantially the same report to one of the following:

- the General Manager
- a person nominated in this policy, including the Mayor for reports about the General Manager
- an investigating authority.

Also, Armidale Regional Council or the investigating authority that received your initial report must have either:

- decided not to investigate the matter
- decided to investigate the matter, but not completed the investigation within six months of the original report
- investigated the matter but not recommended any action as a result
- not told the person who made the report, within six months of the report being made, whether the matter will be investigated.

Most importantly – to be protected under the PID Act – if you report wrongdoing to an MP or a journalist you will need to be able to prove that you have reasonable grounds for believing that the disclosure is substantially true and that it is in fact substantially true (see section 19 of the PID Act).

c) Other external reporting

If you report wrongdoing to a person or authority that is not listed above, or make a report to an MP or journalist without following the steps outlined above, you will not be protected under the PID Act. This may mean you will be in breach of legal obligations or Council's Code of Conduct – by, for example, disclosing confidential information.

For more information about reporting wrongdoing outside of the Council, contact the Disclosures Coordinator or the NSW Ombudsman's Public Interest Disclosures Unit. Their contact details are provided at the end of this policy.

10. HOW TO MAKE A REPORT

You can report wrongdoing in writing or verbally. You are encouraged to make a report in writing as this can help to avoid any confusion or misinterpretation. Armidale Regional Council's Internal Reporting Form is also available for staff or councillors to use to make a report. (Available at the end of this Policy)

If a report is made verbally, the person receiving the report will make a comprehensive record of the report and ask the person making the report to sign this record. The reporter should keep a copy of this record.

11. CAN A REPORT BE ANONYMOUS?

There will be some situations where you may not want to identify yourself when you make a report. Although these reports will still be dealt with by the Council, it is best if you identify yourself. This allows us to provide you with any necessary protection and support, as well as feedback about what action is to be taken or has been taken to deal with the issues raised in the report, or the outcome of any investigation.

It is important to realise that an anonymous disclosure may not prevent you from being identified by the subjects of the report or your colleagues. If we do not know who made the report, it is very difficult for us to prevent any reprisal should others identify you.

12. FEEDBACK TO STAFF WHO REPORT WRONGDOING

Staff and councillors who report wrongdoing will be told what is happening in response to their report.

a) Acknowledgement

When you make a report, Council will contact you to confirm that your report has been received and to advise:

- the timeframe within which you will receive further updates
- the name and contact details of the people who can tell you what is happening or handle any concerns you may have.

The PID Act requires that an acknowledgement and a copy of this policy is to be provided to a person reporting wrongdoing within 45 days of the report being made, however, we resolve to provide acknowledgement much sooner.

After a decision is made about how your report will be dealt with, the Council will send you an acknowledgment letter, providing:

- information about the action that will be taken in response to your report
- the likely timeframes for any investigation or other action
- information about the internal and external resources or services available that you can access for support.
- We will provide this information to you within ten working days from the date you make your report. We will also advise you if we decide to treat your report as a public interest disclosure and provide you with a copy of this policy at that time, as required by the PID Act.

Please note, if you make a report which meets the requirements of the PID Act but the report was made under a statutory or legal obligation or incidental to the performance of your day to day functions, you will not receive an acknowledgement letter or a copy of this policy.

b) Progress updates

While your report is being dealt with, such as by investigation or making other enquiries, you will be given:

- information about the progress of the investigation or other enquiries and reasons for any delay
- advice of any decision by the Council not to proceed with the matter
- advice if your identity needs to be disclosed for the purposes of investigating the matter or making enquiries, and an opportunity to talk about this beforehand.

c) Feedback

Once the matter has been finalised you will be given:

- enough information to show that adequate and appropriate action was taken and/or is proposed to be taken in response to your disclosure and any problem that was identified
- advice about whether you are likely to be called as a witness in any further matters, such as disciplinary or criminal proceedings.

13. MAINTAINING CONFIDENTIALITY

Council realises reporters may want their identity and the fact they have made a report to remain confidential. This can help to prevent any action being taken against them for reporting wrongdoing.

Where possible and appropriate we will take steps to keep your identity, and the fact you have reported wrongdoing, confidential. We will discuss with you whether it is possible to keep your identity confidential.

If confidentiality cannot be maintained, we will develop a plan to support and protect you from reprisal in consultation with you.

If you report wrongdoing, it is important that you only discuss your report with those responsible for dealing with it. This will include the Disclosures Coordinator and the General Manager, or in the case of a report about the General Manager, the Disclosures Coordinator and the Mayor. The fewer people who know about your report, before and after you make it, the more likely it will be that we can protect you from any reprisal.

Any staff or councillors involved in the investigation or handling of a report, including witnesses, are also required to maintain confidentiality and not disclose information about the process or allegations to any person except for those people responsible for handling the report.

14. MANAGING THE RISK OF REPRISAL AND WORKPLACE CONFLICT

When a staff member or councillor reports wrongdoing, the Council will undertake a thorough risk assessment to identify the risk to you of detrimental action in reprisal for reporting, as well as indirect but related risks of workplace conflict or difficulties. The risk assessment will also identify strategies to deal with those risks and determine the level of protection and support that is appropriate.

Depending on the circumstances, Council may:

- relocate the reporter or the staff member who is the subject of the allegation within the current workplace
- transfer the reporter or the staff member who is the subject of the allegation to another position for which they are qualified
- grant the reporter or the staff member who is the subject of the allegation leave of absence during the investigation of the disclosure.

These courses of action are not punishment and will only be taken in consultation with the reporter.

15. PROTECTION AGAINST REPRISALS

Council will not tolerate any reprisal against staff or councillors who report wrongdoing or are believed to have reported wrongdoing.

The PID Act provides protection for staff and councillors who have made a public interest disclosure by imposing penalties on anyone who takes detrimental action against another person substantially in reprisal for that person making a public interest disclosure. These penalties also apply to cases where a person takes detrimental action against another because they believe or suspect the other person has made or may have made a public interest disclosure, even if they did not.

Detrimental action means action causing, comprising or involving any of the following:

- injury, damage or loss
- intimidation or harassment
- discrimination, disadvantage or adverse treatment in relation to employment
- dismissal from, or prejudice in, employment
- disciplinary proceedings.

A person who is found to have committed a reprisal offence may face criminal penalties such as imprisonment and/or fines, and may be required to pay the victim damages for any loss suffered as a result of the detrimental action. Taking detrimental action in reprisal is also a breach of the council's Code of Conduct which may result in disciplinary action. In the case of councillors, such disciplinary action may be taken under the misconduct provisions of the *Local Government Act 1993* and may include suspension or disqualification from civic office.

It is important for staff and councillors to understand the nature and limitations of the protection provided by the PID Act. The PID Act protects reporters from detrimental action being taken against them because they have made, or are believed to have made, a public interest disclosure. It does not protect reporters from disciplinary or other management action where the Council has reasonable grounds to take such action.

a) Responding to allegations of reprisal

If you believe that detrimental action has been or is being taken against you or someone else in reprisal for reporting wrongdoing, you should tell your supervisor, the Disclosures Coordinator or the General Manager immediately. In the case of an allegation of reprisal by the General Manager, you can alternatively report this to the Mayor.

- All supervisors must notify the Disclosures Coordinator or the General Manager if they suspect that reprisal against a staff member is occurring or has occurred, or if any such allegations are made to them. In the case of an allegation of reprisal by the General Manager, the Mayor can alternatively be notified.

If the Council becomes aware of or suspects that reprisal is being or has been taken against a person who has made a disclosure, Council will:

- assess the allegation of reprisal to decide whether the report should be treated as a public interest disclosure and whether the matter warrants investigation or if other action should be taken to resolve the issue
- if the reprisal allegation warrants investigation, ensure this is conducted by a senior and experienced member of staff
- if it is established that reprisal is occurring against someone who has made a report, take all steps possible to stop that activity and protect the reporter
- take appropriate disciplinary action against anyone proven to have taken or threatened any action in reprisal for making a disclosure
- refer any breach of Part 8 of the council's Code of Conduct (reprisal action) by a councillor or the General Manager to the Office of Local Government.
- refer any evidence of an offence under section 20 of the PID Act to the ICAC or NSW Police Force.

If you allege reprisal, you will be kept informed of the progress and outcome of any investigation or other action taken in response to your allegation.

If you have reported wrongdoing and are experiencing reprisal which you believe is not being dealt with effectively, contact the Office of Local Government, the Ombudsman or the ICAC (depending on the type of wrongdoing you reported). Contact details for these investigating authorities are included at the end of this policy.

b) Protection against legal action

If you make a public interest disclosure in accordance with the PID Act, you will not be subject to any liability, and no action, claim or demand can be taken against you for having made the public interest disclosure. You will not have breached any confidentiality or secrecy obligations and you will have the defence of absolute privilege in defamation.

16. SUPPORT FOR THOSE REPORTING WRONGDOING

Council will make sure that staff who have reported wrongdoing, regardless of whether their report is treated as a public interest disclosure, are provided with access to any professional support they may need as a result of the reporting process – such as stress management or counselling services.

Access to support may also be available for other staff involved in the internal reporting process where appropriate. Reporters and other staff involved in the process can discuss their support options with the Disclosures Coordinator.

Support is also available to council employees through Council's Employee Assistance Provider.

17. SANCTIONS FOR MAKING FALSE OR MISLEADING STATEMENTS

It is important all staff and councillors are aware that it is a criminal offence under the PID Act to wilfully make a false or misleading statement when reporting wrongdoing. The Council will not support staff or councillors who wilfully make false or misleading reports. Such conduct may also be a breach of the Code of Conduct resulting in disciplinary action. In the case of councillors, disciplinary action may be taken under the misconduct provisions of the *Local Government Act 1993* and may include suspension or disqualification from civic office.

18. THE RIGHTS OF PERSONS THE SUBJECT OF A REPORT

Armidale Regional Council is committed to ensuring staff or councillors who are the subject of a report of wrongdoing are treated fairly and reasonably. This includes keeping the identity of any person the subject of a report confidential, where this is practical and appropriate.

If you are the subject of the report, you will be advised of the allegations made against you at an appropriate time and before any adverse findings. At this time you will be:

- advised of the details of the allegation
- advised of your rights and obligations under the relevant related policies and procedures
- kept informed about the progress of any investigation
- given a reasonable opportunity to respond to any allegation made against you
- told the outcome of any investigation, including any decision made about whether or not further action will be taken against you.

Where the reported allegations against the subject officer are clearly wrong, or have been investigated and unsubstantiated, the subject officer will be supported by Council. The fact of the allegations and any investigation will be kept confidential unless otherwise agreed to by the subject officer.

19. REVIEW

This policy will be reviewed by Armidale Regional Council every two years.

20. MORE INFORMATION

More information around public interest disclosures is available on our intranet. Staff can also seek advice and guidance from the Disclosures Coordinator and the NSW Ombudsman's website at www.ombo.nsw.gov.au.

Signed:

_____
John Rayner
Acting General Manager

_____
Viv May
Administrator

APPROVAL AND REVIEW		
Responsible Business Unit	Governance	
Responsible Officer	Manager Governance, People and Systems	
Date/s adopted	*Council Executive* [updated by policy owner]	*Council* [DD Mmmm YYYY]
Date/s of previous adoptions	[Dates of previous adoptions]	
Date of next review	November 2022	
TRIM Reference		

APPENDIX 1: INTERNAL CONTACTS AND EXTERNAL RESOURCES

Internal Contacts

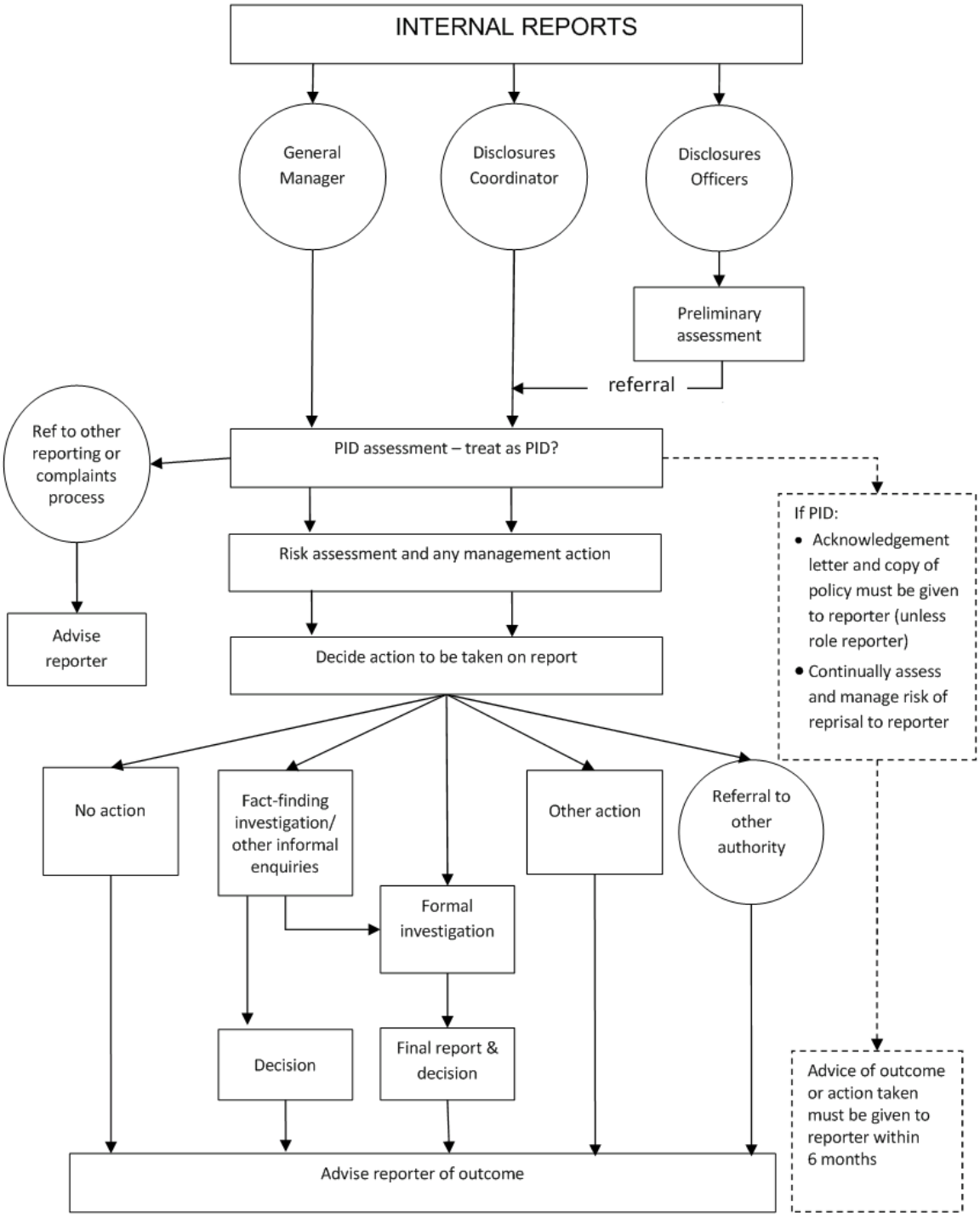
- General Manager
- Mayor (for reports about the General Manager only)
- Disclosures Coordinator - Director Organisational & Corporate Services
- Disclosures Officers - Coordinator Governance, Risk and Safety

External Resources

The contact details for external investigating authorities that staff can make a public interest disclosure to or seek advice from are listed below.

For disclosures about corrupt conduct: Independent Commission Against Corruption (ICAC) Phone: 02 8281 5999 Toll free: 1800 463 909 Tel. typewriter (TTY): 02 8281 5773 Facsimile: 02 9264 5364 Email: icac@icac.nsw.gov.au Web: www.icac.nsw.gov.au Address: Level 7, 255 Elizabeth Street, Sydney NSW 2000	**For disclosures about maladministration:** NSW Ombudsman Phone: 02 9286 1000 Toll free (outside Sydney metro): 1800 451 524 Tel. typewriter (TTY): 02 9264 8050 Facsimile: 02 9283 2911 Email: nswombo@ombo.nsw.gov.au Web: www.ombo.nsw.gov.au Address: Level 24, 580 George Street, Sydney NSW 2000
For disclosures about serious and substantial waste: Auditor-General of the NSW Audit Office Phone: 02 9275 7100 Facsimile: 02 9275 7200 Email: mail@audit.nsw.gov.au Web: www.audit.nsw.gov.au Address: Level 19, Darling Park Tower, 201 Sussex Street, Sydney NSW 2000	**For disclosures about local councils:** Office of Local Government Phone: 02 4428 4100 Tel. typewriter (TTY): 02 4428 4209 Facsimile: 02 4428 4199 Email: olg@olg.nsw.gov.au Web: www.olg.nsw.gov.au Address: 5 O'Keefe Avenue, Nowra, NSW 2541
For disclosures about the Independent Commission Against Corruption (ICAC) Inspector of the Independent Commission Against Corruption Phone: 02 9228 3023 GPO Box 5341 Sydney NSW 2001 E: oiicac_executive@oiicac.nsw.gov.au W: https://www.oiicac.nsw.gov.au/contact-the-inspector	**For disclosures about breaches of the GIPA Act:** Information & Privacy Commissioner Toll free: 1800 472 679 Facsimile: 02 8114 3756 Email: ipcinfo@ipc.nsw.gov.au Web: www.ipc.nsw.gov.au Address: Level 17, 201 Elizabeth Street, Sydney NSW 2000

APPENDIX 2: FLOW CHART OF INTERNAL REPORTING PROCESS



ARMIDALE Regional Council

APPENDIX 3: PUBLIC INTEREST DISCLOSURE - INTERNAL REPORT FORM

To be completed by an internal reporter and submitted to a nominated Disclosures Officer

(Refer to Councils Internal Reporting Policy for further details)

Details of reporter *(You can make an anonymous report by leaving this section blank)*		
Name:		
Position:		
Division/Unit:		Preferred method of contact
Telephone:		☐ Telephone
Email:		☐ Email
Postal address:		☐ Post

Details of the wrongdoing being reported		
Description: • *What happened?* • *Where did this happen?* • *When did this happen?* • *Is it still happening?* *[Attach an additional page if required]*		
How did you become aware of this?		
Name and position of people involved in the wrongdoing:	**Name**	**Position**
Attach any additional relevant information or indicate where supporting evidence may be found:	**Supporting evidence**	**Attached**
		☐
		☐
		☐
Name and position of other people who may have additional information:	**Name**	**Position**

Statement	
I honestly believe that the above information shows or tends to show wrongdoing.	
Signature of reporter *(Do not sign if you want to make an anonymous report)*	Date report submitted *(Essential information)*

Wilson Property Solutions
Pty Ltd

Armidale Regional Council Leased Portfolio

Options Paper

Abstract

This document is intended to outline key issues affecting the Council's leased portfolio and provide options and recommedations to improve management and performance

Prepared by:
Alex Wilson
Principal Consultant
Wilson Property Solutions

October 2020

Table of Contents

EXECUTIVE SUMMARY

Armidale Regional Council (ARC) is currently looking to redesign its approach to managing its community and operational portfolio to deliver a more open, equitable and accountable management framework.

The current management approach to the portfolio is inconsistent and ineffective, with areas of concern relating to a failure to meet statutory responsibilities, a lack of transparent and appropriate decision making, a lack of relevant policies, procedures and processes, unsatisfactory training and resourcing, limited data management control and a lack of financial management reporting.

Current data collection processes and procedures are inconsistent and present a high risk to data integrity.

This Report addresses key issues and makes recommendations on statutory compliance, opportunities for improving the management of the operational and community portfolio, and opportunities to improve overall portfolio management to facilitate better quality information and more effective decision making.

RECOMMENDATIONS

1. Develop a Land Register to meet the statutory requirements of the Local Government Act 1993
2. Update all generic plans of management to meet the requirements of the Local Government Act 1993 and the Crown Lands Management Act 2016
3. Develop processes and procedures to comply with Section 46 and 47 of the Local Government Act 1993
4. Review all Crown land under ARC control, assign a categorisation for consideration by the Minister and incorporate sites within Plans of Management in accordance with the Crown Land Management Act 2016 and the Local Government Act 1993
5. Centralise community leasing (and outdoor dining licences) and develop an organisational RACI to ensure effective internal stakeholder engagement and establish clear delegations to provide clarity on decision making powers and accountability.
6. ARC to consider existing best practice Community Leasing Policies, consult with internal and external stakeholders and develop a specific ARC policy for approval by Council.
7. ARC to determine the resource structure to support the community leasing portfolio and instruct the responsible director/manager to produce compliant processes and procedures as a matter of priority.
8. ARC to prepare a Local Approvals Policy for the Use of Public Land to address the licencing of outdoor dining areas under the Roads Act 1993.
9. Review existing standard licence agreements for Car Parking, develop evaluation criteria and document processes for approval by the General Manager

10. Review existing airport and commercial agreements and document key strategic standard commercial agreement outcomes for approval by the General Manager
11. Arrange for all property resources to undertake training in relation to public sector probity guidelines specifically relating to undertaking dealings in public land
12. Prepare tender documentation for the provision of property management services for commercial and residential portfolios
13. Undertake a peer review of the data captured in the WPS spreadsheet and provide additional data relating to classifications, plans of management, current rentals and review dates. Data entered must be subject to data management controls to be approved by the relevant Director.
14. Develop a fit for purpose and sophisticated spreadsheet to manage the community portfolio, outsource the operational portfolio and call for management reports to be prepared by the operational portfolio service provider.
15. Prepare a business case to determine the viability of purchasing an asset management system to support Council's existing financial system.
16. Centralise the management responsibilities for the portfolio under one Director with one dedicated SME resource, one analyst and one outsourced provider
17. Develop a communications strategy to address the transition of the portfolio from the current to future state

1.0 INTRODUCTION

This Report has been prepared for Armidale Regional Council (ARC) to provide options for improving the management and performance of the Council's leased property portfolio in terms of policy, procedures, process and structure.

2.0 BACKGROUND

ARC was placed into administration by the Minister for Local Government in mid 2020 when reports suggested that the Council had failed in the exercise of its functions, core services, decision making, community participation, financial management and integrated planning and reporting.

The Minister for Local Government subsequently appointed an administrator and an Acting General Manager to restore the proper and effective functioning, governance, financing and organisational culture of ARC.

Wilson Property Solutions Pty Limited (WPS) was engaged to review the current state of the property portfolio having regard to statutory obligations, community participation, governance, process, policy and financial management, and to make recommendations on potential options for improving overall performance.

To inform this report, WPS was provided with copies of all leases held by ARC and a summary portfolio management spreadsheet used by the Finance Department to track actions on the portfolio. On request, WPS was also provided with copies of existing Plans of Management and a further financial spreadsheet that included some data on classifications under the Local Government Act.

3.0 THE PORTFOLIO

Local Government property portfolios are traditionally, and statutorily required to be categorised into operational, community, roads and Crown lands. This categorisation allows for the portfolio to be managed appropriately in terms of decision making, community participation, policy and process.

ARC's portfolio is not appropriately categorised and the management approach for each transaction is often inconsistent. The quality of management is subject to the level of knowledge of processes and procedures by relevant resources at specific times. This commentary is not a criticism of the resources involved, but rather a reflection of a lack of education relating to statutory responsibilities and the development of clear processes and procedures.

ARC's statutory obligations relating to "community" and "Crown Land" are unsatisfactory and, in most cases are not met.

ARC's statutory obligations relating to managing property as "operational land" are also not clear and will require a separate review to determine the extent of reclassifications that may be required to meet statutory obligations.

For the purposes of this Report, WPS has grouped the portfolio into the following asset classes:

- Airport Leases
- Commercial Leases
- Residential Leases
- Community Leases
- Grazing Licences
- Car Parking Licences
- Outdoor Dining Licences

Within each of these groupings, the standard approach to managing specific leases/licences is determined by their classification under the Local Government, the relevant Plan of Management, the requirement for public advertising and requirements for ministerial approval. It appears that ARC applies substantially the same approach to all lease negotiations and approaches the portfolio primarily from an administrative perspective rather than from a perspective of maximising performance and ensuring adherence to legislative requirements, policy and process.

Based on the information provided, the portfolio consists of 122 leases (see Appendix A).

The following graphs illustrate that the total annual income from the ARC portfolio is dominated by commercial and airport leases delivering approximately 87% of total income (note: data obtained from commencing rentals).

With 50 community leases delivering only 12% of total income, the focus on managing these assets needs to shift towards deriving community benefit and meeting statutory responsibilities, which becomes resource intensive.

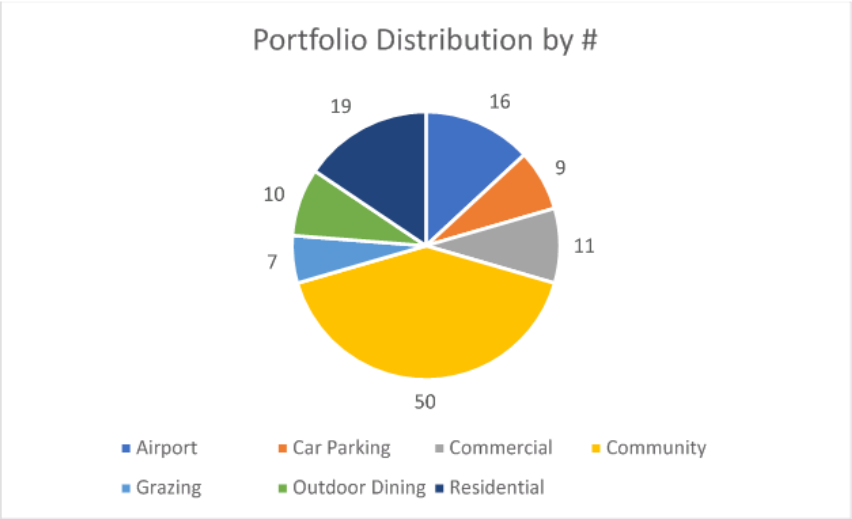


Figure 1: Portfolio distribution by number of leases/licences

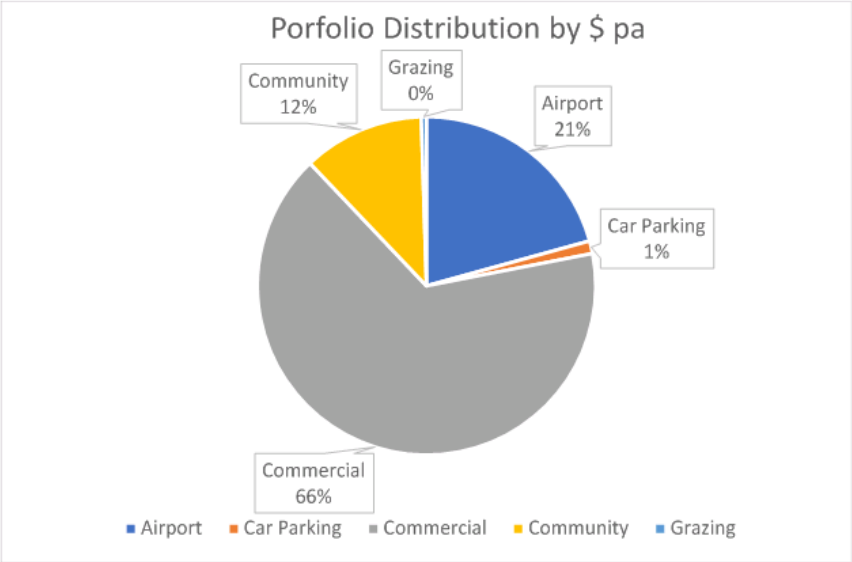


Figure 2: Portfolio distribution by % of total annual portfolio income

Note:
i) Figures based on commencing rents
ii) Excludes Residential and outdoor dining income as data was not available

4.0 STATUTORY CONTEXT

Management of a Local Government Property portfolio is primarily governed by the Local Government Act 1993, the Roads Act 1993 and the Crown Lands Management Act 2016.

ARC is not meeting statutory responsibilities in the following areas:

4.1 Local Government Act 1993

4.1.1 Land Register

Section 53 of the Act requires Councils to keep a register of all land vested in it or under its control.

The register must include the following—

- the name (if any) by which the land is known
- the address or location of the land
- the reference to title of the land
- the name of the owner of the land
- whether or not the land is Crown land
- the classification under this Part of the land
- whether or not there is a plan of management for the land
- the zoning (if any) of the land under an environmental planning instrument
- particulars of any agreement (including any lease or licence) entered into by the council with respect to the land

ARC's land register does not appear to be a standalone register but rather, some of the data is available within the Finance excel spreadsheet titled "ARC IPPE +

Summary Note 2020". The land register in this format is not easily searchable and does not include all information required under Section 53.

Recommendation: Develop a Land Register to meet statutory obligations and provide a single source of truth for managing the portfolio. Current available information needs to be reviewed to ensure:

i) all operational classifications are supported by a Council decision or LEP, and if not, deem the property to be "Community Land"
ii) all Crown land is recorded as per the requirements of the Crown Land Management Act 2016
iii) all plans of management are recorded for each site
iv) all leases/licence are recorded for each site
v) all other relevant details are included to comply with Section 53 of the Local Government Act

The Land Register must be available in a searchable format to allow for ease of reference. An efficient land register will enable fast and accurate decision making by the property team to determine the appropriate management approach.

4.1.2 Plans of Management

Section 36 of the Act further requires plans of management to be prepared for all community land and for that land to be categorised as one of the following:

(a) a natural area,
(b) a sportsground,
(c) a park,
(d) an area of cultural significance,
(e) general community use

WPS has been provided with copies of:

- Generic Plan of Management for General Community Use (2006)
- Generic Plan of Management for Sportsgrounds (last review 2009)
- Generic Plan of Management for Parks (last review 2009)
- Plan of Management for Parks for General Community Use (last review 2009)

All Plans of Management need to be updated to reflect accurate categorisation of all community land (including Crown Land). There are schedules noted within the above Plans however, they are not in a searchable format and would need to be verified. During the review process, ARC must consider that each plan of management needs to authorise the lease of community land identified with the plan and the purpose of the lease must be consistent with the overall objectives of the plan. If the purpose of the lease is inconsistent with the objectives of the plan of management, ARC should reconsider the appropriateness of that categorisation.

Recommendation: Update all generic plans of management to meet the requirements of the Local Government Act 1993 and the Crown Lands Management Act 2016

4.1.3 Public Notice of Lease Terms – Community Land

There are many statutory requirements relating to lease terms on community land that ARC does not appear to meet.

ARC needs to develop clear policies and procedures to manage the following requirements:

- **Section 46 (3)** states that council must not grant a lease or licence for a period (including any period for which the lease or licence could be renewed by the exercise of an option) exceeding 30 years.

- **Section 47** states that if a council proposes to lease/licence community land for a period exceeding 5 years it must give public notice of the proposal in accordance with the specific requirements of this clause. In particular, Council must consider any objections to the lease and then prepare a submission to the Minister for their approval prior to granting the lease/licence. Council also must seek Minister's consent to the granting of a lease/licence on community land that exceeds 21 years. The details of how that submission is to be made to the Minster is specified within this clause.

  It is important to note that most of the ARC leases have a continuous renewal clause which is not in line with the intent of the legislation. Most leases will be renewed on request of the tenant provided they have not defaulted during the term of their lease. In my opinion, this does not support compliance with Section 47.

- **Section 47A** states that if a council proposes to lease/licence community land for a period less that 5 years it must give public notice of the proposal in accordance with the specific requirements of this clause. In particular, Council must consider any objections and if the Minister makes a special request, it must refer the matter to the Minister for approval.

  I have been verbally advised by ARC staff that this public exhibition requirement is not being met.

Recommendation: Processes and procedures need to be developed to ensure compliance with Section 46 and Section 47 of the Local Government Act. This will include a review of the standard lease documentation which is detailed further in this Report.

4.2 Roads Act 1993

Section 125 states that a council may grant approval for the use of a public road/footway for the purposes of a restaurant, that is, outdoor dining. The maximum term permitted for outdoor dining is 7 years.

ARC has approximately 10 outdoor dining licences however WPS has not sighted the standard agreement or supporting policy. It is understood that these licences are managed by a separate division of Council.

Recommendation: The responsibility for outdoor dining licences should be centralised within the property team and subject to standard policies and procedures to ensure transparency of decision making and approval processes.

4.3 Crown Lands Management Act 2016

Council's management responsibilities for Crown land were substantially increased following the introduction of this legislation however it would appear that most land management responsibilities within ARC have remained unchanged. Some Crown Land has been added to the Finance data sheet for reporting purposes however the land management component relating to classification, categorisation and plans of management does not appear to have been addressed.

Section 3.2 of the Act states that Council's are to manage Crown land within its LGA as if it were public land under the Local Government Act. This requires, in the first instance, for the land to be formally classified as community or operational.

Section 3.22 states that Councils must apply the same LGA requirements to the management of leases and licences on Crown land as if it were community land. If land is to be classified as operational land, the classification is subject to Ministerial consent.

Section 3.23 states that Council must assign a categorisation to all Crown land in accordance with Section 36 of the LGA Act and that the Minister must give written notice to the Minister of the categorisation for approval. Once these categorisations are approved, the sites are required to be incorporated into the Plans of Management.

As the current ARC Plans of Management are dated 2009, it is assumed that the requirements of the Crown Land Management Act 2016 have not been met.

Recommendation: ARC needs to review all Crown land under its control and assign a categorisation for consideration by the Minister. Following approval, the Plans of Management need to be updated.

5.0 COMMUNITY/CROWN PORTFOLIO

The Council's community portfolio should include the following asset classes:

- Community Leases
- Grazing Licences

As previously detailed, a significant area for improvement for the management of the Community and Crown portfolio will be achieved through compliance with statutory requirements.

To support this, there are some further efficiencies to be gained by improving internal governance processes, developing a standard community leasing policy and developing a standard community lease template.

5.1 Internal Governance Processes

The current approach to managing community leases is de-centralised across various departments of Council. Roles, responsibilities and decision-making powers are not clear which have effectively led to a breakdown in consistency and compliance.

Recommendation: Community leasing should be centralised and supported by an organisational RACI to ensure effective internal stakeholder engagement. Clear delegations need to be established to provide clarity on decision making powers and accountability.

5.2 Standard Community Leasing Policy

Many Councils have adopted a community leasing policy which outlines key principles for managing the portfolio and the community groups.

Key principles of a community leasing policy should include:

- an overriding commitment to ensuring members of the community are able to enjoy the social, cultural and economic benefits of the local government area
- an acknowledgement of the important role Council facilities play in creating opportunities for community groups
- an evaluation framework to establish a consistent and equitable approach when evaluating expired or expiring agreements held by community groups – evaluation criteria could be developed across common themes such as strategy, building condition, financial, service provision and multi-use
- a set of clear criteria for subsidising rents
- a standardised approach to agreement terms
- a commitment to encouraging multiple uses of land and buildings, rationalising exclusive occupancies
- a commitment to ensuring a competitive and transparent process is undertaken at all times, and
- a commitment to ensuring full statutory compliance

Examples of best practice Community Leasing Policies are attached as Appendix B.

Recommendation: ARC should consider existing best practice Community Leasing Policies, consult with internal and external stakeholders and develop a specific ARC policy for approval by Council.

5.3 Process improvement

Effective implementation of the Community Leasing Policy will be subject to establishing clear internal processes and procedures and confirming the resource structure available to support this function. The Director/Manager responsible for this function would be responsible for documenting the processes and procedures to support the Policy and the legislation. These process maps and procedures should be referred to the General Manager for approval and subject to an independent peer review by a nominated local government authority.

Recommendation: ARC to determine the resource structure to support this function and instruct the responsible director/manager to produce compliant processes and procedures as a matter of priority.

6.0 OPERATIONAL PORTFOLIO

The operational portfolio is managed across different divisions within ARC and the roles and responsibilities are not clear, leading to inefficiencies and a lack of focus on maximising portfolio performance and reporting. As the management responsibilities are dispersed, it is assumed that there is a lack of policy, governance and procedures to ensure commercial negotiations fully comply with public sector probity requirements and that a consistent approach is applied in all circumstances across the portfolio.

A portion of the residential portfolio has been outsourced to a local real estate agency however it is unclear as to why certain residential properties are retained within ARC. No commercial properties are outsourced, and I understand that negotiations are allocated to senior officers within ARC as required.

A Council's commercial and residential property portfolio can provide a steady annual recurrent income to support the organisation's financial performance and needs to be centralised to derive maximum benefit.

The operational portfolio should include the following asset classes:

- Airport Leases
- Commercial Leases
- Residential Leases
- Car Parking Licences
- Outdoor Dining Licences

From information provided to WPS, it is not clear that all properties that should be managed as operational properties are classified as "operational". A detailed review of all properties within these asset classes should be undertaken to confirm classification and if necessary, seek to reclassify sites accordingly.

The objectives of this portfolio should reflect corporate portfolio management fundamentals by seeking to maximise income, minimise cost and meet asset management industry benchmarks.

To support this, the portfolio should be supported by standardised leasing documentation and policies, clear guidance on probity requirements and

outsourcing the remainder of the residential portfolio, the commercial portfolio and the airport leases.

6.1 Standardised Documentation and Policies

6.1.1 Outdoor Dining

An Outdoor Dining Policy would assist in documenting the overall objectives and evaluation framework for assessing applications to licence public land for these purposes.

In relation to the Outdoor Dining Policy, Georges River Council has produced a best practice "Local Approvals Policy Use of Public Land" that could be amended to reflect the specific requirements of ARC and produce a standard agreement. The document outlines specific policy relating to business use of footways, determination criteria, exemptions and general conditions of approval. This Policy is attached as Appendix C.

Recommendation: Prepare a Local Approvals Policy for the Use of Public Land to address the licencing of outdoor dining areas under the Roads Act 1993.

6.1.2 Car Parking Licences

Standard documentation is also appropriate for car park licences and ARC does have a current standard document which requires review to ensure it meets current objectives.

The process for evaluating requests for car parking licences needs to be documented to support the internal staff managing these properties.

Recommendation: Review existing standard licence agreements, develop evaluation criteria and document procesess for approval by the General Manager

6.1.3 Airport Leases/Commercial Leases

The management of leases within the airport and other commercial leases would benefit from a clear policy perspective on public liability, rights of access, tenant obligations, maintenance clauses and Council obligations. There is some consistency with these agreements which could be built upon to develop more consistent policy positions and establish a clear objective for future management.

Recommendation: Review existing agreements and document key strategic commercial agreement outcomes for approval by the General Manager

6.2 Probity & Tendering Guidelines

ARC should ensure all staff members are familiar with the public sector guidelines on tendering and commercial negotiations relating to property. These guidelines can then be incorporated into the development of clear processes and procedures for lease negotiations.

Recommendation: Arrange for all property resources to undertake training in relation to public sector probity guidelines specifically relating to undertaking dealings in public land

6.3 Outsourcing

Due to the complexity of the commercial leases within the ARC portfolio, ARC would benefit from outsourcing the management to a commercial real estate agent. Compliance with lease terms and conditions is essential and requires continued specialist input to ensure appropriate arrears management, timely reviews, management of breaches and complex negotiations. The portfolio management fee would be approximately 5% of the annual commercial income which would be approximately $30,000 per annum plus new lease fees etc. This option would secure specialist advice and remove risk from ARC.

Part of the residential portfolio is currently outsourced at a fee of 7-8% of annual income which is relatively high but could be market for Armidale. The remainder of the residential portfolio should be outsourced to reduce inconsistency but a new tender for property management services should be run to ensure value for money.

Car parking licences can also be outsourced with the commercial portfolio.

Recommendation: Prepare tender documentation for the provision of property management services for commercial and residential portfolios

7.0 OVERARCHING PORTFOLIO MANAGEMENT ISSUES

7.1 Data Integrity

The integrity of the data supporting the management of the portfolio is a high risk.

The data relies on manual inputs and a particular skill set to effectively interpret lease conditions.

From information provided to WPS, a spreadsheet has been compiled which includes data obtained form the source lease documents (Appendix A). There are inconsistencies at significant data points between the data captured from the lease documents and the data held by the Finance team and administrative resource including rent, term, tenant etc.

With a portfolio of this size and the absence of an accurate land register, the accuracy of the data collected must be subject to further detailed review to include data relating to classifications, plans of management, current rentals and next review dates.

Recommendation: ARC to undertake a peer review of the data captured in the WPS spreadsheet and provide additional data relating to classifications, plans of management, current rentals and review dates. Data entered must be subject to data management controls to be approved by the relevant Director.

7.2 Management Tools

The use of a manually updated spreadsheet to manage the portfolio is not effective. It does not appear to be supported by any dashboard management reporting functions and is not in a searchable format. It does not determine priorities, allow for effective critical date management or the identification of risks.

Arrears management appears to be managed via the spreadsheet and the finance system but it does not provide a clear accountability for staff or a line of sight for tenant management purposes.

There is no usable data in the spreadsheet that can be applied to effectively manage outgoings and capital/maintenance expenses.

The current system makes it near impossible to obtain an accurate picture of portfolio performance and risk.

In my opinion, it is possible to manage the community portfolio with a spreadsheet provided it is developed by an analyst and supported with predetermined dashboard graphs, reports and data management controls. Prior to developing this, it is essential that the data is again verified by a third party to ensure accuracy and that the spreadsheet is well controlled through documented rules and authorities.

In my opinion, ARC would be best served by outsourcing the operational portfolio. The property management services tender should include a requirement for the service provider to deliver regular reports to assess critical dates, arrears management, risks etc. The service provider should provide reports on a monthly, quarterly and annual basis.

ARC could also consider the purchase of an asset management system to capture all data relating to its property portfolio. Further advice is recommended to prepare a detailed business case for the purchase of an asset management system to supplement the existing financial systems. As the portfolio is not significant in size, the business case should also consider the non-financial benefits of improving the management of its whole portfolio.

Recommendation: Develop a fit for purpose and sophisticated spreadsheet to manage the community portfolio, outsource the operational portfolio and call for management reports to be prepared by the service provider and, prepare a business case to determine the viability of purchasing an asset management system to support Council's existing financial system.

7.3 Resource Management

The property management function is currently dispersed across ARC and there is a lack of clear accountability for the performance of the whole portfolio. ARC would benefit from centralising the functions, creating clear accountabilities, and providing resourcing to support the statutory responsibilities.

In the first instance, ARC has a significant backlog of statutory requirements to comply with. This will be resource intensive and will require experienced strategic planning and/or property skills together with advanced stakeholder engagement skills as there will be an increased need for widespread community consultation.

In capturing the data, a property analyst will need to be procured to control the input of data and create the community portfolio management spreadsheet.

To support the outsourcing of the operational portfolio, existing procurement resources will need to support a property subject matter expert to procure a property management service provider.

To support the day to day portfolio activity, the general compliance with policy and the management of approval pathways and management reporting, a single dedicated property skilled resource should be allocated to this function. This resource should have a clear reporting line to one Director who is ultimately responsible for the performance of the whole portfolio.

Recommendation: Centralise the management responsibilities for the portfolio under one Director with one dedicated SME resource, one analyst and one outsourced provider

7.4 Community Consultation Strategy

Compliance with statutory responsibilities will introduce the need for increased community consultation. As new policies will need to be developed and new processes will be introduced to publicly advertise leases, plans of management and reclassifications, the community are likely to be unsure of the purpose and individual groups will become frustrated with delays.

A proactive community consultation strategy should be developed to establish key messages for this transition to a compliant process and identify opportunities to actively engage with the community during the development of policies which will support the management of the portfolio.

Recommendation: Develop a communications strategy to address the transition of the portfolio from the current to future state

8.0 CONCLUSION

There is significant work to do in order comply with statutory responsibilities and establish a management framework to effectively manage both the operational and community portfolio.

With dedicated resources, a centralised approach and compliance with policy, ARC's approach to portfolio management can pivot to provide an open and equitable framework which delivers favourable outcomes for the community.

ARMIDALE Regional Council

Quarterly Budget Review Statement

For the period: 1-Jul-20 to: 30-Sep-20

1. Report by Responsible Accounting Officer

The following statement is made in accordance with Clause 203(2) of the Local Government (General) Regulations 2005:

It is my opinion that the Quarterly Budget Review Statement for Armidale Regional Council for the quarter ended 30 September 2020 indicates that Council's projected financial position at 30 June 2021 will be satisfactory at year end, having regard to the projected estimates of income and expenditure and the original budgeted income and expenditure.

Signed: _____

Kelly Stidworthy
Responsible Accounting Officer

Date: 18/11/2020

ARMIDALE Regional Council

Quarterly Budget Review Statement

2. Income & Expenses

GENERAL FUND

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Actual End of Qtr $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Income Statement								
Recurrent Revenue								
Rates and Annual Charges	26,733	0	0	26,733	26,693	26,733	0%	
User Charges and Fees	12,355	0	(372)	11,983	1,274	11,983	0%	
Interest and Investment Revenue	342	0	0	342	173	342	0%	
Other Revenues	2,185	0	(144)	2,041	418	2,041	0%	
Operating Grants and Contributions	13,155	296	1,673	15,123	2,978	15,123	0%	
RECURRENT REVENUE	**54,770**	**296**	**1,156**	**56,222**	**31,536**	**56,222**	**0%**	
Recurrent Expenditure								
Employee Costs	22,187	42	(53)	22,175	5,970	22,175	0%	
Materials and Contracts	10,336	344	(1,069)	9,611	1,712	9,611	0%	
Borrowing Costs	989	0	0	989	213	989	0%	
Other Expenses	10,310	0	(73)	10,237	3,105	10,237	0%	
Depreciation and Amortisation	12,405	0	0	12,405	0	12,405	0%	
RECURRENT EXPENDITURE	**56,226**	**386**	**(1,195)**	**55,417**	**11,000**	**55,417**	**0%**	
NET OPERATING SURPLUS/(DEFICIT)	**(1,456)**	**(90)**	**2,351**	**805**	**20,536**	**805**	**0%**	
Capital Grants and Contributions	16,068	(1,943)	208	14,333	910	14,333	0%	
NET SURPLUS/(DEFICIT)	**14,612**	**(2,033)**	**2,560**	**15,138**	**21,446**	**15,138**	**0%**	
Cashflow & Reserve Movements								
Receipts								
Recurrent Revenue	54,770	296	1,156	56,222	31,536	56,222	0%	
Proceeds from Property, Plant & Equipment	1,268	0	1,070	2,338	1,164	2,338	0%	
Capital Grants and Contributions	16,068	(1,943)	208	14,333	910	14,333	0%	
Transfer from Cash Reserve	7,063	1,187	1,408	9,658	0	9,658	0%	
Payments								
Recurrent Expenditure excluding Depreciation	(43,822)	(386)	1,195	(43,012)	(11,000)	(43,012)	0%	
Purchase of Property, Plant & Equipment	(30,488)	846	(2,200)	(31,842)	(3,704)	(31,842)	0%	
Repayments of Borrowing & Advances	(2,567)	0	0	(2,567)	(541)	(2,567)	0%	
Transfer to Cash Reserve	(1,340)	0	(1,461)	(2,801)	0	(2,801)	0%	
NET BUDGET POSITION	**952**	**(0)**	**1,376**	**2,328**	**18,365**	**2,328**	**0%**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

2. Income & Expenses

WATER FUND

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Actual End of Qtr $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Income Statement								
Recurrent Revenue								
Rates and Annual Charges	2,435	0		2,435	2,437	2,435	0%	
User Charges and Fees	8,250	0		8,250	1,200	8,250	0%	
Interest and Investment Revenue	409	0		409	(5)	409	0%	
Other Revenues	39	0		39	34	39	0%	
Operating Grants and Contributions	88	0		88	0	88	0%	
RECURRENT REVENUE	**11,221**	**0**	**0**	**11,221**	**3,666**	**11,221**	**0%**	
Recurrent Expenditure								
Employee Costs	1,880	0		1,880	483	1,880	0%	
Materials and Contracts	5,552	0		5,552	627	5,552	0%	
Borrowing Costs	313	0		313	15	313	0%	
Other Expenses	671	0		671	98	671	0%	
Depreciation and Amortisation	3,426	0		3,426	0	3,426	0%	
RECURRENT EXPENDITURE	**11,842**	**0**	**0**	**11,842**	**1,223**	**11,842**	**0%**	
NET OPERATING SURPLUS/(DEFICIT)	**(621)**	**0**	**0**	**(621)**	**2,444**	**(621)**	**0%**	
Capital Grants and Contributions	2,593	0	136	2,729	14	2,729	0%	
NET SURPLUS/(DEFICIT)	**1,971**	**0**	**136**	**2,108**	**2,457**	**2,108**	**0%**	
Cashflow & Reserve Movements								
Receipts								
Recurrent Revenue	11,221	0	0	11,221	3,666	11,221	0%	
Proceeds from Property, Plant & Equipment	0	0	0	0	0	0		
Capital Grants and Contributions	2,593	0	136	2,729	14	2,729	0%	
Transfer from Cash Reserve	0	0	0	0	0	0		
Payments								
Recurrent Expenditure excluding Depreciation	(8,416)	0	0	(8,416)	(1,223)	(8,416)	0%	
Purchase of Property, Plant & Equipment	(8,360)	(100)	(450)	(8,910)	(684)	(8,910)	0%	
Repayments of Borrowing & Advances	(263)	0	0	(263)	(18)	(263)	0%	
Transfer to Cash Reserve	0	0	0	0	0	0		
NET BUDGET POSITION	**(3,226)**	**(100)**	**(314)**	**(3,639)**	**1,754**	**(3,639)**	**0%**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

2. Income & Expenses

SEWER FUND

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Actual End of Qtr $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Income Statement								
Recurrent Revenue								
Rates and Annual Charges	5,691	0		5,691	5,699	5,691	0%	
User Charges and Fees	251	0		251	56	251	0%	
Interest and Investment Revenue	208	0		208	(9)	208	0%	
Other Revenues	990	0		990	2	990	0%	
Operating Grants and Contributions	84	0		84	0	84	0%	
RECURRENT REVENUE	**7,224**	**0**	**0**	**7,224**	**5,748**	**7,224**	**0%**	
Recurrent Expenditure								
Employee Costs	1,414	0		1,414	307	1,414	0%	
Materials and Contracts	2,815	0		2,815	228	2,815	0%	
Borrowing Costs	0	0		0	0	0		
Other Expenses	952	0		952	241	952	0%	
Depreciation and Amortisation	2,248	0		2,248	0	2,248	0%	
RECURRENT EXPENDITURE	**7,429**	**0**	**0**	**7,429**	**775**	**7,429**	**0%**	
NET OPERATING SURPLUS/(DEFICIT)	**(205)**	**0**	**0**	**(205)**	**4,972**	**(205)**	**0%**	
Capital Grants and Contributions	0	0	0	0	18	0		
NET SURPLUS/(DEFICIT)	**(205)**	**0**	**0**	**(205)**	**4,990**	**(205)**	**0%**	
Cashflow & Reserve Movements								
Receipts								
Recurrent Revenue	7,224	0	0	7,224	5,748	7,224	0%	
Proceeds from Property, Plant & Equipment	0	0	0	0	0	0		
Capital Grants and Contributions	0	0	0	0	18	0		
Transfer from Cash Reserve	0	0	0	0	0	0		
Payments								
Recurrent Expenditure excluding Depreciation	(5,181)	0	0	(5,181)	(775)	(5,181)	0%	
Purchase of Property, Plant & Equipment	(1,200)	0	(300)	(1,500)	(881)	(1,500)	0%	
Repayments of Borrowing & Advances	0	0	0	0	0	0		
Transfer to Cash Reserve	0	0	0	0	0	0		
NET BUDGET POSITION	**843**	**0**	**(300)**	**543**	**4,109**	**543**	**0%**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

2. Income & Expenses

CONSOLIDATED

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Actual End of Qtr $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Income Statement								
Recurrent Revenue								
Rates and Annual Charges	34,859	0	0	34,859	34,829	34,859	0%	
User Charges and Fees	20,856	0	(372)	20,484	2,530	20,484	0%	
Interest and Investment Revenue	959	0	0	959	159	959	0%	
Other Revenues	3,214	0	(144)	3,070	454	3,070	0%	
Operating Grants and Contributions	13,326	296	1,673	15,295	2,978	15,295	0%	
RECURRENT REVENUE	**73,214**	**296**	**1,156**	**74,666**	**40,950**	**74,666**	**0%**	
Recurrent Expenditure								
Employee Costs	25,480	42	(53)	25,468	6,759	25,468	0%	
Materials and Contracts	18,703	344	(1,069)	17,978	2,567	17,978	0%	
Borrowing Costs	1,303	0	0	1,303	228	1,303	0%	
Other Expenses	11,933	0	(73)	11,860	3,444	11,860	0%	
Depreciation and Amortisation	18,079	0	0	18,079	0	18,079	0%	
RECURRENT EXPENDITURE	**75,497**	**386**	**(1,195)**	**74,688**	**12,998**	**74,688**	**0%**	
NET OPERATING SURPLUS/(DEFICIT)	**(2,283)**	**(90)**	**2,351**	**(22)**	**27,952**	**(22)**	**0%**	
Capital Grants and Contributions	18,661	(1,943)	344	17,062	941	17,062	0%	
NET SURPLUS/(DEFICIT)	**16,378**	**(2,033)**	**2,696**	**17,041**	**28,893**	**17,041**	**0%**	
Cashflow & Reserve Movements								
Receipts								
Recurrent Revenue	73,214	296	1,156	74,666	40,950	74,666	0%	
Proceeds from Property, Plant & Equipment	1,268	0	1,070	2,338	1,164	2,338	0%	
Capital Grants and Contributions	18,661	(1,943)	344	17,062	941	17,062	0%	
Transfer from Cash Reserve	7,063	1,187	1,408	9,658	0	9,658	0%	
Payments								
Recurrent Expenditure excluding Depreciation	(57,419)	(386)	1,195	(56,609)	(12,998)	(56,609)	0%	
Purchase of Property, Plant & Equipment	(40,048)	746	(2,950)	(42,252)	(5,269)	(42,252)	0%	
Repayments of Borrowing & Advances	(2,830)	0	0	(2,830)	(559)	(2,830)	0%	
Transfer to Cash Reserve	(1,340)	0	(1,461)	(2,801)	0	(2,801)	0%	
NET BUDGET POSITION	**(1,431)**	**(100)**	**763**	**(768)**	**24,229**	**(768)**	**0%**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

2. Operating Budget Adjustments

GENERAL FUND

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Corporate Planning	Other Expenses	5,000	2,000	(3,000)	Recognised savings, annual report design within ARC
Investigations and Design	Materials and Contracts	16,000	10,000	(6,000)	Recognised savings
Investigations and Design	Materials and Contracts	12,000	10,000	(2,000)	Transfer budget to Other Expenses to align with actuals
Investigations and Design	Other Expenses	500	2,500	2,000	Transfer budget from Materials and Contracts to align with actuals
Economic Development	Other Expenses	140,000	85,000	(55,000)	Recognised savings
Economic Development	Other Expenses	45,000	30,000	(15,000)	Recognised savings
Economic Development	Materials and Contracts	4,000	0	(4,000)	Recognised savings
Asset Management and Planning	Other Expenses	4,000	0	(4,000)	Recognised savings, construction subscription budgeted in Design & Resourcing
Asset Management and Planning	Other Expenses	1,000	0	(1,000)	Recognised savings
Asset Management and Planning	Materials and Contracts	10,000	2,000	(8,000)	Recognised savings
Executive Office	Employee Costs	14,000	21,000	7,000	Accommodation expenses Interim General Manager
Executive Office	Other Expenses	8,000	30,000	22,000	NEJO subscription increase resolved by Council October 2020 ($28,320)
Executive Office	Materials and Contracts	25,000	5,000	(20,000)	Recognised savings
Executive Office	Materials and Contracts	30,000	46,000	16,000	General Manager recruitment expenditure
Executive Office	Materials and Contracts	4,000	500	(3,500)	Recognised savings
Councillors Expenses	Employee Costs	20,000	45,200	25,200	Accommodation expenses
Councillors Expenses	Employee Costs	39,500	0	(39,500)	
Councillors Expenses	Other Expenses	2,500	0	(2,500)	
Councillors Expenses	Materials and Contracts	100,000	0	(100,000)	Budget not required at point of Q1 Review due to Councillors suspension. The budget will be reviewed as circumstances change.
Councillors Expenses	Other Expenses	60,080	0	(60,080)	
Councillors Expenses	Other Expenses	267,520	250,000	(17,520)	
Councillors Expenses	Other Expenses	1,200	0	(1,200)	
Councillors Expenses	Other Expenses	500	0	(500)	
Councillors Expenses	Materials and Contracts	5,000	0	(5,000)	
Governance	Other Expenses	9,000	0	(9,000)	Recognised savings
Governance	Other Expenses	8,000	0	(8,000)	Recognised savings
Governance	Materials and Contracts	40,000	2,000	(38,000)	Recognised savings
Governance	Materials and Contracts	5,000	0	(5,000)	Recognised savings
Risk & Safety	Employee Costs	10,000	0	(10,000)	Recognised savings
Election Expenses	Other Expenses	20,000	0	(20,000)	Election delayed due to COVID pandemic
Risk & Safety	Materials and Contracts	10,000	0	(10,000)	Recognised savings
Human Resources	Employee Costs	40,000	0	(40,000)	Recognised savings
Human Resources	Employee Costs	250,000	240,500	(9,500)	Recognised savings
Human Resources	Materials and Contracts	250,000	90,000	(160,000)	Recognised savings
Human Resources	Other Expenses	0	25,000	25,000	License fees for 'Training Live' program
Human Resources	Other Expenses	0	8,000	8,000	Align budget with actual costs
Communications & Engagement	Other Expenses	62,000	47,000	(15,000)	Recognised savings
Communications & Engagement	Materials and Contracts	322,000	122,000	(200,000)	Recognised savings, budget aligned to forecasted expenditure
Communications & Engagement	Materials and Contracts	50,000	75,000	25,000	SRV community engagement
Visitor Information Centre	Other Expenses	10,000	5,000	(5,000)	Recognised saving
Libraries	Employee Costs	26,000	21,000	(5,000)	Recognised savings in Casual employment due to COVID Pandemic

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Libraries	Other Expenses	12,000	8,500	(3,500)	Recognised savings, invoice for this financial year was paid previous financial year
Libraries	Materials and Contracts	1,700	1,200	(500)	Event Program restricted due to Covid, recognised savings
Library - Materials (co-op)-T19	Other Revenues	(38,500)	(41,500)	(3,000)	Recognise additional revenue
Museums Folk Operations	Operating Grants and Contributions	0	(5,740)	(5,740)	Recognise additional grant income
Museums Folk Operations	Materials and Contracts	2,000	7,740	5,740	Recognised additional expenditure relating to grant income
Libraries	Operating Grants and Contributions	(5,000)	(12,168)	(7,168)	Recognise additional grant income
Libraries	Materials and Contracts	91,000	98,168	7,168	Recognised additional expenditure relating to grant income
Community Initiatives	Other Expenses	37,500	32,500	(5,000)	Recognised savings, budget aligned to forecasted expenditure
Community Initiatives	Employee Costs	0	67,500	67,500	Bushfire Resilience Funding - employee costs associated
Community Initiatives	Employee Costs	0	82,500	82,500	Bushfire Resilience Funding - employee costs associated
Community Initiatives	Materials and Contracts	0	70,000	70,000	Bushfire Resilience Funding
Community Initiatives	Operating Grants and Contributions	0	(220,000)	(220,000)	Bushfire Resilience Grant
Tourism Development	Other Expenses	3,000	1,500	(1,500)	Event Program restricted due to Covid, recognised savings
Tourism Development	Materials and Contracts	65,000	40,000	(25,000)	Recognised savings, budget aligned to forecasted expenditure
Tourism Development	Materials and Contracts	1,000	0	(1,000)	Recognised savings
Events & Promotions	Materials and Contracts	165,000	130,000	(35,000)	Recognised savings, budget aligned to forecasted expenditure
Events & Promotions	Materials and Contracts	40,000	0	(40,000)	Transfer budget to Other Expenses to align with actuals
Events & Promotions	Other Expenses	0	40,000	40,000	Transfer budget from Materials and Contracts to align with actuals
Streets as Shared Spaces - Mall/Laneways Beau	Operating Grants and Contributions	0	(59,522)	(59,522)	Recognise additional grant income
Streets as Shared Spaces - Mall/Laneways Beau	Materials and Contracts	0	59,522	59,522	Recognised additional expenditure relating to grant income
Events & Promotions	Operating Grants and Contributions	0	(99,750)	(99,750)	Recognise additional grant income
Events & Promotions	Other Expenses	30,000	50,000	20,000	Recognised additional expenditure relating to grant income
Information Technology	Other Expenses	1,005,155	977,495	(27,660)	Software license reviewed, recognised savings
Information Technology	Other Expenses	180,000	150,000	(30,000)	Changes to Telstra Network, recognised savings
Information Technology	Other Expenses	102,664	62,664	(40,000)	Adobe licenses audited, recognised savings
Information Technology	Materials and Contracts	372,500	200,000	(172,500)	Recognised savings, budget aligned to forecasted expenditure
Customer Service	Other Expenses	1,800	0	(1,800)	Recognised savings, no subscriptions payable
Customer Service	Materials and Contracts	5,000	0	(5,000)	Recognised savings
Customer Service	Materials and Contracts	45,000	4,500	(40,500)	After hours phone handling solution reviewed, budget aligned to forecasted expenditure
Customer Service	Materials and Contracts	500	250	(250)	Recognised savings
Guyra Preschool & Long Day Care Centre	User Charges and Fees	(505,549)	(642,700)	(137,151)	Preschool Fees, revenue revised based on forecasted actuals
Guyra Preschool & Long Day Care Centre	Operating Grants and Contributions	(32,000)	(150,106)	(118,106)	Recognised additional grant income
Guyra Preschool & Long Day Care Centre	Other Expenses	4,000	1,141	(2,859)	Recognised savings, invoice for this financial year was paid previous financial year
Guyra Preschool & Long Day Care Centre	Materials and Contracts	5,000	0	(5,000)	Recognised savings, expenditure under capital budget
Guyra Preschool & Long Day Care Centre	Materials and Contracts	5,000	0	(5,000)	Recognised savings, expenditure under capital budget
Applications and Approvals	Other Expenses	15,000	0	(15,000)	Recognised savings
Applications and Approvals	Materials and Contracts	20,000	50,000	30,000	Ongoing appeal, budget aligned to forecasted expenditure
Applications and Approvals	Materials and Contracts	5,000	10,000	5,000	Heritage Assessment of the Solar Farm Dangersleigh Rd, budget aligned to forecasted expenditure
Applications and Approvals	Materials and Contracts	500	0	(500)	Recognised Savings
Applications and Approvals	Operating Grants and Contributions	0	(6,250)	(6,250)	Recognise additional grant income
Applications and Approvals	Other Expenses	0	6,250	6,250	Recognised additional expenditure relating to grant income
Companion Animals	Other Revenues	(20,000)	(40,000)	(20,000)	Recognise forecasted revenue
Companion Animals	Materials and Contracts	25,000	50,000	25,000	Align budget with forecast actual costs
Car Parking and General Enforcement	Other Revenues	(300,000)	(200,000)	100,000	Enforcement revenue revised due to Covid pandemic.
Facility Management	Other Expenses	20,000	5,000	(15,000)	Recognised savings due to Covid pandemic, cash handling decreased
Plant and Fleet Income and Expenses	Other Expenses	126,000	60,000	(66,000)	Recognised savings, budget aligned to forecasted expenditure
Plant and Fleet Income and Expenses	Other Expenses	80,480	106,000	25,520	Budget adjusted to align with forecasted expenditure

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Regional Airport	Other Revenues	(12,500)	(6,500)	6,000	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	Employee Costs	5,000	14,500	9,500	Budget adjusted to align with forecasted aviation training requirements
Regional Airport	Materials and Contracts	2,000	7,000	5,000	Airport security screening
Regional Airport	User Charges and Fees	(658,000)	(240,000)	418,000	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	User Charges and Fees	(120,000)	(90,000)	30,000	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	User Charges and Fees	(30,000)	(22,500)	7,500	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	User Charges and Fees	(14,500)	(10,875)	3,625	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	User Charges and Fees	(69,000)	(34,500)	34,500	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	Other Revenues	(160,000)	(120,000)	40,000	Airport revenue revised due to impacts relating to Covid restrictions
Regional Airport	Other Revenues	(27,000)	0	27,000	Airport revenue revised due to impacts relating to Covid restrictions
Armidale Aquatic Centre	Materials and Contracts	1,000	0	(1,000)	Recognised savings
Cemeteries	User Charges and Fees	(245,000)	(224,000)	21,000	Revised income to align with forecasted income
Cemeteries	Materials and Contracts	3,430	1,243	(2,187)	Recognised savings
Sports Council Administration	Materials and Contracts	8,000	0	(8,000)	Recognised savings
Sports fields	Operating Grants and Contributions	(40,000)	0	40,000	No Sports Council revenue expected in 2020/21
Sports fields	Other Expenses	22,932	10,000	(12,932)	Usage of sport field facilities down due to Covid pandemic. Budget to align with forecasted expenditure
Sports fields	Materials and Contracts	9,996	0	(9,996)	Recognised savings
Sports fields	Materials and Contracts	3,920	1,000	(2,920)	Recognised savings
Southern New England Land Care	Other Expenses	40,000	0	(40,000)	Transfer budget to Parks and Reserve to align with actual expenditure
Parks and Reserves	Other Expenses	0	40,000	40,000	Transfer budget from Southern New England Landcare to align with actual expenditure
Parks and Reserves	Materials and Contracts	16,044	8,195	(7,849)	Recognised savings, budget to align with forecasted expenditure
Parks and Reserves	Materials and Contracts	18,183	0	(18,183)	Recognised Savings
Grazing and Leases	Materials and Contracts	10,000	3,000	(7,000)	Recognised savings, budget to align with forecasted expenditure
Urban Forest	Materials and Contracts	4,603	2,000	(2,603)	Recognised savings, budget to align with forecasted expenditure
Parks Management & Administration	User Charges and Fees	0	(5,000)	(5,000)	Revised income to align with forecasted income
Parks Management & Administration	Employee Costs	5,000	7,000	2,000	Revised budget to align with forecasted safety clothing and equipment
City Services	Other Expenses	1,500	40,000	38,500	Budget revised to incorporate backlog of drainage reserves
City Services	Materials and Contracts	103,381	136,381	33,000	Budget revised to incorporate sweeping services
City Services	Materials and Contracts	66,400	33,400	(33,000)	Recognised savings
City Services	Materials and Contracts	500	0	(500)	Recognised savings
City Services	Materials and Contracts	12,500	0	(12,500)	Recognised savings
City Services	Other Expenses	13,450	56,936	43,486	Budget revised to incorporate sweeping services
Guyra Aquatic Centre	Materials and Contracts	1,000	5,000	4,000	Transfer budget from Other Expenses to align with actuals
Guyra Aquatic Centre	Other Expenses	26,000	19,400	(6,600)	Transfer budget to Materials and Contracts to align with actuals
Guyra Aquatic Centre	Other Expenses	500	3,100	2,600	Transfer budget to Materials and Contracts to align with actuals
RMS - RMCC Ordered Pavement Works	Materials and Contracts	502,813	400,000	(102,813)	Recognised savings, budget to align with forecasted expenditure
RMS - RMCC Ordered Pavement Works	Other Expenses	2,157	25,000	22,843	Budget revised to align with forecasted fuel expenses
Roads & Drainage Construction Management	Materials and Contracts	24,000	10,000	(14,000)	Recognised savings
Traffic Signs used on Jobs	Materials and Contracts	40,000	25,000	(15,000)	Recognised savings
Works Depot	Employee Costs	0	7,000	7,000	Revised budget to align with forecasted safety clothing and equipment
Works Depot	Materials and Contracts	50,000	43,000	(7,000)	Transfer budget to Employee Costs to align with actuals
New England Weeds Authority (NEWA)	Other Revenues	0	(20,685)	(20,685)	Recognised rebate revenue, 10% from NEWA
Regional Roads Block Grant	Operating Grants and Contributions	(959,000)	(752,000)	207,000	Grant income revised; transferred funding to capital program
Regional Roads Supplementary Grant	Operating Grants and Contributions	(167,000)	(166,000)	1,000	Grant income revised in line with funding advice
Rural Fire Service	Operating Grants and Contributions	(245,500)	(220,000)	25,500	Income revised to align with actuals
Rural Fire Service	Other Expenses	576,000	639,790	63,790	Budget revised to align with forecasted expenses
Guyra - State Emergency Service	Other Expenses	43,000	47,593	4,593	Budget revised to align with forecasted expenses
Guyra - State Emergency Service	Other Expenses	0	20,000	20,000	Electricity not budgeted, budget revised to align with forecasted expenditure

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Industrial and Residential Land Disposal	Materials and Contracts	10,000	15,000	5,000	Increased budget for land sales
Industrial and Residential Land Disposal	Other Expenses	10,000	5,000	(5,000)	Recognised savings
Industrial and Residential Land Disposal	Materials and Contracts	10,000	0	(10,000)	Recognised savings
Industrial and Residential Land Disposal	Materials and Contracts	10,000	0	(10,000)	Recognised savings
Industrial and Residential Land Disposal	Materials and Contracts	10,000	0	(10,000)	Recognised savings
Purchasing & Supply	Other Expenses	18,000	0	(18,000)	Recognised savings, implementation of Vender Panel system delayed
Purchasing & Supply	Materials and Contracts	0	8,760	8,760	Outsourced tender due to lack of available resources
Financial Services	Materials and Contracts	150,000	100,000	(50,000)	Asset Evaluation quote received and under forecasted. Recognised savings
Facilities Management - Lease Income	Other Revenues	(345,000)	(330,000)	15,000	Covid-19 lease credits issued July - September
Local Roads & Community Infrastructure	Operating Grants and Contributions	0	(1,429,701)	(1,429,701)	LRCI Program - refer report to August 2020 Council meeting
Drought/Bushire Funding - reallocation	Employee Costs	150,000	0	(150,000)	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Drought/Bushire Funding - reallocation	Materials and Contracts	175,000	0	(175,000)	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Drought/Bushire Funding - reallocation	Other Expenses	0	50,000	50,000	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Koala Management Strategy	Materials and Contracts	0	23,000	23,000	Allocation of funding from unspent grants
TOTAL				**(2,351,427)**	

ARMIDALE
Regional Council

Quarterly Budget Review Statement

2. Operating Budget Adjustments

WATER FUND

Description	Category	Current Budget	New Budget	Revision Amount	Comment
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				0	
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				0	
TOTAL				**0**	

Armidale Regional Council

Quarterly Budget Review Statement

2. Operating Budget Adjustments

SEWER FUND

Description	Category	Current Budget	New Budget	Revision Amount	Comment
				0	
				0	
				0	
				0	
				0	
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TOTAL				**0**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget

GENERAL FUND

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Capital Budget							
Capital Funding							
Unrestricted Revenue	9,997	(90)	975	10,881	10,881	0%	
Capital Grants and Contributions	16,068	(1,943)	208	14,333	14,333	0%	
Proceeds from Property, Plant & Equipment	1,268	0	1,070	2,338	2,338	0%	
Transfer from Cash Reserve	7,063	1,187	1,408	9,658	9,658	0%	
CAPITAL FUNDING	**34,396**	**(846)**	**3,661**	**37,210**	**37,210**	**0%**	
Capital Expenditure							
Purchase of Property, Plant & Equipment	30,488	(846)	2,200	31,842	31,842	0%	
Loan Repayments	2,567	0	0	2,567	2,567	0%	
Transfer to Cash Reserve	1,340	0	1,461	2,801	2,801	0%	
CAPITAL EXPENDITURE	**34,396**	**(846)**	**3,661**	**37,210**	**37,210**	**0%**	
NET CAPITAL BUDGET POSITION	**0**	**0**	**0**	**0**	**0**		

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget

WATER FUND

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Capital Budget							
Capital Funding							
Unrestricted Revenue	6,030	100	314	6,444	6,444	0%	
Capital Grants and Contributions	2,593	0	136	2,729	2,729	0%	
Proceeds from Property, Plant & Equipment	0	0	0	0	0		
Transfer from Cash Reserve	0	0	0	0	0		
CAPITAL FUNDING	**8,623**	**100**	**450**	**9,173**	**9,173**	**0%**	
Capital Expenditure							
Purchase of Property, Plant & Equipment	8,360	100	450	8,910	8,910	0%	
Loan Repayments	263	0	0	263	263	0%	
Transfer to Cash Reserve	0	0	0	0	0		
CAPITAL EXPENDITURE	**8,623**	**100**	**450**	**9,173**	**9,173**	**0%**	
NET CAPITAL BUDGET POSITION	**0**	**0**	**0**	**0**	**0**		

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget

SEWER FUND

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Capital Budget							
Capital Funding							
Unrestricted Revenue	1,200	0	300	1,500	1,500	0%	
Capital Grants and Contributions	0	0	0	0	0		
Proceeds from Property, Plant & Equipment	0	0	0	0	0		
Transfer from Cash Reserve	0	0	0	0	0		
CAPITAL FUNDING	**1,200**	**0**	**300**	**1,500**	**1,500**	**0%**	
Capital Expenditure							
Purchase of Property, Plant & Equipment	1,200	0	300	1,500	1,500	0%	
Loan Repayments	0	0	0	0	0		
Transfer to Cash Reserve	0	0	0	0	0		
CAPITAL EXPENDITURE	**1,200**	**0**	**300**	**1,500**	**1,500**	**0%**	
NET CAPITAL BUDGET POSITION	**0**	**0**	**0**	**0**	**0**		

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget

CONSOLIDATED

	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Capital Budget							
Capital Funding							
Unrestricted Revenue	17,227	10	1,589	18,825	18,825	0%	
Capital Grants and Contributions	18,661	(1,943)	344	17,062	17,062	0%	
Proceeds from Property, Plant & Equipment	1,268	0	1,070	2,338	2,338	0%	
Transfer from Cash Reserve	7,063	1,187	1,408	9,658	9,658	0%	
CAPITAL FUNDING	**44,218**	**(746)**	**4,411**	**47,883**	**47,883**	**0%**	
Capital Expenditure							
Purchase of Property, Plant & Equipment	40,048	(746)	2,950	42,252	42,252	0%	
Loan Repayments	2,830	0	0	2,830	2,830	0%	
Transfer to Cash Reserve	1,340	0	1,461	2,801	2,801	0%	
CAPITAL EXPENDITURE	**44,218**	**(746)**	**4,411**	**47,883**	**47,883**	**0%**	
NET CAPITAL BUDGET POSITION	**0**	**0**	**0**	**0**	**0**		

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget Adjustments

GENERAL FUND

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Land Sale Proceeds	Proceeds from Property, Plant & Equipment	0	(920,000)	(920,000)	Sale proceeds from old Kolora aged care facility
Land Sale Proceeds	Proceeds from Property, Plant & Equipment	0	(150,000)	(150,000)	Sale proceeds from land transfer to Ex-Services Club
Guyra Community Hub	Purchase of Property, Plant & Equipment	221,215	231,855	10,640	Increase budget to align with Council approved expenditure
Guyra Community Hub	Capital Grants and Contributions	(268,000)	(260,855)	7,145	Decrease budget to align with actuals
Harris Park Lighting	Purchase of Property, Plant & Equipment	309,800	308,379	(1,421)	Decrease budget to align with grant advice
Solar Project Installation	Purchase of Property, Plant & Equipment	112,926	110,073	(2,853)	Decrease budget to align with grant advice
Guyra Main Street Upgrade	Purchase of Property, Plant & Equipment	1,041,263	2,004,437	963,174	Increase budget to align with scope utilising merger funding
Regional Roads Repair Program	Purchase of Property, Plant & Equipment	352,000	367,586	15,586	Increase budget to align with grant funding advice
Regional Roads Repair Grant	Capital Grants and Contributions	0	(183,793)	(183,793)	Transfer of funding from the operating budget
Martins Gully Bridge Replacement	Purchase of Property, Plant & Equipment	325,000	375,000	50,000	Increase budget to align with grant funding advice
Martins Gully Bridge Replacement	Capital Grants and Contributions	0	(375,000)	(375,000)	Increase budget to align with grant funding advice
Shingle Hut Bridge Replacement	Purchase of Property, Plant & Equipment	938,906	939,856	950	Increase budget to align with grant funding advice
Dumaresq Creek Bridge Replacement	Purchase of Property, Plant & Equipment	722,186	662,938	(59,248)	Decrease budget to align with grant advice
Dumaresq Creek Bridge Replacement	Capital Grants and Contributions	(710,000)	(686,000)	24,000	Decrease budget to align with grant advice
Pint Pot Creek Bridge Replacement	Purchase of Property, Plant & Equipment	541,563	600,315	58,752	Increase budget to align with grant funding advice
Pint Pot Creek Bridge Replacement	Capital Grants and Contributions	(531,000)	(590,000)	(59,000)	Increase budget to align with grant funding advice
Regional Airport Apron	Capital Grants and Contributions	(467,998)	(79,243)	388,755	Decrease budget as revenue accrued in 2019/20
Airport Airside Works Stage 1	Purchase of Property, Plant & Equipment	1,206,415	1,227,000	20,585	Increase budget to align with grant funding advice
Airport Airside Works Stage 1	Capital Grants and Contributions	(603,207)	(613,500)	(10,293)	Increase budget to align with grant funding advice
Waterfall Way Landfill	Purchase of Property, Plant & Equipment	339,000	596,000	257,000	Increase budget to align with forecast actuals
Armidale Organics Processing Expansior	Purchase of Property, Plant & Equipment	88,072	0	(88,072)	Budget not required
LRCI - Guyra Preschool	Purchase of Property, Plant & Equipment	1,093,197	1,298,197	205,000	LRCI Program - refer report to August 2020 Council meeting
LRCI - Ebor Local Area Committee	Purchase of Property, Plant & Equipment	0	15,000	15,000	LRCI Program - refer report to August 2020 Council meeting
LRCI - Facility Renewals	Purchase of Property, Plant & Equipment	0	6,601	6,601	LRCI Program - refer report to August 2020 Council meeting
LRCI - Mall Vibrancy	Purchase of Property, Plant & Equipment	0	423,100	423,100	LRCI Program - refer report to August 2020 Council meeting
Drought/Bushire - LAC Contributions	Purchase of Property, Plant & Equipment	420,000	800,000	380,000	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Drought/Bushire - Facility Upgrades	Purchase of Property, Plant & Equipment	100,000	125,000	25,000	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Drought/Bushire - Business Hub	Purchase of Property, Plant & Equipment	564,084	409,084	(155,000)	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Drought/Bushire - Rural Fire Service	Purchase of Property, Plant & Equipment	0	75,000	75,000	Drought/Bushfire Funding - refer report to September 2020 Council meeting
				0	
Reserve Adjustments					
Specific Purpose Unexpended Grants	Transfer to Cash Reserve	0	79,750	79,750	Spring Games grant received in advance
Specific Purpose Unexpended Grants	Transfer to Cash Reserve	0	118,106	118,106	Guyra Preschool & Long Day Care Centre grant
Specific Purpose Unexpended Grants	Transfer to Cash Reserve	0	780,000	780,000	Guyra Preschool & Long Day Care Centre LCRI Grant allocation
Specific Purpose Unexpended Grants	Transfer to Cash Reserve	0	100,000	100,000	Unspent drought/bushfire funding
Specific Purpose Unexpended Grants	Transfer to Cash Reserve	0	183,260	183,260	Transfer balance of Regional Roads funding to reserve
Natural Disaster Reserve	Transfer to Cash Reserve	0	200,000	200,000	Kempsey Road Works Provision - Storm 29/10/20
Specific Purpose Unexpended Grants	Transfer from Cash Reserve	0	(927,978)	(927,978)	Net transfer for capital works program adjustments
Specific Purpose Unexpended Grants	Transfer from Cash Reserve	0	(150,000)	(150,000)	Drought/Bushfire Funding - refer report to September 2020 Council meeting
Specific Purpose Unexpended Grants	Transfer from Cash Reserve	0	(23,000)	(23,000)	Koala Management Strategy funding
Unspent Loans Reserve	Transfer from Cash Reserve	0	(257,000)	(257,000)	Waterfall Way Landfill adjustment
Airport Capital Works	Transfer from Cash Reserve	0	(39,479)	(39,479)	Balance of Regional Airport Apron funding
Airport Capital Works	Transfer from Cash Reserve	0	(10,292)	(10,292)	Balance of Airport Airside Works funding
				0	
TOTAL				**974,975**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget Adjustments

WATER FUND

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Water Network Meter Capital Replaceme	Purchase of Property, Plant & Equipment	0	100,000	100,000	Increase budget to align with forecast actuals
Water Service Line Capital Replacement	Purchase of Property, Plant & Equipment	0	100,000	100,000	Increase budget to align with forecast actuals
Water Mains – Capital – New Installs	Purchase of Property, Plant & Equipment	0	100,000	100,000	Increase budget to align with forecast actuals
Water Treatment Plant – Capital Projects	Purchase of Property, Plant & Equipment	0	150,000	150,000	Increase budget to align with forecast actuals
Water Treatment Plant – Capital Projects	Capital Grants and Contributions	0	(136,291)	(136,291)	Increase budget to align with forecast actuals
				0	
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TOTAL				**313,709**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

3. Capital Budget Adjustments

SEWER FUND

Description	Category	Current Budget	New Budget	Revision Amount	Comment
Sewer Network – Capital Projects	Purchase of Property, Plant & Equipment	0	250,000	250,000	
Sewer Pump Stations – Capital Projects	Purchase of Property, Plant & Equipment	0	50,000	50,000	
				0	
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TOTAL				**300,000**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

4. Cash & Investments

GENERAL FUND

Cash & Investments	Opening Balance 2020-21 $'000	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
UNRESTRICTED CASH	**2,141**	**952**	**(0)**	**1,376**	**4,469**	**4,469**	**0%**	
Externally Restricted Cash								
Specific Purpose Unexpended Loans	2,700	(339)		(257)	2,104	2,104	0%	
NIRW Grant from EPA	1,087				1,087	1,087	0%	
Developer Contributions	2,749	160			2,909	2,909	0%	
RMS Contributions	76				76	76	0%	
Specific Purpose Unexpended Grants	7,970	(4,841)	3,789	160	7,078	7,078	0%	
Domestic Waste Management	1,362	300			1,662	1,662	0%	
Other External Restrictions	63				63	63	0%	
TOTAL EXTERNAL RESTRICTIONS	**16,007**	**(4,720)**	**3,789**	**(97)**	**14,979**	**14,979**	**0%**	
Internally Restricted Cash								
Employee Leave Entitlement	4,053				4,053	4,053	0%	
Kolora Sinking Fund	398	(270)			128	128	0%	
Kolora M&R	327	205			532	532	0%	
Airport Capital Works	2,099	(903)		(50)	1,146	1,146	0%	
Fleet & Plant	885				885	885	0%	
PreSchool Upgrade	493	(480)			13	13	0%	
Natural Disaster Provision	500			200	700	700	0%	
2019/20 Carry Forward Works	1,135	(45)	(1,090)		0	0		
2020/21 Carry Forward Works					0	0		
Other Internal Restrictions	129	490			619	619	0%	
TOTAL INTERNAL RESTRICTIONS	**10,019**	**(1,003)**	**(1,090)**	**150**	**8,076**	**8,076**	**0%**	
TOTAL INVESTMENTS & CASH	**28,167**	**(4,771)**	**2,699**	**1,429**	**27,524**	**27,524**	**0%**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

4. Cash & Investments

WATER FUND

	Opening Balance 2020-21 $'000	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Cash & Investments								
WATER FUND	22,317	(3,226)	(100)	(314)	18,678	18,678	0%	
Externally Restricted Cash								
Developer Contributions	2,277				2,277	2,277	0%	
Specific Purpose Unexpended Grants	0				0	0		
TOTAL EXTERNAL RESTRICTIONS	2,277	0	0	0	2,277	2,277	0%	
TOTAL INVESTMENTS & CASH	24,594	(3,226)	(100)	(314)	20,955	20,955	0%	

SEWER FUND

	Opening Balance 2020-21 $'000	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
Cash & Investments								
SEWER FUND	16,182	843	0	(300)	16,725	16,725	0%	
Externally Restricted Cash								
Developer Contributions	1,740				1,740	1,740	0%	
Specific Purpose Unexpended Grants	0				0	0		
TOTAL EXTERNAL RESTRICTIONS	1,740	0	0	0	1,740	1,740	0%	
TOTAL INVESTMENTS & CASH	17,922	843	0	(300)	18,465	18,465	0%	

ARMIDALE Regional Council

Quarterly Budget Review Statement

4. Cash & Investments

CONSOLIDATED

Cash & Investments	Opening Balance 2020-21 $'000	Original Budget 2020-21 $'000	Carry Forwards $'000	QBR1 Jul-Sep $'000	Revised Budget 2020-21 $'000	Projected Year End Result $'000	Projected vs Revised Budget Variance	Variance Comment if > 10%
UNRESTRICTED CASH	**2,141**	**952**	**0**	**1,376**	**4,469**	**4,469**	**0%**	
Externally Restricted Cash								
Specific Purpose Unexpended Loans	2,700	(339)	0	(257)	2,104	2,104	0%	
NIRW Grant from EPA	1,087	0	0	0	1,087	1,087	0%	
Developer Contributions	6,766	160	0	0	6,926	6,926	0%	
RMS Contributions	76	0	0	0	76	76	0%	
Specific Purpose Unexpended Grants	7,970	(4,841)	3,789	160	7,078	7,078	0%	
Domestic Waste Management	1,362	300	0	0	1,662	1,662	0%	
Other External Restrictions	63	0	0	0	63	63	0%	
Water Fund	22,317	(3,226)	(100)	(314)	18,678	18,678	0%	
Sewer Fund	16,182	843	0	(300)	16,725	16,725	0%	
TOTAL EXTERNAL RESTRICTIONS	**58,523**	**(7,103)**	**3,689**	**(711)**	**54,398**	**54,398**	**0%**	
Internally Restricted Cash								
Employee Leave Entitlement	4,053	0	0	0	4,053	4,053	0%	
Kolora Sinking Fund	398	(270)	0	0	128	128	0%	
Kolora M&R	327	205	0	0	532	532	0%	
Airport Capital Works	2,099	(903)	0	(50)	1,146	1,146	0%	
Fleet & Plant	885	0	0	0	885	885	0%	
PreSchool Upgrade	493	(480)	0	0	13	13	0%	
Natural Disaster Provision	500	0	0	200	700	700	0%	
2019/20 Carry Forward Works	1,135	(45)	(1,090)	0	0	0		
2020/21 Carry Forward Works	0	0	0	0	0	0		
Other Internal Restrictions	129	490	0	0	619	619	0%	
TOTAL INTERNAL RESTRICTIONS	**10,019**	**(1,003)**	**(1,090)**	**150**	**8,076**	**8,076**	**0%**	
TOTAL INVESTMENTS & CASH	**70,683**	**(7,154)**	**2,599**	**816**	**66,944**	**66,944**	**0%**	

ARMIDALE Regional Council

Quarterly Budget Review Statement

4. Cash & Investments

Cash & Investments Position

Statements

Investments

Investments have been invested in accordance with Council's Investment Policy.

Cash

The Cash at Bank figure included in the Cash & Investment Statement totals:	72,660,712
This Cash at Bank amount has been reconciled to Council's physical Bank Statements.	
The date of completion of this bank reconciliation is:	31/10/2020

ARMIDALE Regional Council

Quarterly Budget Review Statement

5. Key Performance Indicators

GENERAL FUND

	Actual 2019-20	Original Budget 2020-21	Carry Forwards	QBR1 Jul-Sep	Revised Budget 2020-21	Comment
Key Performance Indicators						
1. Operating Performance Ratio	**2.30%**	**-2.66%**	**-2.81%**	**1.43%**	**1.43%**	The improvement in this KPI relates to the increase in operating revenue ($1.2m) and reduction in operating expenditure ($1.2m)
Net Operating Result from Income Statement	1,243	(1,456)	(1,547)	805	805	
Operating Revenue (excl. Capital Grants & Contributions)	54,060	54,770	55,066	56,222	56,222	
Benchmark: > 0%						
Indicates Council's capacity to meet ongoing operating expenditure requirements.						
2. Own Source Operating Revenue Ratio	**66.39%**	**58.75%**	**60.15%**	**58.25%**	**58.25%**	The KPI has moved slightly due to the change in revenue totals
Operating Revenue (excl. ALL Grants & Contributions)	41,051	41,615	41,615	41,098	41,098	
Total Revenue (incl. Capital Grants & Cont)	61,831	70,838	69,191	70,555	70,555	
Benchmark: > 60%						
Indicates the degree of reliance on external funding sources such as operating and capital grants and contributions received by Council.						
Council has improved financial flexibility with a higher level of own source revenue.						
3. Unrestricted Cash Expense Cover Ratio (Months)	**0.6**	**0.8**	**0.8**	**1.2**	**1.2**	The improvement in this KPI relates to the increase in unrestricted cash
Unrestricted Cash	2,141	3,093	3,093	4,469	4,469	
Operating Expenditure (excl. Depreciation + non-cash adj's)	40,616	43,822	44,208	43,012	43,012	
Benchmark: > 3 Months						
Indicates the number of months Council can continue paying for immediate expenses without additional cash inflow excluding restricted funds.						
4. Debt Service Cover Ratio (Times x)	**3.51**	**3.36**	**3.33**	**3.99**	**3.99**	The improvement in this KPI relates to the improved operating result
Operating Result before Interest & Dep. exp (EBITDA)	15,251	11,937	11,847	14,199	14,199	
Loan Repayments (Principal + Interest)	4,345	3,557	3,557	3,557	3,557	
Benchmark: > 2x						
Measures the availability of operating cash to service debt including interest and principal payments.						

ARMIDALE Regional Council

Quarterly Budget Review Statement

5. Key Performance Indicators

WATER FUND

	Actual 2019-20	Original Budget 2020-21	Carry Forwards	QBR1 Jul-Sep	Revised Budget 2020-21	Comment
Key Performance Indicators						
1. Operating Performance Ratio	**-41.78%**	**-5.54%**	**-5.54%**	**-5.54%**	**-5.54%**	There is not change to this KPI as a result of the budget review
Net Operating Result from Income Statement	(4,083)	(621)	(621)	(621)	(621)	
Operating Revenue (excl. Capital Grants & Contributions)	9,772	11,221	11,221	11,221	11,221	
Benchmark: > 0%						
Indicates Council's capacity to meet ongoing operating expenditure requirements.						
2. Own Source Operating Revenue Ratio	**66.59%**	**80.59%**	**80.59%**	**79.81%**	**79.81%**	The KPI has moved slightly due to the change in revenue totals
Operating Revenue (excl. ALL Grants & Contributions)	8,288	11,133	11,133	11,133	11,133	
Total Revenue (incl. Capital Grants & Cont)	12,447	13,813	13,813	13,949	13,949	
Benchmark: > 60%						
Indicates the degree of reliance on external funding sources such as operating and capital grants and contributions received by Council.						
Council has improved financial flexibility with a higher level of own source revenue.						
3. Unrestricted Cash Expense Cover Ratio (Months)	**25.2**	**27.2**	**27.1**	**26.6**	**26.6**	The decrease in this KPI relates to the decrease in cash
Unrestricted Cash	22,317	19,091	18,991	18,678	18,678	
Operating Expenditure (excl. Depreciation + non-cash adj's)	10,622	8,416	8,416	8,416	8,416	
Benchmark: > 3 Months						
Indicates the number of months Council can continue paying for immediate expenses without additional cash inflow excluding restricted funds.						
4. Debt Service Cover Ratio (Times x)	**(1.10)**	**5.41**	**5.41**	**5.41**	**5.41**	There is not change to this KPI as a result of the budget review
Operating Result before Interest & Dep. exp (EBITDA)	(657)	3,118	3,118	3,118	3,118	
Loan Repayments (Principal + Interest)	595	576	576	576	576	
Benchmark: > 2x						
Measures the availability of operating cash to service debt including interest and principal payments.						

ARMIDALE Regional Council

Quarterly Budget Review Statement

5. Key Performance Indicators

SEWER FUND

	Actual 2019-20	Original Budget 2020-21	Carry Forwards	QBR1 Jul-Sep	Revised Budget 2020-21	Comment
Key Performance Indicators						
1. Operating Performance Ratio	**14.15%**	**-2.84%**	**-2.84%**	**-2.84%**	**-2.84%**	There is not change to this KPI as a result of the budget review
Net Operating Result from Income Statement	1,018	(205)	(205)	(205)	(205)	
Operating Revenue (excl. Capital Grants & Contributions)	7,195	7,224	7,224	7,224	7,224	
Benchmark: > 0%						
Indicates Council's capacity to meet ongoing operating expenditure requirements.						
2. Own Source Operating Revenue Ratio	**93.32%**	**98.84%**	**98.84%**	**98.84%**	**98.84%**	There is not change to this KPI as a result of the budget review
Operating Revenue (excl. ALL Grants & Contributions)	7,195	7,140	7,140	7,140	7,140	
Total Revenue (incl. Capital Grants & Cont)	7,710	7,224	7,224	7,224	7,224	
Benchmark: > 60%						
Indicates the degree of reliance on external funding sources such as operating and capital grants and contributions received by Council.						
Council has improved financial flexibility with a higher level of own source revenue.						
3. Unrestricted Cash Expense Cover Ratio (Months)	**48.3**	**39.4**	**39.4**	**38.7**	**38.7**	The decrease in this KPI relates to the decrease in cash
Unrestricted Cash	16,182	17,025	17,025	16,725	16,725	
Operating Expenditure (excl. Depreciation + non-cash adj's)	4,017	5,181	5,181	5,181	5,181	
Benchmark: > 3 Months						
Indicates the number of months Council can continue paying for immediate expenses without additional cash inflow excluding restricted funds.						
4. Debt Service Cover Ratio (Times x)	**159**	**20,428**	**20,428**	**20,428**	**#DIV/0!**	There is not change to this KPI as a result of the budget review
Operating Result before Interest & Dep. exp (EBITDA)	3,178	2,043	2,043	2,043	2,043	
Loan Repayments (Principal + Interest)	20	0	0	0	0	
Benchmark: > 2x						
Measures the availability of operating cash to service debt including interest and principal payments.						

ARMIDALE Regional Council

Quarterly Budget Review Statement

5. Key Performance Indicators

CONSOLIDATED

Key Performance Indicators

	Actual 2019-20	Original Budget 2020-21	Carry Forwards	QBR1 Jul-Sep	Revised Budget 2020-21	Comment
1. Operating Performance Ratio	**-2.57%**	**-3.12%**	**-3.23%**	**-0.03%**	**-0.03%**	The improvement in this KPI relates to the increase in operating revenue ($1.2m) and reduction in operating expenditure ($1.2m)
Net Operating Result from Income Statement	(1,822)	(2,283)	(2,373)	(22)	(22)	
Operating Revenue (excl. Capital Grants & Contributions)	71,027	73,214	73,510	74,666	74,666	
Benchmark: > 0%						
Indicates Council's capacity to meet ongoing operating expenditure requirements.						
2. Own Source Operating Revenue Ratio	**68.95%**	**65.18%**	**66.37%**	**64.72%**	**64.72%**	The KPI has moved slightly due to the change in revenue totals
Operating Revenue (excl. ALL Grants & Contributions)	56,534	59,888	59,888	59,371	59,371	
Total Revenue (incl. Capital Grants & Cont)	81,988	91,875	90,228	91,728	91,728	
Benchmark: > 60%						
Indicates the degree of reliance on external funding sources such as operating and capital grants and contributions received by Council.						
Council has improved financial flexibility with a higher level of own source revenue.						
3. Unrestricted Cash Expense Cover Ratio (Months)	**0.5**	**0.6**	**0.6**	**0.9**	**0.9**	The improvement in this KPI relates to the increase in unrestricted cash
Unrestricted Cash	2,141	3,093	3,093	4,469	4,469	
Operating Expenditure (excl. Depreciation + non-cash adj's)	55,255	57,419	57,805	56,609	56,609	
Benchmark: > 3 Months						
Indicates the number of months Council can continue paying for immediate expenses without additional cash inflow excluding restricted funds.						
4. Debt Service Cover Ratio (Times x)	**3.58**	**4.14**	**4.12**	**4.68**	**4.68**	The improvement in this KPI relates to the improved operating result
Operating Result before Interest & Dep. exp (EBITDA)	17,772	17,098	17,008	19,360	19,360	
Loan Repayments (Principal + Interest)	4,960	4,133	4,133	4,133	4,133	
Benchmark: > 2x						
Measures the availability of operating cash to service debt including interest and principal payments.						

ARMIDALE Regional Council

Quarterly Budget Review Statement

6. Contracts & Other Expenses

Contracts Listing

Contracts entered into since last quarterly review to end of quarter

Contract No	Contractor	Contract Detail & Purpose	Contract Value	Commencement Date	Duration of Contract	Budgeted (Y/N)
A2020/02	Coffs Harbour City Council	Design & Construction Replacement Three Bridges - Pint Pot, Shingle Hut & Dumaresq	$ 1,847,934	14/07/2020	4/02/2021	Y
A2020/03	Schramm Group Pty Ltd	Safety Barrier - Panton's Gully MR76 segment 4010	$ 174,223	20/06/2020	13/05/2020	Y
A2020/04	Stabilcorp	Panton's Gullly Segment 4010 - Pavement Works	$ 441,006	27/08/2020	26/10/2020	Y
A2020/05	Stabilcorp	Water Fill Station B - Double bay	$ 37,197	1/02/2020	21/04/2020	Y
A2020/06	(APC) A.Prince Consulting Pty Ltd	Audit of Guyra Organic Collection	$ 27,209	28/04/2020	26/06/2020	Y
A2020/08	Carter Osborne Electrical	Upgrade Terminal Electrical Services - Generator	$ 158,142	1/06/2020	11/08/2020	Y
A2020/09	Panel - Various	Plant Hire Services - Panel - July 2020 - June 2022	Schedule of rates	1/07/2020	30/06/2022	Y
A2020/11	APF Constructions	Relocate Two (2) NSW Rural Service Brigade Sheds	$ 121,068	10/03/2020	1/04/2020	Y
A2020/12	Various	Purchase of Motor Vehicles	various	1/04/2018	31/03/2023	Y
A2020/14	J T Fossey	Supply/Disposal PN 2259 Rego BN-96-EB 6x2 tip Truck LGP (NPN413&NPN115)	$ 95,494	4/05/2020	29/06/2020	Y
A2020/15	J T Fossey	Supply/Disposal PN 2330 Rego BP-02-FJ 6x2 tip Truck LGP (NPN413&NPN115)	$ 86,494	4/05/2020	29/06/2020	Y
A2020/16	J T Fossey	Supply/Disposal PN 3005 Rego BY-33-EC 7.5 t GVM cab chassis LGP (NPN413&NPN115)	$ 55,822	4/05/2020	12/06/2020	Y
A2020/17	J T Fossey	Supply/Disposal PN 3006 Rego BX-82-JF 7.5 t GVM cab chassis LGP (NPN413&NPN115)	$ 55,822	4/05/2020	12/06/2020	Y
A2020/18	Peel Valley Trucks	Supply/Disposal PN 2232 Rego XN-34-BT 6x4 Water Truck LGP (NPN413&NPN115)	$ 246,670	4/05/2020	14/07/2020	Y
A2020/19	Wideland Truck & Machinery	Supply/Disposal PN 2438 Rego XN-35-BT 6x2 Truck LGP (NPN413&NPN115)	$ 180,096	4/05/2020	3/08/2020	Y
A2020/20	Cardno (QLD) Pty Ltd	Design Pipeline – Puddledock Dam to Armidale Water Treatment Plant	$ 280,251	1/07/2020		Y
A2020/21	JLE Electrical	Principal Contractor - Solar Lighting to Cycle in Armidale + separable portion	$ 337,006	1/06/2020	31/10/2020	Y
A2020/22	Stabilcorp	Heavy Patching 19-20 - Additional Works	$ 120,673	29/05/2020	30/06/2020	Y
A2020/23	TNI Contracting	Kempsey Road Blackbird Flat to Big Hill (44.68km) , Lower Creek Rd (10km), Raspberry Rd & Williams Road Bridge - Recovery	$ 499,500	21/04/2020	30/06/2020	Y
A2020/25	Alan Kneale Pty Ltd	Airport Flood Lighting	$ 237,542	28/09/2020	1/03/2021	
A2020/26	Stabilised Pavement	Stabilising Services on D65 (Waterfall Way Seg 4190 In-situ modification works)	$ 39,909	28/09/2020	6/10/2020	Y
A2020/27	Stabilcorp	Shoulder Widening Services on D65	$ 103,961	31/08/2020	15/10/2020	Y
A2020/28	Schramm Group Pty Ltd	Waterfall Way Guard Rail Installation & Repair Contract - Two years - Schedule of Rates	$ 1,500,000	1/02/2021	1/02/2022	Y
A2020/29	Geolink Consulting	Environmental Consultancy Services for Kempsey Road Disaster Recovery Works	$ 240,000	1/07/2020	30/11/2020	Y
A2020/30	Jeff Breen Consulting	Consultant for Kempsey Road Disaster Recovery Works - Developing Form 306	$ 100,000	1/07/2020	30/06/2021	Y
A2020/31	Various	Provision of Bulk Materials - Two years	Schedule of Rates	1/11/2020	31/10/2022	Y
A2020/32	Various	Provision of Professional Engineering & Project Management Services - Two years	Schedule of rates	1/08/2020	31/07/2022	Y
A2020/34	State Government Contract 653	Purchase of Motor Vehicles				Y
A2020/36	Croft Surveying Services	Cadastral Surveying - Business Park for captioned work	$ 30,000	14/09/2020	9/11/2020	Y

Consultancy & Legal Expenses

Expense			Expenditure YTD			Budgeted (Y/N)
Consultancies			$ 469,493			Y
Legal Fees			$ 64,727			Y

Definition of a consultant

A consultant is a person or organisation engaged under contract on a temporary basis to provide recommendations or high level specialist or professional advice to assist decision making by management.
Generally it is the advisory nature of the work that differentiates a consultant from other contractors.

Regional Growth Environment and Tourism Fund

NEW ENGLAND RAIL TRAIL BUSINESS CASE

New England Rail Trail Incorporated
V10.0
October 2020

KEY PROPOSAL DETAILS

PROPOSAL INFORMATION	
Proposal name	New England Rail Trail
Lead proponent (e.g. Council)	Armidale Regional and Glen Innes Severn Councils
Lead proponent ABN	39 642 954 203
Proposal partners	New England Rail Trail Incorporated (NERT)
LEAD CONTACT	
Name	??????
Position	
Phone	
Email	
Fax	
Address	135 Rusden Street Armidale NSW 2350
PROPOSAL SCOPE	
Proposal summary for publication *Please provide 150 words or less*	The Great Northern Rail Line between Armidale and the Qld border has not seen trains operating for 31 years. To revitalise this wasted asset and generate economic growth through increased tourism, Armidale Regional and Glen Innes Severn Councils are proposing to build a 103km rail trail between Armidale and Glen Innes at a cost of $22M. The trail will provide a safe recreational location for cyclists and walkers and is anticipated to attract 14,000 new overnight visitors and 15,000 new day visitor to the region who will spend in excess of $5.8M annually at local businesses. Opportunities will arise for new businesses to establish along the trail (accommodation, cafes, bike hire), creating 26 new local jobs. In addition it is estimated that over 37,000 locals will make use of the trail and reap the associated health benefits. Several small communities along the route will benefit from increased visitation.
PROPOSAL LOCATION	
Proposal address	
Local government area	Armidale Regional Council
NSW electorate	Northern Tablelands
Federal electorate	New England
SUPPORTING INFORMATION	
Attachments *Please list out all supporting information provided*	Attachment 1. New England Rail Trail Plan Attachment 2. Proposal Scope Attachment 3. Cost Plan Attachment 4. Gantt Chart Attachment 5. Evidence of Community Support Attachment 6. Project Cash Flow

DOCUMENT INFORMATION

Document Summary Information	
Version	10.0
Version Release Date	21/10/20
Document Security	

Document History			
Version	Amendment	Amendment Date	Amended by
1.0	Commencement	20/5/19	David Thompson
2.0	Further progress	1/8/19	David Thompson
3.0	Updated BCA with revised overnight stays	13/8/19	David Thompson
4.0	Additions & revised BCA	10/9/19	David Thompson
5.0	Amendments/additions	16/09/19	Nathan Axelsson
6.0	BCA changes	17/9/19	David Thompson
7.0	Final draft	30/9/19	David Thompson
8.0	Include user fees	9/10/19	David Thompson
9.0	ARC revisions on governance & funding of operating costs, extended project & budget timeframes	19/5/20	David Thompson
10.0	Revised capital and operating costs	21/10/20	David Thompson

CONTENTS

1 EXECUTIVE SUMMARY

The **Great Northern Rail line** between Armidale and Glen Innes covers a distance of 103kms and has now been **closed to trains for 31 years**.

The economic viability of **returning passenger and freight services** to this section of track, and beyond to Tenterfield has been examined, and was shown to be **unfeasible**. Even with quite optimistic assumptions about passenger numbers and freight tonnages, returning a train service produced a benefit-cost ratio of just 0.5, indicating that the discounted costs outweighed the discounted benefits by 2 to 1.

This proposal would see the 103km rail corridor between Armidale and Glen Innes remain in public hands, but be converted to a **rail trail** to boost local tourism. Armidale Regional and Glen Innes Severn Councils would assume responsibility for the rail trail including annual maintenance.

The anticipated capital cost of the project is **$22.05M**, with annual maintenance costs of around $95,000, to be largely offset by trail user donations.

NSW has 3,139kms of non-operational country rail lines which are maintained by the John Holland Group at a cost of about $1.65M per year or $525 per km (Parliament of NSW 2015, Transport for NSW 2018).

At present the rail corridor between Armidale and Glen Innes represents a **wasted asset**, which is costing the NSW government about $54,140 per year. If converted to a rail trail, Armidale Regional and Glen Innes Severn Councils would take over responsibility for corridor maintenance. Grazing by adjoining landholders and contributions from community groups is expected to contribute to reduced maintenance costs.

Cycling is now the fourth most popular physical activity for adult Australians and is attracting people to the region who would not normally have visited.

It has been calculated that the New England Rail Trail will attract **15,000 new day visits and 14,000 new overnight stays** to the region annually, as well as being used by around 37,000 local residents. This will generate more than $5.8M of additional visitor expenditure each year.

The additional expenditure will lead to the creation of **26 new full-time equivalent jobs** once flow-on effects are included (REMPLAN 2019).

Key beneficiaries will be:

- The economies of the Glen Innes, Guyra and Armidale region through increased tourist expenditure and increased economic diversity;
- The economies of several smaller communities along the rail route including Dumaresq, Black Mountain, Ben Lomond, Llangothlin and Glencoe;
- Local residents having new job opportunities;
- The New England-North West region with a new attraction generating increased visitation and longer stays;
- The state of NSW via reduced tourism expenditure leakage – less visitors travelling interstate or overseas to use rail trails;
- The NSW Government through the elimination of the responsibility to maintain the 103km rail corridor;
- Local residents having an additional recreational facility;
- NSW as a whole with additional opportunity to attract visitation from outside the State.

The project satisfies the criteria and objectives of the Growing Local Economies Fund with regard to economic growth, business attraction, job growth and diversifying regional economies.

When the health benefits are included in the benefit-cost analysis, and assuming only 25% of visitors to the trail are from outside NSW, the **project produces a BCR of 5.47.**

-

2 CASE FOR CHANGE

2.1 BACKGROUND

Description - this rail trail project involves the 103 kilometres of disused railway corridor between Armidale and Glen Innes in Northern NSW, a railway line which has been **closed for 31 years**.

In NSW, railway lines cannot be closed without a specific Act of Parliament; consequently, many rail lines are classified as disused. The condition of these railway reserves varies widely, but many are still intact as 'linear corridors' in public ownership.

The New England Rail Trail would pass through some very attractive scenery. Much of the proposed trail from Armidale to Glen Innes will pass through farming country, as this was where rail lines historically were routed.

There are interesting and varied landscapes on the section between Armidale and Black Mountain, particularly north of where the trail goes underneath Booralong Rd. The landscape between Ben Lomond and Glencoe in particular (also between Glencoe and Glen Innes) is very attractive and quite spectacular. There are great panoramic views afforded in sections, often due to very high and stunning embankments. The attractiveness of these quintessential rural landscapes to city dwellers in particular should not be underestimated.

The quality of intact railway heritage items such as switches, signals and mile pegs is very high (both of the restored and the unrestored infrastructure). **The quality of the railway stations is outstanding** and possibly represents the highest quality of restored and maintained railway stations along any substantial stretch of disused railway corridor in NSW. These stations also provide a good opportunity for the development of trail-related businesses – cafes, bike hire etc.

The **objective** of the project is to convert this disused rail line into a rail trail for cyclists and walkers, linking the city of Armidale with the township of Glen Innes and taking in the villages of Black Mountain, Guyra, Llangothlin and Ben Lomond in the process, thus providing an attraction to draw more tourists to the region, increase the over-night stays for existing tourists, and provide additional recreational facilities for locals.

Increased visitation and length-of-stay in these regional economies will boost spending, economic activity and jobs. It will also spawn the development of new economic activity along the route – accommodation, food/beverage, bicycle hire and other tourist attraction businesses.

Planned outcomes include:

- A new 103km gravel-surfaced rail trail with a width of 2.5m running from Armidale to Glen Innes;
- A trail which makes actual connection between the towns *en-route*; and one that reinforces historic connections;
- A trail with anchors at both ends. One-way trails (or out-and-back trails) need an anchor at both ends to be attractive to users. The best one-way trails have natural terminuses in major centres or towns or pass through major towns. This is particularly an attraction for this trial with easy access to Armidale in particular (by car, train and plane), and Glen Innes by car or bus;
- Provision of an additional off-road trail which adds to the list of tourist offerings in the New England region and encourages visitors to stay a little longer to go for a pleasant walk or ride;

- A new nature-based attraction which has the power to retain those visitors for longer, spending money and generating business opportunities;
- Expanded visitation to the region is conservatively estimated at:

- 15,000 new day-trippers;

- 14,000 additional overnight stays;

- 35,000 local users.

At present, the New England-North West Region attracts 1.618M visitors, resulting in 4.249M overnight stays (5.6% of all overnight stays in NSW). 28.4% of these visitors are from outside of NSW. 32% of visitors come for a holiday and 46% to visit friends and family, meaning a high percentage are potential rail-trail users. Domestic daytrips comprise 50.2% of visits, domestic overnight 48.7% an international 1.1% (Destination NSW 2019).

Studies on visitation to other rail trails indicate a significant proportion of visitors come from interstate or overseas. For example:

- The Murray to Mountains Rail Trail in Victoria has 20% of visitors from outside Victoria (Beeton 2009);

- The Otago Rail Trail in NZ attracts over 49% of visitors from overseas including over 21% from Australia (Reis *et al* 2010);

This indicates that the New England Rail Trail could capture some of the tourist expenditure leakage currently going to rail trails in other states or overseas.

Other important outcomes include:

- Connecting the towns and villages via a trail will provide an opportunity for local residents to choose a non-motorised connection for visiting friends or undertaking some exercise. A non-motorised trail provides another psychological link between the towns on the route;
- An injection of $5.8M per annum into these local economies as a result of this additional visitation, overnight stays and local use. **Note, in the supplied datasheet, it has been assumed that only 25% of visitors are from outside NSW, so that expenditure only amounts to $1.5M to reflect the benefit to the state, rather than the region**;
- Connecting the towns and villages via a trail will provide an opportunity for local residents to choose a non-motorised connection for visiting friends or undertaking some exercise. A non-motorised trail provides another psychological link between the towns on the route;
- Preserving open recreational spaces in the region for the community;
- Providing opportunities for local social capital development/investment (e.g. trail planning, working on the trail, developing local skills as most work will be done by local contractors);
- Reduce visitor expenditure leakage to interstate or overseas rail trails.

2.2 RATIONALE FOR INVESTMENT

The **key problem** that this proposal will overcome is that the existing 103km rail corridor represents **wasted infrastructure** which is not contributing to the economies or the communities from Armidale to Glen Innes.

There are a number of small villages on the intended route who no longer have any viable retail businesses (e.g. Ben Lomond and Llangothlin), and the addition of rail trail visitors may reverse this situation. At the very least, a rail trail would provide the opportunity for accommodation and other tourist attractions in those areas (e.g. farm stays, B&Bs, coffee stops) which would boost these local economies.

All towns along the route from Armidale to Glen Innes are heavily dependent upon the agricultural sector for their economic prosperity (e.g. in Glen Innes agriculture contributes 23% of output value and 21% of employment, in Guyra agriculture contributes 37% of output value and 45% of employment – REMPLAN 2019). Due to the vagaries of agricultural production (climate and commodity price variability), these economies would benefit from economic diversification, and increased tourism is a significant opportunity to achieve this objective.

The Main North Line was opened in stages during the railway construction booms in the latter half of the 1800s. The line from Uralla to Armidale opened in February 1883. In August 1884, it was extended to Glen Innes (two sections were opened simultaneously – Armidale to Dumaresq and Dumaresq to Glen Innes). In September 1886, the line was extended to Tenterfield.

As road transport became more efficient during the 1950s, railways began to lose their primary function. Throughout the following decades, scores were abandoned. Many of these corridors remain in public ownership. In NSW, railway lines cannot be closed without a specific Act of Parliament; consequently, many rail lines are classified as disused. The condition of these railway reserves varies widely, but many are still intact as 'linear corridors' in public ownership.

The rail line has been largely disused for 31 years. The last regular services to operate north of Armidale was the Northern Mail which ceased in November 1988. Freight services continued to serve a fertilizer depot at Dumaresq until the mid-2000s, after which the line closed north of Armidale.

A recent study (AEC 2018) examined the possibility of re-opening the rail line for freight and passengers between Armidale and Tenterfield. **This revealed a capital cost of $2.5M per km for reinstating rail services (compared to $234,000 per km for a rail trail), and maintenance costs of $25,000 per km per annum (compared to $1,502 per km per annum for a rail trail).**

The Riverina Highlands Rail Trail has established a pilot mechanism for the conversion of disused rail corridors into rail trails, including the legislative requirements and the handover of responsibility for maintenance to local government. Evidence from rail trails in Victoria indicates that the maintenance costs are likely to be much lower than those set out in the New England Rail Trail Plan (Halliburton 2018), coming in at an average of $915/km (Indigo Shire Council, pers. Comm 2019). The maintenance costs for the New England Rail Trail were recently revised (Halliburton 2020) and come in at an average of $1,502/km for day-to-day operating costs (excludes major upgrades of capital structures such as bridges which would not be needed for many years after construction).

The predominant user group for rail trails is cyclists, ranging from elderly people, to baby boomers, young couples, family groups with children, teenagers and young children. Walkers and horse riders are also attracted to rail trails, but in far lesser numbers. They all are using rail trails for a reason: they enjoy routes free from motor vehicles, routes that are away from the noise and smell of roads, and away from trucks and cars.

Armidale already has a relatively strong cycling culture (both urban and touring). Glen Innes Severn Council has expressed an interest in developing a better cycle network within Glen Innes. A rail trail would add significantly to both these existing opportunities and cultures.

The **New England North West Regional Plan** includes a direction to support healthy, socially engaged and well-connected communities. An action from this is to facilitate more recreational walking and cycling paths, linkages with centres and public transport, and expand inter-regional and intra-regional walking and cycling links. A rail trail, particularly one which is developed along the longer corridor (Armidale to Glen Innes) is a relatively low-cost option for developing such connections (physically and psychologically).

The Community Strategic Plan for Glen Innes Severn Council has a goal of encouraging the community to be more active. The same document for Armidale Regional Council supports cycling as a healthy form of transport.

2.3 STRATEGIC ALIGNMENT

Figure 2.2. Project Alignment with NSW Government and Council Policies

Policy	Alignment
Northern New England High Country Regional Economic Development Strategy "A region seeking to encourage economic development should therefore concentrate on factors that enable the growth of endowment-based industries, as well as building local leadership and institutional capacity and capabilities to facilitate businesses and public agencies and services to capitalise on the opportunities that a region's endowments present." "In addition to the climate and location, the Region has other endowments that make it appealing for tourism and lifestyle. These include the natural beauty of the Region, a concentration of World Heritage areas, National and State Parks, State Conservation Areas and Nature Reserves, and a diversity of quality tourist attractions, accommodation and events." "Tourism is another important industry in the Region. Accommodation and Food Services (which is a proxy for tourism) is the 4th largest employer. It is also independent of agricultural industries, helps raise the profile of the Region and plays a part in relocation decisions. There are opportunities to continue to grow the 'short-break' and day visitor markets from south east Queensland and the Northern Rivers area of NSW, as well as the special interest and activity based markets and the long-haul touring market." "Grow the tourism sector (visitor economy) through product development, improved signage, marketing	The project aligns by: • Providing an additional tourism attraction which utilises the natural scenic and infrastructure endowments of the region • Upgrading the visual and recreational amenity opportunities for both visitors and the local community • Providing additional opportunities to boost overnight stays • Drive growth of the local economies and employment opportunities through enriching the visitor experience and complimenting the wider array of New England North West tourism experiences. • Provide further diversification for the NSW regional economy

promotion, and growing the events sector" "Investment in the tourism sector including: – product development – improving existing attractions and facilities and developing new attractions – improved tourism signage – improving the quality and range of event Facilities"	
Southern New England High Country Regional Economic Development Strategy "Tourism (for which Accommodation and Food Services is a proxy) is not a regional specialisation but is nevertheless an important industry that complements the other key industries and provides diversity of employment" "product and infrastructure development to support the growth of tourism, including upgrading and expansion of visitor facilities at Dumaresq Dam, **construction of the New England Rail Trail (Stage 1)**, expansion of mountain bike trails and the expansion of the Walcha Outdoor Sculpture Park" "support tourism by continuing to expand and improve the attraction, experience and activity base of the Region and by building the events sector (including sporting, business and cultural events)" "Encourage the establishment of outdoor and adventure based activities and tours"	The project aligns by: • Specifically progressing the New England Rail Trail initiative • Providing an additional tourism attraction which utilises the natural scenic and infrastructure endowments of the region • Upgrading the visual and recreational amenity opportunities for both visitors and the local community • Providing additional opportunities to boost overnight stays • Drive growth of the local economies and employment opportunities through enriching the visitor experience and complimenting the wider array of New England North West tourism experiences. • Provide further diversification for the NSW regional economy • Providing an additional outdoor tour opportunity
New England North West Regional Plan 2036	• Goal 1 Direction 7: "Build strong economic centres" as described above. • Goal 1 Direction 8: "Expand tourism and visitor opportunities" as described above. • Goal 4 Direction 17: "Strengthen community resilience," 18: "Provide great places to live," 19: "Support healthy, safe, socially engaged and well-connected communities" as described above.
Armidale Regional Council Community Strategic Plan 2017-2027 "The community had several suggestions as to how innovation and growth could be encouraged; ideas such as a rail trail…." "Other ideas for protection of the environment and encouraging climate friendly lifestyles included promoting eco-tourism (such as the introduction of a 'Rail-Trail')" "Investigate development of a rail trail north of	The project aligns by: • Specifically progressing the New England Rail Trail initiative • Would generate further tourism business opportunities

Armidale to attract visitors to the region" "Tourism is seen as a key way of growing the local economy….." "Provide incentives for eco-tourism operators to establish programs which promote sustainable living and attract tourists to the region" "Tourism is seen as a key way of boosting the vibrancy, attractiveness and economic sustainability of the Armidale town centre and also the other towns across the region"	
Glen Innes Severn Community Strategic Plan 2017-2027 "Advocate for the development of a rail trail to promote pedestrian and cycle connectivity" "Review tourism opportunities and promotion with a particular focus on strengthening accessibility and providing incentives to draw visitors into the Glen Innes Highlands"	The project aligns by: • Specifically progressing the New England Rail Trail initiative • Would generate further tourism business opportunities
Armidale Regional Council Delivery Plan 2018-2021 "The visitor economy generates additional revenue and employment to boost the local economy and creates opportunities for more vibrant cultural activities"	The project aligns with objective 3.1 of the plan
Restart NSW/Rebuilding NSW – "The Government is committed to supporting the development of strong, diverse and innovative regional communities across New South Wales and making those communities appealing places for people to live, work and invest".	The project aligns by: • Providing a high-quality tourist destination for both visitors and the local community • Improving the amenity appeal/opportunities in the region • Diversifying the local economy further
State Infrastructure Strategy – "productive regional industries and connected regional communities".	The project aligns by: • As described above plus • More opportunity for outdoor recreational activity = fitter community • Working with other community groups to provide the upgraded facilities
Jobs for the Future – "Open doors for entrepreneurs. Make NSW the place of choice for 'gazelles' to grow and succeed— by building a stronger entrepreneurial culture, ecosystems and skills and stimulating early stage funding".	The project aligns by: • As described above – opportunities for new businesses along the trail
NSW Visitor Economy Industry Action Plan 2030	• Aligns with all strategic imperatives (1-7) outlined in the final report. This includes increase visitation, grow physical capacity,

	renew and revitalise a NSW destination, improve the visitor experience, increase visitor spend, make NSW more competitive and change of mindset. • Contributing to the NSW Government's strategic target of doubling overnight visitation by 2020 • Improve the visitor experience through new facilities, diversified offerings through non-water recreation
NSW 2021 Plan. A Plan to Make NSW Number One.	• Improve the performance of the NSW economy through development a new tourism asset • Drive regional economic growth through development of a core capability of the Northern Inland. • Increase the competitiveness of doing business in NSW through development of a substantial NSW tourism asset • Enhance sporting and recreation opportunities that can be provided by the rail trail
Destination Country and Outback NSW Destination Management Plan 2018-2020 "Support regions to leverage and plan for new and potential opportunities, for Example the proposal under consideration for a New England Rail Trail from Armidale to Wallangarra in Queensland"	• Boost brand awareness through nature-based tourism for 'visiting friends & family' visitation market segment.

2.4 EXPECTED OUTCOMES

The **key outcomes** of the project will be:

For Glen Innes Severn & Armidale Regional Shire Councils

- A new 103km gravel-surfaced rail trail with a width of 2.5m running from Armidale to Glen Innes;
- Expanded visitation to the region conservatively estimated at:

- 15,000 new day-trippers;

- 14,000 additional overnight visits of up to 3 nights for new visitors;

- 37,000 local users

- Productive use of an abandoned asset which passes through their council areas;
- Likely gifting of the existing steel and sleepers to council (following the precedent set for the Riverina Highlands trail), which can be sold to contribute to maintenance costs;
- A positive contribution to the health of their residents, which is an objective in their Community Plans.

For the Local Economies

- An annual injection of over $5.8M into these local economies as a result of this additional visitation, overnight stays and local use after 4 years of operation;
- 26 new FTE jobs as a result of increased visitation (REMPLAN 2019);
- Diversification of these local economies;
- A trail with anchors at both ends. One-way trails (or out-and-back trails) need an anchor at both ends to be attractive to users. The best one-way trails have natural terminuses in major centres or towns or pass through major towns. This is particularly an attraction for this trial with easy access to Armidale in particular (by car, train and plane);
- Provision of an additional off-road trail which adds to the list of tourist offerings in the New England region and encourages visitors to stay a little longer to go for a pleasant walk or ride;
- A new nature-based attraction which has the power to retain those visitors for longer, spending money and generating business opportunities;
- It is calculated that the additional visitor expenditure would generate an extra 26 FTE jobs (including flow-on effects) for the Armidale and Glen Innes regions (REMPLAN 2019).

For the Local Communities

- A trail which makes actual connection between the towns *en-route*; and one that reinforces historic connections;
- Connecting the towns and villages via a trail will provide an opportunity for local residents to choose a non-motorised connection for visiting friends or undertaking some exercise. A non-motorised trail provides another psychological link between the towns on the route;
- Development of additional local skills in rail trail development and maintenance;
- The opportunity to become involved in the marketing of the old rail steel and sleepers. For the Riverina trail, these assets were gifted to local council.

For the NSW Government

- Productive use of an abandoned asset;
- An economic boost to rural economies reducing their reliance on government assistance;
- Elimination of existing maintenance costs.

2.5 STAKEHOLDER & COMMUNITY SUPPORT

Community Consultation 2014-2019

Consultation continues though one on one discussions, public markets, and extensive household consultation personally conducted and recorded, DPC public consultation meetings, individual and media household publications.

Key Stake holders were identified in 2014, these are as follows and supportive letters have been received and supplied to the then Transport Minister Ms. Gladys Berejiklian and, the Deputy Premier Mr. John Barilaro personally in Guyra back in 2016.

Key Stakeholders consulted and supportive include:

- Black Mountain Preservation Society
- Guyra Shire Council
- Armidale Regional Council
- Armidale Regional Council Administrator
- Guyra and District Chamber of Commerce
- Armidale Business Chamber
- Business in Glen (BIG)
- Glen Innes Severn Shire Council
- Locals 4 Locals
- Stainable Living Armidale
- Guyra's Aboriginal Land Council
- Guyra Branch NSW Farmers
- Regional Development Australia Northern Inland
- Rotary Club Guyra
- Southern New England Landcare
- Armidale Regional Airport Users Group
- Guyra Central School
- Ben Lomond School
- Northern Tablelands Local Land Services
- The Guyra and District Historical Society Machinery Group
- All residents (including rural and CBD businesses) neighbouring the rail corridor

Concerns raised (as per Guyra Argus July 3rd, 2014):

- Can the line in its present state be removed?
- Who pays for the removal?
- Who benefits from the sale of its removal?
- Are the current lease holders still able to run stock up to the line?
- Is payment required to use the track?

- Are riders covered by public liability?
- Who controls the weeds?

These main concerns have been addressed in many formats, individually, public community consultations with DPC in Guyra/Tenterfield.

Publication of 'What is a Rail Trail' pamphlet delivered to all households (see Attachment 5), Trail Development Plan, Feasibility Study, Social Media, local print media and Radio.

The proposed process to address the issues was minimal due to the majority of the concerns being already addressed. It was always the intention to allow existing lease and stakeholders to continue with their long-term grazing and weed control practices along the corridor.

The local branch of the NSW Farmers supported both the graziers/rail trail proposal with a motion to ensure their retention as per the existing right of access with John Holland CRN.

We identified very early that Preservation Societies would play a significant role in the proposal in order to maintain their leases and interests, and also providing major trail 'points of interests'.

Armidale Regional Council carried out a phone poll.

Armidale Regional and Glen Innes Severn Councils and Councillors are aware the detractors and supporters over a long period and hence 11 months ago, both moving (with vast majority councillor support) to endorse the development of the trail.

The next major task is to consult with all the landholders along the Armidale to Black Mountain and Ben Lomond to Glen Innes section of the trail to address any concerns they may have. It is anticipated that allowing them to continue grazing right up to the boundary of the rail trail, along with the Biosecurity Plan developed for the rail trail, plus the Local Land Services Biosecurity Plan for Crown Corridors will address most concerns. Landholders along these remaining sections will be consulted during the first half of 2020.

All landholders along the 34km section from Black Mountain to Ben Lomond have already been consulted.

See Attachment 5 for further details of community consultation.

3 ANALYSIS OF THE PROPOSAL

3.1 OBJECTIVES & INDICATORS

Table 3.1: Proposal objectives

Key problem/issue	Key proposal objective	Key success indictor
Rail line between Armidale and Glen Innes disused for over 30 years – a wasted asset	Develop a rail trail on this rail corridor for cyclists & walkers to attract additional tourists, and more overnight stays by visitors	Increased visitors and overnight stays
Lack of economic diversity in Armidale and Glen Innes economies – high dependence on agriculture	Further diversify these economies through increased tourism	Increased visitor expenditure in these economies
Obesity and health issues in local communities	Provide an additional outlet for outdoor exercise	Level of use of the rail trail by local community, increased sale of bicycles locally

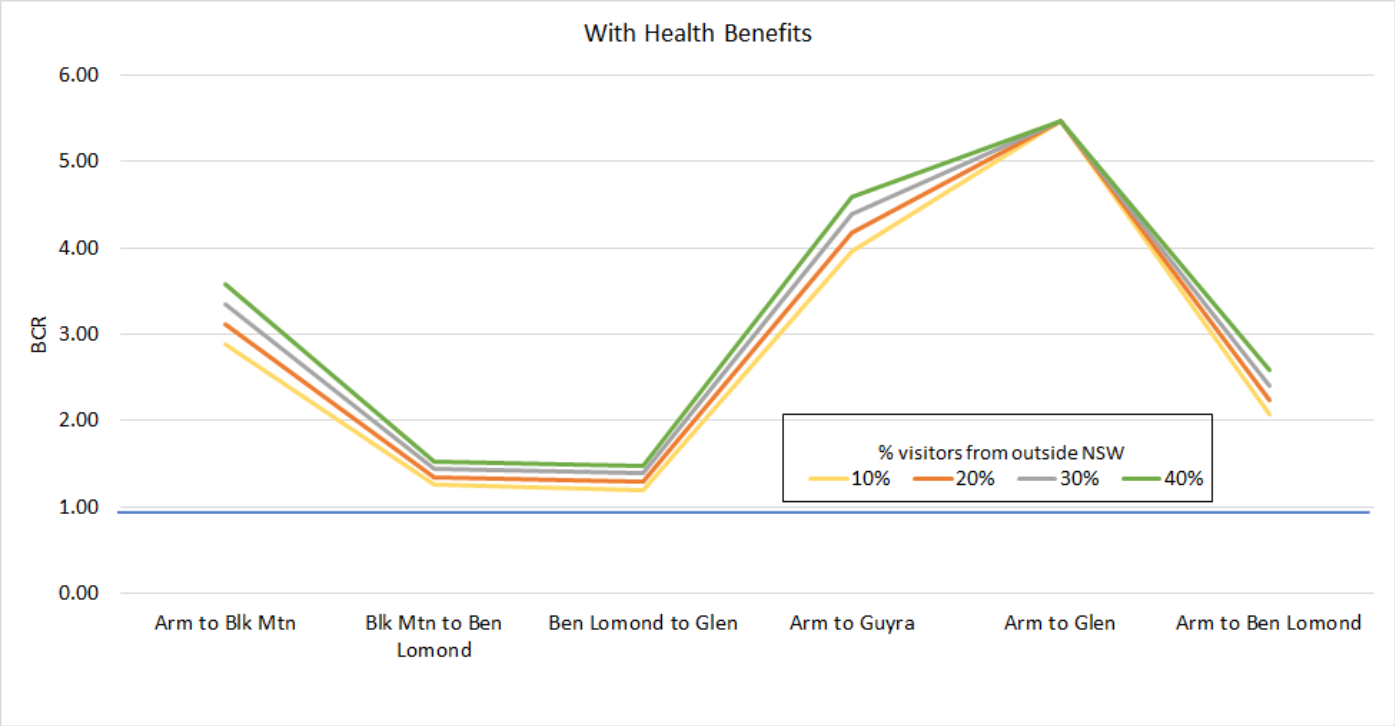
3.2 THE BASE CASE

The base case is that the rail corridor between Armidale and Glen Innes remains as it is; an entirely un-utilised and a non-productive asset, being maintained by the NSW Government (via John Holland) at a cost of about $54,000 per annum.

3.3 OTHER OPTIONS CONSIDERED

- The **do-nothing** option is the base case. It does not address the issue of a wasted public asset.
- A **do-minimum** option is to only develop the 34km section of the rail trail between from Ben Lomond to Black Mountain. This has been examined in detail in the New England Rail Trail Plan (Attachment 1). The shorter 34km trail (Black Mountain to Ben Lomond) has the potential to attract a level of usage estimated at 9,000 new non-local visitors. However, the longer 103km trail (Armidale to Glen Innes) has the potential to attract a much larger number of users – 29,000 new non-local visitors for a range of reasons, but largely due to having the key anchor towns of Armidale and Glen Innes at each end. Developing only the centre 34km section from Black Mountain to Ben Lomond is seen as too risky due to the lack of visitor facilities to enhance overnight stays and produces a far less favourable BCR (Figure 1).

Figure 1. BCR for Different Trail Segment Options



- **Return trains to the rail corridor**. Despite vocal support from some community members, this option seems highly unlikely.

  As noted previously, the rail has not been used by trains for over 30 years, and the cost-effectiveness of road transport has largely eliminated the local opportunities for rail freight. Moreover, the development of the Inland Rail system to the west of the area is likely to be the focus for any future growth in rail freight. Livestock production (beef, sheep, wool) are the main commodities produced in the area that are transported, and any that are exported out of the region (e.g. to abattoirs or ports) are best suited to road transport with a well-developed route north and south along the New England Highway and east-west along the Gwydir Highway and Thunderbolts Way. Retail goods are also a major freight product in the region, but again they are well suited to road transport with direct delivery door to door without the need to transfer from rail to road. Passenger utilisation of the rail (even from southern areas into Armidale) is relatively low and an Armidale Regional Council study has indicated it is uneconomic to return passenger trains north of Armidale.

  The Armidale Regional Council commissioned a study (AEC 2018) looking at the feasibility of a passenger service on the line between Armidale and Tenterfield. The report considered the likely costs of refurbishment of the line to modern standards and likely revenues from services. The study concluded that the costs significantly outweighed the likely revenues by 2 to 1. In addition, the NSW Government has indicated it has funding available for viable rail service proposals. It is understood that the Government has yet to receive an economically viable proposal for this section of rail.

  Based on the AEC study, recommissioning the line from Armidale to Glen Innes would cost approximately $257M ($2.5M per km). Annual maintenance costs are estimated at $2.6M. However, net passenger and freight revenues (i.e. net benefits) were only around $13.12M annually, meaning that the return to rail proposal did not produce a net benefit (i.e. it would lose money and not generate a benefit-cost ratio of greater than 1.0). It should be noted that generous rail passenger numbers and freight volumes were assumed in this analysis.

- A **do-later option** is not considered warranted since the rail line has already been idle for more than 30 years and the study suggests it is unlikely that a rail service will return.

- The **preferred option** is to build the entire 103km rail trail between Armidale and Glen Innes. This is preferred because it delivers a trail with anchors at both ends, thus attracts a greater number of overnight visitors, and provides benefits for a larger number of locals. One-way trails (or out-and-back trails) need an anchor at both ends to be attractive to users. The best one-way trails have natural terminuses in major centres or towns or pass through major towns, which this option provides. In particular Armidale has good access to visitors (by car, train, bus and plane). This option also delivers the highest BCR (Figure 1).

3.4 INFORMATION ABOUT THE PROPOSAL

3.4.1 SCOPE OF WORKS

See Attachment 2 – Project Scope

Location – the rail corridor between Armidale and Glen Innes in Northern NSW;

Quantifiable details –

- 103 kms of new rail trail between Armidale and Glen Innes;
- To function effectively as a shared use facility (for cyclists and walkers), the New England Rail Trail should have a width of 2.5 metres;
- Removal of the existing coarse ballast material on the existing rail corridor;
- Removal of existing steel railway track and sleepers;
- Preserve embankment and side drains during ballast and track/sleeper removal;
- Grading, then spreading and compacting of new surface material (locally available earth surface (gravel, decomposed granite, crushed limestone, etc.);
- Chicanes, management access gates and signage at road crossings;
- Prominent trail head promotional signage;
- It is strongly recommended that distance signage and “Emergency Markers” be installed (showing distances, GPS coordinates at road crossings and emergency contact numbers);
- Other signage describing permitted use (e.g. no motor vehicles) and interpretive signage (e.g. information about events, wildlife, landforms etc.).
- Proper drainage installed for erosion control;
- There are 26 bridges along the entire 103km route, ranging in length from 4m to 120m. Most of these bridges will be retained (with upgrades) or replaced with pre-fabricated bridges. Reinstatement and refurbishment of the bridges (re-decking and installing handrails in compliance with Australian Standards for bridges) will be a major component of the cost of establishing the New England Rail Trail;
- Trail furniture (seating) at scenic locations;
- Car parking area, often with picnic facilities, interpretive signage, a map panel of the trail showing sites of interest and distances to features along the trail and a Code of Conduct at trailhead locations;
- It is critical that the rail trail corridor be fenced on both sides of the trail where it passes through farms – for public liability insurance and risk reasons. The rail trail corridor cannot remain unfenced. The

existing boundary fencing is sufficient to address these concerns. There is limited need for new boundary fencing;

- Erection of new fencing along the entire corridor producing a 6m corridor where the excess areas off the trail can be used by landholders for grazing stock. Use of permanent fencing to facilitate grazing the "remnant" corridor will involve installing new fencing closer to the trail (rather than at the property boundary). This ensures ongoing grazing access to the "remnant" corridor, even if land ownership changes;
- Retail existing livestock and machinery crossings;
- All artefacts and relics of the railway remain in place during the construction of the trail. The existing stations and other buildings in all the station grounds are outstanding examples of preserved railway heritage;
- All existing signs, signals and switches have been identified and allowance made for their retention and upgrading;
- Vegetation clearing - generally speaking, a cleared 'trail corridor' of 3.5 - 4.0 metres will be required to enable a trail of 2.5 metres to be developed in the centre of the cleared corridor. Either side of this trail will be further clearing of vegetation up to 1.0m for drainage;
- Toilets - proposed trailheads at Ben Lomond Station, Guyra and Black Mountain have existing toilets. It is assumed these are still functioning. There are also accessible toilets at Llangothlin. Consideration has been given to the installation of additional toilets along the rail trail but it is felt unnecessary given the relatively short distances between the existing facilities and the high cost of new toilets. There is no standard accepted distance between toilets on a trail.

More details of the works are provided in Tables 11, 12, 13, 15 & 16 of the New England Rail Trail Plan (Attachment 1). And Tables 1, 2 and 3 of the revised costings for the two end sections of the trail.

Design Standards – Australian Standards for all works will be adhered to. Engineering certification of bridge supporting structures and abutments is strongly recommended, to ensure the structural soundness of the bridges to be re-used. The services of a qualified bridge engineer will need to be utilised to assess both bridges for structural soundness (a Level 2 integrity test is sufficient), to provide drawings of, and specifications for, a typical bridge super-structure and re-decking.

As a general rule, multipurpose trail bridges should support a minimum design load of 5.67 tonnes where emergency vehicles cannot easily gain access close to the bridges by other means.

Handrails will be required where the fall from the bridge decking to the ground is greater than 1 metre. This is a Standards Australia requirement.

There are designated standards for handrails for pedestrians and cyclists (1.0 – 1.1m high for walkers and 1.3m for cyclists with a number of detailed specifications regarding design). There are no standards for horses, although the UK has adopted a height of 1.8m where fall to ground is significant.

It is of major importance to develop a Bush Fire Risk Management Plan early in the planning process in consultation with the NSW Rural Fire Service. This is an issue with many rail trails and it has been successfully tackled elsewhere. For example, the Lilydale to Warburton Rail Trail (in Victoria) has developed a Wildfire Risk Management Plan. The Plan includes objectives and relevant actions. The objectives are:

- Providing a safe recreation trail for walkers, cyclists and horse riding;
- Providing a safe access onto and along the trail for all emergency vehicles;

- Minimising the risks of fires spreading from or onto the rail trail; and
- Developing annual maintenance works and maintenance programs (with an accent on fire hazard reduction).

Utility adjustments or property acquisitions – none required.

Concept diagrams and sketches – see the New England Rail Trail Plan (Attachment 1), Appendices 1, 2, 3 & 5.

Photos – see the New England Rail Trail Plan (Attachment 1), various photos throughout of existing infrastructure and intended new infrastructure.

Proposal Scope – most of this detail is provided in Attachment 1. An artists sketch of the route is provided in Attachment 2.

3.4.2 PROPOSAL EXCLUSIONS

None

3.4.3 RELATED PROJECTS

None

3.5 PROJECTED COSTS

3.5.1 PROJECTED CAPITAL COSTS

Table 3.2: Projected capital costs inclusive of contingency ($000s)

Stage	2020-21	2021-22	2022-23	2023-24	Future Years	Total
Base cost estimate	639.083	9,582.140	4,221.394	3,903.234		18,345.851
Contingency	115.219	1,727.549	761.069	703.708		3,307.545
Escalation	13.826	207.306	91.328	84.445		396.905
Nominal cost	**768.128**	**11,516.996**	**5,073.791**	**4,691.387**		**22,050.302**

3.5.2 PROJECTED ONGOING COSTS

Table 3.3: Projected ongoing costs ($000s)

Year	2020-21	2021-22	2022-23	2023-24	....	Steady State/ Last Year	Total
Maintenance of trail (slashing, resurfacing, signage etc)			69.94	69.94		154.7	294.58
					40.6	**94.2**	**134.8**

3.6 COST-BENEFIT ANALYSIS

Annual beneficiaries of the rail trail will include:

Local businesses – via an additional $5.8M of new visitor expenditure

The local economy – an additional 26 FTE jobs as a result of the increased visitor spend;

NSW economy – the potential to attract more visitation to NSW;

Visitors (29,000 non-local and 37,400 locals) – a new recreational and heritage facility to explore;

NSW Government – a maintenance cost saving of approximately $54,000 pa as the councils will take over this responsibility;

Trail Users – health benefits estimated at $1.42/km for cycling and $2.83/km for walking (Queensland Department of Transport and Main Roads 2016).

A Cost-Benefit analysis has been conducted for the full 103 km section of trail between Armidale and Glen Innes. It includes the following:

Costs:

- $22M capital cost in three stages over the period 2021-2024 (as estimated in the NE Rail Trail Plan);
- Council maintenance costs of $154,706 pa (Halliburton 2020).

Benefits:

- Reduced maintenance costs (currently contracted by the NSW Government to John Holland) of $54,000 pa;
- Additional visitor expenditure (new visitor numbers and daily expenditure estimates taken from the New England Rail Trail Plan) – only the expenditure from visitors from outside NSW were included. Daily expenditure data taken from the NE Rail Trail Plan. It is assumed 10% of users will buy a package to use the trail, which costs 39% more based on data from the Otago Rail Trail;
- Trail user health benefits (for walker and cyclists), taken from Queensland Department of Transport and Main Roads (2016) – only the benefits to NSW resident users were included;

The analysis was conducted using a 7% discount rate over a 20-year analysis period, and assuming a 60/40 split of overnight stays between Armidale and Glen Innes.

Sensitivity testing was also conducted on the number of visitors using the trail from outside NSW. For the base-case it was conservatively assumed that only 25% of visitors to the trail are from outside NSW.

The 103 km rail trails would generate a BCR of 5.47 and a Net Present Value of $114.6M if only 25% of the new visitors are from outside of NSW.

The majority of these benefits are health benefits ($11.7M per annum), with additional visitor expenditure contributing $1.5M per annum.

3.7 FINANCIAL APPRAISAL

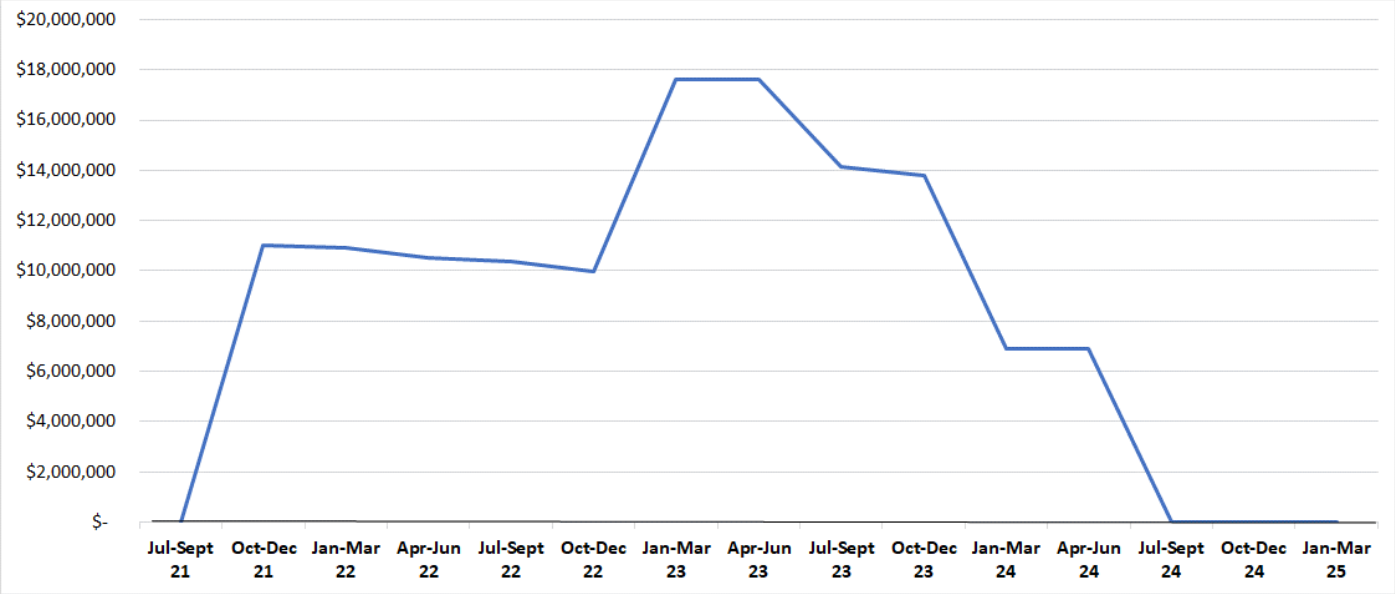
Figure 2 shows the project cash flow up till 6 months after project completion. A contingency of $1.7M has been allowed for the removal of the existing steel rails and sleepers. Halliburton (2018 and 2020) estimated that track removal by contractors would cost $33/m, and this would be a cost-neutral exercise for the two councils as the contractors would be able to sell the old track materials.

Sydney Trains (2019) report the value of 47kg/m rail steel at $45/m (https://www.transport.nsw.gov.au/sydneytrains/commercial/strategic-procurement/second-hand-rail-for-sale). This is the same weight steel as the tracks which run from Armidale to Glen Innes

Here, we have conservatively assumed the contractors can only achieve $25/m for the rail steel and nothing for the sleepers, leaving a shortfall of $8/m (a total of approx.$1.7M for 103kms of track) due to the contractors to be covered by the project capital costs. Hence the addition of $1.7M to the capital costs.

A more detailed cash flow budget is shown at Attachment 6 for rail trail construction and up to 6 months after completion.

Figure 2. Project Cash Flow Pattern till 6 Months After Construction Completed



The on-going maintenance costs and revenue-raising potential to cover those costs are a matter of interest to both councils**. There is a sentiment in some quarters of the community and council that the rail trail should not be an economic burden to ratepayers** – though when compared to other community and visitor attractions funded by ratepayers, the annual maintenance cost is expected to be small (e.g. sporting grounds cost ARC $5.2M pa, parks and gardens cost $2.9M, swimming pools cost GISC $580,000 pa).

Based on data from other trails (e.g. the Otago Rail Trail), it is anticipated that trail users will make some contributions toward trail maintenance. On the Otago trail this is either by direct donation, or by the purchase of a passport which users stamp at key destinations along the route. For example, conservatively assuming that 50% of the 14,000 new overnight visitors make a donation of $10 each, this would raise $70,000 toward trail maintenance costs.

There are a range of options for councils and other community groups to raise funds for and contribute toward rail trail maintenance such that the annual costs of maintenance can be partly or entirely offset for councils and ratepayers. These include:

- Government Grants (unlikely – usually capital only);
- In-kind contributions – community group partnerships, volunteering;
- Fund raising – donations, sponsors;
- Fees from benefitting businesses – e.g. Rail Trail Friendly Business Program;
- Trail user fees – compulsory or voluntary. Trail Passports as in NZ;
- Event income – cycling, duathlons, triathlons, fun runs, walks;
- Sale of rail materials – sleepers & steel;
- Sale of products/merchandise;

- Earnings from investments;
- Managing agency budgets (ARC, GISC, NERT?);

The potential annual revenue from these sources and potential annual maintenance costs are provided in Figure 3.

Figure 3. Council Maintenance Costs and Offsetting Revenue Sources

	Low estimate	High Estimate	Notes
Annual Operating Costs			
Armidale Regional Council annual maintenance cost	$ 61,305	$ 100,634	Low estimate based on Indigo Councils costs, high estimate on Mike Halliburton costs
Glen Innes Severn Council annual maintenance cost	$ 32,940	$ 54,072	Low estimate based on Indigo Councils costs, high estimate on Mike Halliburton costs
Total annual cost	**$ 94,245**	**$ 154,706**	
Annual revenues raised			
User passport sales	$ 35,000	$ 70,000	$10 per passport, 14,000 overnight stay users, low = 25% purchase, high = 50% purchase
Event net income	$ 1,500	$ 3,000	Low = 2 events/year, high = 4 events per year, 50 participants per event, $30 each entry fee
Fund raising	$ 5,000	$ 10,000	By local user groups (e.g. NERT, mountain bike clubs etc.)
In-kind contributions to maintenance (e.g. labour value)	$ 10,000	$ 20,000	By local user groups (e.g. NERT, mountain bike clubs etc.)
Merchandise sales	$ 105,000	$ 210,000	$30 per person, 14,000 overnight stay users buy merchandise, low = 25% purchase, high = 50% purchase
Total annual revenues	**$ 156,500**	**$ 313,000**	
Net profit/(loss) to councils	**$ 62,255**	**$158,294**	

Figure 3 indicates that there is considerable potential to offset most or all of the annual operating costs of the New England Rail Trail.

3.8 PROPOSED FUNDING ARRANGEMENTS

Table 3.4: Proposed capital funding contributions ($000s)

Stage	2020-21	2021-22	2022-23	2023-24	2020-21	Remaining Years	Total
Proposal capital costs	768.128	11,516.996	5,073.791	4,691.387			22,050.302
NSW Government (subject of this request)	384.064	5,758.498	2,536.896	2,345.694			11,025.151
Council contributions							
Industry contributions							
Community contributions							
Other government contributions	384.064	5,758.498	2,536.896	2,345.694			11,025.151
Other funding sources (please detail)							
Sub-total	**768.128**	**11,516.996**	**5,073.791**	**4,691.387**			**22,050.302**

3.9 FINANCIAL HEALTH & SUPPORT

Not applicable.

4 IMPLEMENTATION CASE

4.1 PROGRAM & MILESTONES

Table 4.1: Key events

Event	Start	Finish
Public and landholder consultation	June 2021	Dec 2021
Approvals & legislation to close corridor	Apr 2021	Sept 2021
Finalise designs, tendering & contractors engaged	Oct 2021	Mar 2022
Field works for Stage 1 Armidale to Guyra + Glen Innes Pilot	Jan 2022	Jun 2022
Construction Stage 1 Armidale to Guyra + Glen Innes Pilot	Apr 2022	Mar 2023
Field works for Stage 2 Armidale to Guyra to Glen Innes	Apr 2023	Sept 2023
Construction Stage 2 Armidale to Guyra to Glen Innes	Jul 2023	Sept 2024
Rail trail commissioned	Oct 2024	

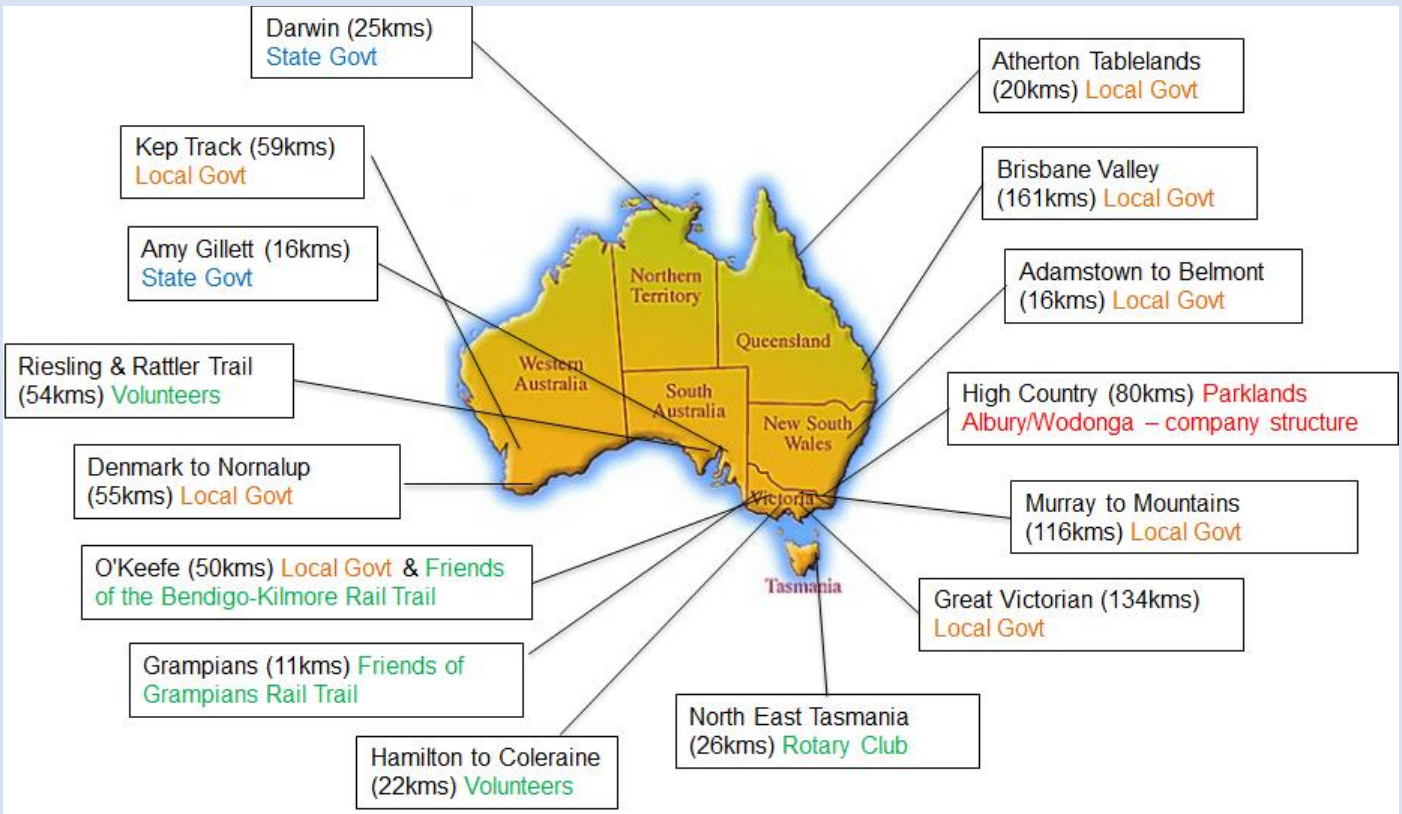
For more detail see Gantt Chart at Attachment 4.

4.2 GOVERNANCE

At present, the rail corridor is managed by the NSW Government (Crown Lands) who have sub-contracted management responsibility out to John Holland, who spend approximately $54,000 per annum on maintenance operations. There are also a small number of community groups and landholders who have leases on the corridor, and conduct maintenance functions in return for incurring minimal or zero lease costs.

Rail trails around Australia demonstrate a range of different entities taking the lead in the governance of rail trail operations (Figure 4)

Figure 4. Australian Rail Trail Governance Examples



The **high level outcomes for the New England Rail Trail** are as follows and will help determine the most appropriate governance structure:

- Economic development and jobs;
- Economic diversification;
- Enhance the regions competitiveness as a tourism destination;
- Entirely or largely self-funded – financially sustainable, lower costs, variety of income generating options.

Desirable outcomes from the governance structure include:

- Clear and simple to initiate and administer;
- Effective and efficient planning and management;
- Partner strengths and responsibilities assigned accordingly;

- Visitor experiences improved continually leading to a competitive destination;
- Supported by a range of funding mechanisms, some self-generation;
- Controls to reduce key risks;
- Community benefits are clear, inclusive of community and user groups;
- Legally allowed.

Preferred governance features will include a strong business focus, a revenue raising focus such that the rail trail becomes largely self funding and is not entirely reliant upon ARC and GISC to maintain the infrastructure, investment from existing and new operators and community involvement.

A number of alternative government options exist, and in identifying a preferred governance option for the New England Rail Trail, the features of these options have been explored (Figure 5).

Figure 5. Rail Trail Governance Options

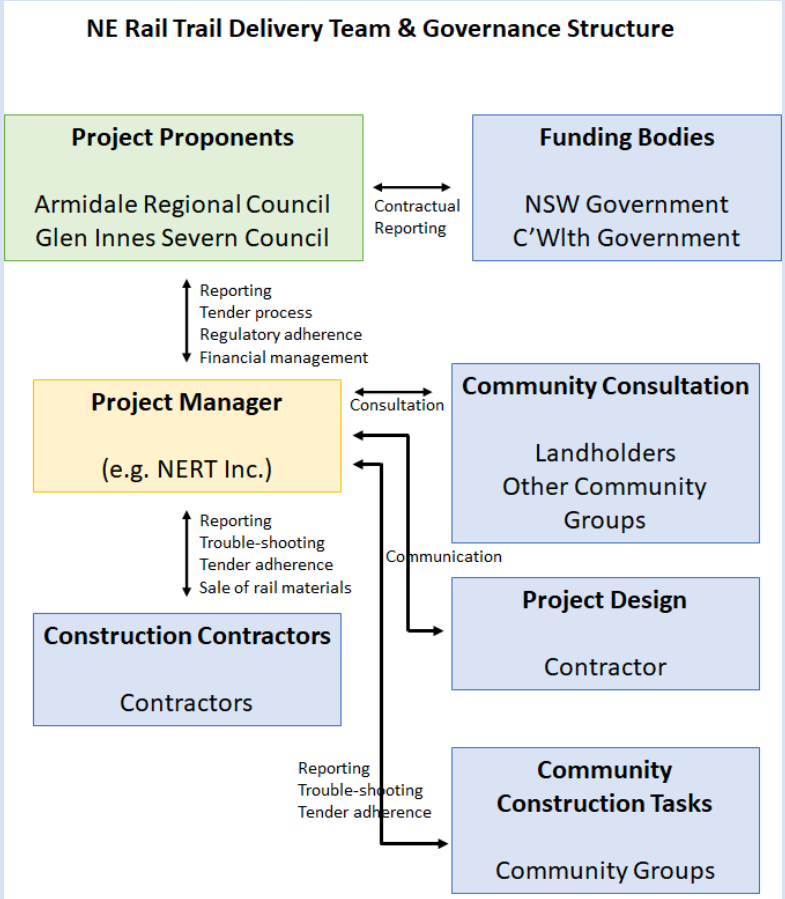
Governance Type	Features	Examples	Situations	Pros	Cons
Sole Agency Management (e.g. Local Council)	Exclusive management by one or more government agencies Ultimate responsibility lies with govt agency Visitor products and services may be provided by govt agency or by commercial operators User and volunteer groups may or may not assist with trail management	National Parks Walking Tracks (NSW) Overland Track (TAS) Mount Stromlo Forest Park (ACT Govt) All Great Walks in NZ	Trails mostly on public land Easements obtained where trails pass across private land Agreements with adjacent landowners to facilitate access and provision ofsupport services	Clear management roles Quick clear decision making is possible Operations budgets & staff available Expertise to protect recreational values Application of consistent service standards possible	Visitor experiences, tourism industry partnerships,marketing & promotion depend on agency performance Agency-wide priorities & budgets may impact negatively Ability to leverage community support & other investment may be limited Govt not eligible for some grant programs Different parts of the agency may not work together
Partnerships	Various options: 1. Committee of Management (NA NSW?) 2. MOU between parties, perhaps a mangt committee (NA - single land tenure) 3. Foundation, Trust or Incorporated Body to govern andassisting with management 4. Govt agency as primary manager drawing on volunteer assistance for maintenance	Armidale MTB Tracks (NSW) Bicentennial National Trail (Qld, NSW, VIC) Murray to Mountains Rail Trail (VIC) Surf Coast Walk (VIC) Otago Central Rail Trail (NZ) Queenstown Trails (NZ)	Trails with a mix of land tenures Partnerships required to access private land Where Govt agency funding constrained	Leverages a broader support base for funding & maintenance Defined roles and access to appropriate expertise Effective if strong clarity of direction amongst partners Eligibility for grant programs	Effectiveness depends on good partnership operation and access to resources Committees & Boards often perform poorly Different public & private cultures High reliance on volunteers or part-timers Lack of clarity of roles & responsibilities Need skills based, not representative based membership Decision making speed with multiple partners
Private	Landowner managament on private land, often as a tourism venture Licences may be needed to access adjoining public land	Bank Peninsula Track (NZ)	Private land Private land with links to public land	Clear decision making Quick response to the market Niche experiences Adds to local variety	Typically only cater for small visitor volumes Reliant on owner finances Vulnerable to economic conditions Can close at short notice

A private governance structure is not applicable because the rail trail will be on land owned by the State (i.e. Crown Land), not on private land.

Similarly, as the New England Rail Trail will be entirely on public land, rather than on a mix of land tenures, a partnership arrangement between public and private entities is less applicable. However, it is still desirable to have private entities (e.g. local tourism businesses, not for profit community entities) involved in rail trail governance to ensure both a focus on commercial/business performance, and input from local user groups.

The two councils involved have expressed a strong preference for the councils taking a leadership role in the governance structure, but with strong community representation. Given this situation, Figure 6 illustrates the proposed governance structure and interfaces between entities.

Figure 6. Proposed Project Governance



The role of the **Project Delivery Team** is to:

- Be responsible for the finalisation of the design, procurement, construction and delivery of the project objectives
- Understand the implications and outcomes of initiatives being pursued through the project;
- Appreciate the significance of the project for stakeholders and represent their interests;
- Be genuinely interested in the initiatives and the outcomes being pursued in the project;
- Be an advocate for the project's outcomes;
- Have an understanding of project management issues and the approach being adopted;
- Help balance conflicting priorities and resource;
- Be committed to and actively involved in pursuing the project's outcomes.

4.3 KEY RISKS

Table 4.2 Outlines the key project risks and mitigation strategies.

Table 4.2: Key proposal risks

Item	Risk/s	Likelihood	Consequence	Rating	Mitigation strategy	Residual risk	Responsibility
Financial							
Funding	Secure external funding	Moderate	Very high	High	Ensure funding submissions meet required guidelines & highlight the importance of the project to the community. Develop crowd funding campaign. Do not commit to the construction phase until access to the funding is secured.	Medium	NERT, Armidale Regional Council, Glen Innes Severn Council, RDANI
	Council funds available	Low	High	Low	Funds already set aside	Low	NERT, Armidale Regional Council, Glen Innes Severn Council
Costs	Tenders higher than estimated costs	Low	High	Medium	Detailed costing already obtained. In line with Council procurement process, reconsider project scope and/or seek Council approval for budget variation	Low	NERT, Armidale Regional Council, Glen Innes Severn Council
	Variations during construction	Moderate	High	High	15% contingency factored into costs. Ensure appropriate contracts in place to tenderer must account for variations	Low	NERT, Armidale Regional Council, Glen Innes Severn Council
	Lack of financial reporting/monitoring	Low	Low	Low	Monthly reports prepared in line with Council procedures, management group monitors	Low	Armidale Regional Council, Glen Innes Severn Council
Regulatory							
State Government Regulation	There remain key legislative obstacles to the development of rail trails in NSW. There is currently no clear legislative or administrative process to follow in NSW. There have been ongoing discussions within the State Government about the legislative and administrative process to facilitate the conversion of disused	Moderate	High	High	The NSW Government has committed $5 million funding to the proposed Tumbarumba Rosewood Rail Trail (part of the Wagga Wagga to Tumbarumba line) as a 'pilot' project – part of the pilot project will address the legislative barriers	Medium	NERT, Armidale Regional Council, Glen Innes Severn Council, NSW Government
Planning approvals	Delay in Council/NSW Govt approval	Moderate	Moderate	Medium	Ensure external contractor supplies appropriate documentation. Ensure preliminary meetings with appropriate Council staff to reduce unnecessary delays. Obtaining all necessary approvals, permits, designs, specifications and environmental assessments before commencing. NE Rail Trail Plan has already identified regulatory issues.	Low	NERT, Armidale Regional Council, Glen Innes Severn Council
Grant documentation	Approval & acquittal documentation not completed	Low	Low	Low	Ensure appropriate financial records kept, expenditure meets guidelines & all documents completed & checked prior to return	Low	Armidale Regional Council, Glen Innes Severn Council

Item	Risk/s	Likelihood	Consequence	Rating	Mitigation strategy	Residual risk	Responsibility
Procurement							
Detailed design & tender documentation	Delayed	Low	Moderate	Low	Preliminary design work already completed in NE Rail Trail Plan Council experiences in developing tender documents	Low	Armidale Regional Council, Glen Innes Severn Council
Successful tenderer	Delay in response or engagement	Moderate	High	High	Ensure documentation is accurate. Ensure queries responded to/information supplied in a timely manner. Follow Council procurement processes.	Low	NERT, Armidale Regional Council, Glen Innes Severn Council
Poor response to tender	Delayed	Low	High	Medium	Develop clear precise tender documentation, ensure sufficient reach in advertising, sufficient time to respond, target specific firms for feedback, re-write & re-advertise if needed	Low	NERT, Armidale Regional Council, Glen Innes Severn Council
Pre-Construction							
Approvals and consultation with landholders/community	As above and below	Moderate	High	High	Extensive consultation has already been conducted with landholders for the first stage (Black Mountain to Ben Lomond)	Medium	NERT, Armidale Regional Council, Glen Innes Severn Council

Item	Risk/s	Likelihood	Consequence	Rating	Mitigation strategy	Residual risk	Responsibility
Construction							
Project management	Appropriateness of Project Manager & team to deliver	Low	Low	Low	Well experienced Project Manager and team are involved, experienced contractor selected	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
	Staff coverage	Moderate	Moderate	Medium	Regular meetings of project team with contractor to ensure continuity, appropriate documentation kept to allow temporary team replacement at short notice	Low	Armidale Regional Council, Glen Innes Severn Council
Communication	Poor landholder/community communication	Low	Moderate	Low	Ongoing consultation with adjoining landowners to clarify/confirm need for, and precise location of, requested items	Very Low	NERT, Armidale Regional Council, Glen Innes Severn Council, Contractor
Safety	WHS incidents	Moderate	Moderate	Medium	Successful tenderer to have own risk management controls in place, sub-contractors are the tenderers responsibility	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
Flooding of the construction site.	Delays	Low	Moderate	Low	Within the construction contract make the contractor aware of the risk to the site of a major flood, and the contractor take the commercial risk.	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
Timeframe	Delays	High	High	High	Regular onsite meetings with successful contractor to ensure potential delays identified and addressed ASAP	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
Design changes	Site characteristics require design amendments	High	High	High	Regular onsite meetings with successful contractor to ensure potential delays identified and addressed ASAP	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
	Changes to design by Councils/community/landholders/NSW Govt post-start	Moderate	Moderate	Medium	Ensure tender design have been subject to sufficient rigor/assessment to meet all stakeholder requirements, ensure design changes do not ensure additional cost and still meet intended purpose	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
Construction materials	Unable to be sourced	Moderate	Moderate	Medium	Select tenderer with proven ability to source materials. Regular onsite meetings with successful contractor to ensure potential materials issues are identified ASAP.	Low	Contractors, Armidale Regional Council, Glen Innes Severn Council
Landholder/community cooperation/opposition	Unable to secure cooperation, opposition to the project from landholders along the route or community in general	Moderate	High	High	Ensure full landholder consultation and cooperation before commencing project (cost has been allowed for in budget). Local publicity and promote the benefits to community and the risk mitigation actions for private landholders. General issues usually raised by landholders are dealt with in the endorsed NSW Government position as laid out in the Strategic Risk Assessment – Biosecurity Risks Associated with Rail Trails. Public workshops facilitated by the NSW Government have already been conducted for this proposal	Low	NERT, Armidale Regional Council, Glen Innes Severn Council, NSW Government

4.4 LEGISLATIVE, REGULATORY ISSUES & APPROVALS

- An Act of the NSW Parliament will be required to close the rail corridor and transfer ownership from Transport NSW to Crown Lands. Crown Lands will then entrust maintenance of the corridor and responsibility for developing the rail trail to Armidale Regional and Glen Innes Severn Councils. A precedent for this process has already been set in NSW with the Tumbarumba to Rosewood Rail Trail, managed by Snowy Valley Council ;
- A Biosecurity Plan is required, however this already exists and is a generic plan developed by NSW Local Land Services (LLS) for Crown Lands. It can be amended for specific local conditions/issues, and a draft Biosecurity Plan for the Armidale-Glen Innes trail has already been written;
- Councils will be required to do an Environmental Impact Assessment involving LLS, EPA and Fisheries. Again, a precedent for this process has already been set with the Tumbarumba to Rosewood Rail Trail.

4.5 PROPOSED MANAGEMENT ACTIVITIES

4.5.1 RISK MANAGEMENT

Both councils are committed to an enterprise wide approach to risk management.

Enterprise risk management involves coordinated activities to direct and control the organisation with regard to risk. It is a systematic process that involves establishing the context of risk management, identifying risks, analysing risks, treating risks, periodically monitoring and communication and consultation.

Risk management explicitly addresses uncertainty, but it does not eliminate all risk. The application of risk management thinking, principles and practices aims to help Council deliver quality services, improve decision-making, set priorities for competing demands/resources, minimise the impact of adversity and loss, ensure regulatory compliance and support the achievement of objectives.

Internal Audit and Risk Committees are responsible for assisting the Councils with its oversight function, by providing independent assurance, advice and recommendations on matters relevant to risk management, control, governance and external accountability responsibilities.

The CEOs and Executives are responsible for leading the development of an enterprise risk management culture across the organisations and ensuring that the Enterprise Risk Management Policy and Enterprise Risk Strategy are being effectively implemented within their areas of responsibility.

Managers at all levels, are the risk owners and are required to create an environment where the management of risk is accepted as the personal responsibility of all workers, volunteers and contractors. Managers are accountable for the implementation and maintenance of sound risk management processes and structures within their area of responsibility in conformity with Council's enterprise risk management framework.

The Manager, People and Performance is responsible for coordinating the processes for the management of risk throughout the organisation. This may include the provision of advice and service assistance to all areas on enterprise risk management matters.

All workers are required to act at all times in a manner which does not place at risk the health and safety of themselves or any other person in the workplace. Workers are responsible and accountable for taking

practical steps to minimise Council's exposure to risks in so far as is reasonably practicable within their area of activity and responsibility.

Construction and implementation risks will be managed by a number of mechanisms including:

- Contracting a project manager to oversee all aspects of the process and regularly report back to the two councils;
- Consulting with every individual landholder along the route;
- Regular communication with the affected communities;
- Contingency and escalation allowances have been built into the budget.

4.5.2 ASSET MANAGEMENT & OPERATIONS

It is anticipated that once the rail corridor is closed, responsibility for maintenance will be handed over to the two councils (Armidale Regional and Glen Innes Severn Shire). In the NE Rail Trail Plan, annual maintenance costs for the entire 103km rail trail are estimated at approximately $95,000 per annum, based on data from Indigo Shire Council on maintenance costs for Victorian rail trails. Note this is significantly less than the $310,000 per annum estimated in the New England Rail Trail Plan, which is regarded as an over-estimate as the trail will be available for grazing right up to its 6m border due to new fencing arrangements. Also, it is anticipated community groups will assume responsibility for some maintenance further reducing costs.

Moreover, assuming the councils will resume ownership of the rail lines which have to be removed, they will be able to sell the sleepers and rail track steel to generate a maintenance fund. This has been the case for the Tumbarumba-Rosewood Rail Trail.

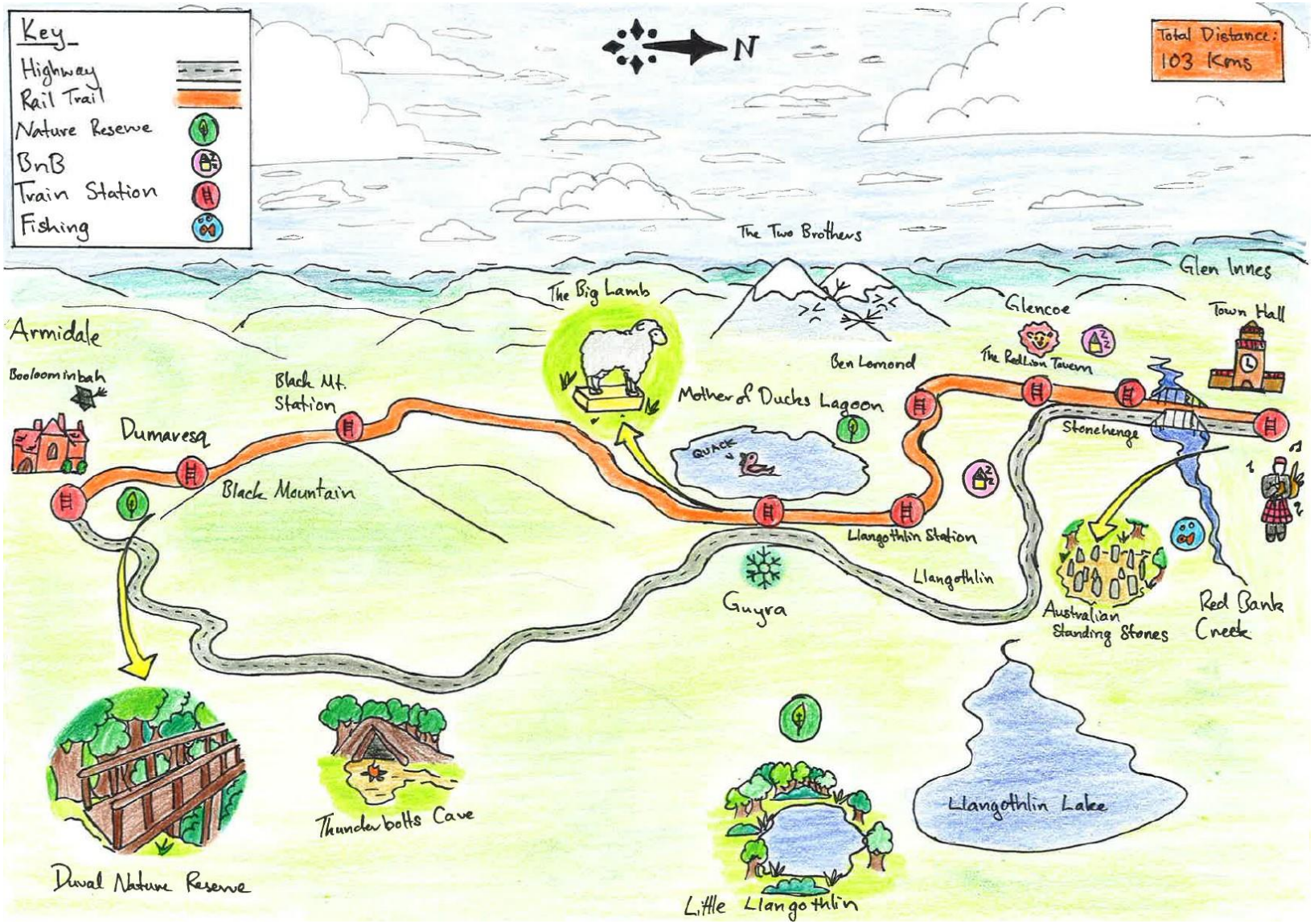
As outlined in Section 3.7 above, it is estimated that rail trail user donations will also contribute $70,000 annually to trail maintenance costs.

4.6 ATTACHMENTS

4.6.1 ATTACHMENT 1 – New England Rail Trail Plan (2018).

Provided as a separate document.

4.6.2 ATTACHMENT 2 – Proposal Scope



4.6.3 ATTACHMENT 3 – Cost Plan

Detailed costings are provided in Section 6 of the provided New England Rail Trail Plan.

A summary version of those costings is provided in Table 4.4

Table 4.4. Cost Plan

	Armidale to Guyra	Guyra to Glen Innes	
Track removal & Trail surface construction	3,667,747	5,773,065	
Bridge replacement	334,141	3,924,044	
Clearing	304,728	307,405	
Fencing & barriers	1,221,154	2,048,401	
Trail head works, comfort stops	332,873	169,402	
Culverts/drainage	483,866	305,791	
Road crossings	229,692	347,456	
Signage	128,600	205,682	
Rail artifact renovation	26,492	31,153	
Other	234,816	708,071	
Approvals, designs, applications	149,115	283,815	
Project management	282,328	550,465	
TOTAL	**7,395,552**	**14,654,750**	22,050,302
Includes 15% contingency for capital works			

4.6.4 ATTACHMENT 4 – Gantt Chart

		Preliminaries			Armidale to Guyra Construction					Guyra to Glen Innes Construction						
Stage	**Activity**	**Jan-Mar 21**	**Apr-Jun 21**	**Jul-Sept 21**	**Oct-Dec 21**	**Jan-Mar 22**	**Apr-Jun 22**	**Jul-Sept 22**	**Oct-Dec 22**	**Jan-Mar 23**	**Apr-Jun 23**	**Jul-Sept 23**	**Oct-Dec 23**	**Jan-Mar 24**	**Apr-Jun 24**	**Jul-Sept 24**	**Total Investment ($)**
	Complete business case																
Pre-project	Detailed works assessment of remaining sections																
	Complete biosecurity plan																
	Public consultation																
Consultation	Landholder consultation/agreements																**127,000**
	Agreement by the two councils																
	Request legislation to close rail corridor																
Approvals	Handover of corridor responsibility to councils																
	OEH consultation re native vegetation																
	Finalise deigns																
Tender process	Write tender documentation																
	Construction management plan																**357,930**
	Procure contractors																
	Surveying																**75,000**
	Trail marking																
Field-works	Tree marking																
Stage 1 Armidale	Removal of cross fences																**304,728**
to Guyra 44.4kms	Clearing vegetation																
& 5km Glen Innes pilot	Identify/relocate utilities if needed																
	Geotech/engineering investigation of drainage																
	Remove sleepers & track																
	Install new fencing and gates																
Construction	Drainage measures - culverts, bridges, cattle stops, erosion control, install drainage & barrier fencing																
Stage 1 Armidale	Trail surfacing																**6,520,881**
to Guyra 44.4kms	Install signage & renovate rail artefacts																
& 5km Glen Innes pilot	Install access gates, bollards, stock crossings, grids, road crossings etc																
	Install trailside furniture & trail heads																
	Landscaping/revegetation																
	Final cleanup																
	Surveying																**75,000**
	Trail marking																
Field-works	Tree marking																
Stage 2 Guyra	Removal of cross fences																**307,405**
to Glen Innes 58.6km	Clearing vegetation																
	Identify/relocate utilities if needed																
	Geotech/engineering investigation of drainage																
	Remove sleepers & track																
	Install new fencing and gates																
Construction	Drainage measures - culverts, bridges, cattle stops, erosion control, install drainage & barrier fencing																
Stage 2 Guyra	Trail surfacing																**13,449,565**
to Glen Innes 58.6km	Install signage & renovate rail artefacts																
	Install access gates, bollards, stock crossings, grids, road crossings etc																
	Install trailside furniture																
	Landscaping/revegetation																
	Final cleanup																
Project Mangt																	**832,793**
Total cost																	**22,050,302**

4.6.5 ATTACHMENT 5 – Evidence of Community Support

The following list illustrates the community support received for the project:

NEW ENGLAND RAIL TRAIL (NERT) : COMMUNITY SUPPORT FOR RAIL TRAIL PROJECT

Letters of support received and details.

Date of support letter / comms.	Organisation	Location	Signatory	No. members represented (assumptions in bold**)	Notes / any caveats for support etc.
10/07/2017	NE/NW NSW Business Chamber	Tamworth	Joe Townsend, Regional MGR	**New England - North West Ch**	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, to support business, towns & villages.
10/07/2017	Armidale Business Chamber	Armidale	Susan Cull, President	**30**	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
30/04/2017	NSW Farmers / Guyra Branch	Guyra	Bill O'Halloran, Secretary	**15**	In support conditional on 4 items including future use of corridor for rail if appropriate / cost / right of way / leaseholder interest / and biosecurity.
6/03/2014	Southern New England Landcare	Armidale	Sonia Williams CEO	**6**	Support in multiple areas. Weed and Pest control, environmental assessment etc
17/04/2014	Rotary Club of Guyra Inc	Guyra	Alan St Clair, President	**12**	Full in-principle support for NERT project Black Mountain - Ben Lomond.
1/05/2014	Guyra Shire Council	Guyra	Hans Hietbrink, Mayor	**5**	Full in-principle support (by supported resolution) for NERT project Black Mountain - Ben Lomond.
20/04/2014	Regional Development Australia - Northern Inland Committee	Armidale	Nathan Axelsson, Exec Officer	**8**	Full in-principle support for NERT project Black Mountain - Ben Lomond.
11/08/2014	Glen Innes Severn Tourist Association Inc	Glen Innes	Pat Lonergan, Chairman	**10**	Full in-principle support for NERT project Armidale - Wallangarra
2/10/2015	Glen Innes Severn Council - Office of the Mayor	Glen Innes	Colin Price, Mayor	**5**	Full in-principle support for NERT project Armidale - Wallangarra
18/03/2016	The Guyra & District Historical Society & Machinery Group Ltd	Guyra	Dell Healey	**10**	Leaseholder of Guyra Railway Precinct- Full in-principle support for NERT project Black Mountain - Ben Lomond, conditional on 2km access to rail around Guyra railway station and extra line to
4/14/14	Black Mountain Preservation Society Inc.	Black Mountain	Ian Reeve -President	20	Leaseholder of Black Mountain Railway Precinct. Full support
31/07/2014	Ben Lomond Public School	Ben Lomond	Denise Smoother, Principal	1	Full in-principle support for NERT project Black Mountain - Ben Lomond.
5/14/14	Ben Lomond Landcare Group	Ben Lomond	Graham Willis Chairperson	6	Full in-principle support for NERT project Black Mountain - Ben Lomond.
11/03/2015	NSW Dept Trade & Investment - Office of Regional Development	Sydney	Chris Hanger, Director	1	Full NSW Government in-principle support for rail trail development, including along the corridor Armidale - Guyra, where local communities are supportive.
28/07/2014	Armidale Regional Airport Users Group (ARAUG)	Armidale	Don Tydd, Chair	29	Full in-principle support for NERT project Black Mountain - Ben Lomond on the basis of growing local and regional tourism.
28/10/2016	Armidale Regional Council	Armidale	Dr Ian Tiley, Administrator	TBA	Full in-principle support, by resolution dates 26/10/16, for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Wayne Purvis, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Kristy Hammond, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Rodney Ramage, Ramage Engineering. Support providing corridor remains available for future rail if required.	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project; as long as stations and adjoining lines are maintained.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Doug Ellis, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Joanne Presnell, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.

24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Mark Thompson, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Janelle Gaukroger, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	William Annetts, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Christian O'Brien, South Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Deidre and Ernie Scott, Guyra residents, **neighbour to rail corridor**	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Dale Ellis, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Donne Kennedy, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Paul Carton, Guyra resident, **neighbour to rail corridor, old gate house in B/Mountain**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Eric and Helen Turnham, Guyra residents, **rural property neighbour to rail corridor**	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Will Newberry, Guyra resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	William James Munsdie, **Black Mountain rural resident, leasee on rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Simon George Croft, Guyra Rural resident, **leasee on rail corridor**	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Peter and Dominique Jackson, **Llangothlin rural residents, leasee of rail corridor**	2	**Corridor Grazier**: Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Sarah Harding and Phillip Williams, **corridor graziers - Ben Lomond station to Llangothlin corridor - biggest section**	2	**Corridor Graziers: Ben Lomond station to Llangothlin corridor**: Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Lisa Kennedy, Llangothlin resident, **neighbour to rail corridor**	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Sarah Jones, Llangothlin resident, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Rachael and Matthew Bull, Llangothlin resident, **neighbour to rail corridor**	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Mandy Brazier, Llangothlin resident, **neighbour to rail corridor**	4	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Sarah Creedy, Lane Cove resident and owner, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Mrs Meg Kane, **Ben Lomond Rural resident, neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Hamish Pearce, **Llangothlin resident, neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Russell Roberts, **Llangothlin rural resident, neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Charmaine Burke, **Llangothlin rural resident, neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
24/04/2016	via Guyra and District Chamber of Commerce	Guyra	Ainslie Lund, **Ben Lomond rural resident, neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project.
6/03/2014	Paul Carton	Black Mountain	Second supportive letter, **neighbour to rail corridor**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.

6/03/2014	Black Mountain Roadhouse	Black Mountain	Annette Schieler, business owner.	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Boutique Beauty	Guyra	Philippa Ryan	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Presbyterian Church	Guyra	Morwell Mandela, Supply Minister	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Westview Partnership	Black Mountain	William Munsie	1	**Corridor Grazier: Black Mountain to 3.5km north** :Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	SJ & LJ Burey Building Contractors	Guyra	Luke Burey	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Guyra District Veterinary Services	Guyra	Lesa Brown	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Philip Waters Building Services	Guyra	Philip Waters	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Drews Seafood	Guyra	Drew	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Woods Contracting P/L	Guyra	J Wood	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	The Guyra Hotel	Guyra	Mr. Ian Cook	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	The Travelling Cappuccinos	Armidale	Mark A Werts	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Betts Mowing	Guyra	J E Betts	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Highland Pet Food	Guyra	Nick Jackson	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Paul Kirk Masonry	Guyra	Paul Kirk	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	TK's Welding	Guyra	Troy	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	JM & G George Inv Pty Ltd	Guyra	JM & G George	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Sue Ross Real Estate	Guyra	Susan E Ross	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Guyra Smash Repairs	Guyra	John McDiarmond	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Deano's Springwater Smoked Trout	Black Mountain	Dean Williams	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Shiralee Motel	Guyra	Mr and Mrs Cox	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Hairy Tales Comb True	Guyra	Edna Mendes	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	JoJos on Bradley (café)	Guyra	C Mendes	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Royal Hotel	Guyra	Kylie Sutton	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Guyra Scissors and Combs	Guyra	L Oehlers	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
6/03/2014	Kirks IGA Guyra	Guyra	Michael Kirk	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.

6/03/2014	Dragon Fly Plumbing	Guyra	Martin Inglis	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required. **Except: no dogs**
6/03/2014	Hoffman Electrical	Guyra	Mr Adam Hoffman	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Jobs Australia	Guyra	Nigel Barlow, CEO	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	**Guyra Local Aboriginal Land Council**	Guyra	Joseph Ho, CEO	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Highland Florist	Guyra	K Lloyd, owner / manager	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Apple Tree Garden	Guyra	Jenni Lloyd-Ward, new owner Kelli Lockyer - High Country Wholefoods	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Guyra Compounding Pharmacy	Guyra	Mina Elias, Pharmacist	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Black Mountain Nursery	Black Mountain	Pam Youman	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Multi Motors Guyra	Guyra	**Jamie and Janette Williamson**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Guyra Emporium	Guyra	**Beth Archibald**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Guyra Fourways Service Centre	Guyra	Tracy Reeves	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Guyra Exhausts and Tyres	Guyra	**Roy Jones**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	RJ & KA Hammond, Plumbing and Gas Suplies	Guyra	R Hammond	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Fox Legal	Guyra and Armidale	Anthony Fox	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Sole Taxation, Chartered Accountant	Guyra	Chris Sole	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	KW Physiotherapy	Guyra	**Karan Wildman, Physiotherapist**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Guyra Bowling and recreation Club	Guyra	Betty-ann Bourke	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Grazag	Guyra	Julian Percy	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Whites Butchery	Guyra	MP White	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Black Sheep Wool 'n Wares	Guyra	**Mrs Margaret Swerdlow**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Terry's Menswear	Guyra	**Mrs Pat Darby**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015		Guyra	Mrs G Montague	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Guyra Newsagency	Guyra	**Evan and Annette Sole**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	"Yoolimba"	Ben Lomond	Melinda and Robert Atkin	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Elders Guyra	Guyra	Roger Saunders, Branch Manager	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.

4/03/2015	Elders Guyra	Guyra	James Lyon	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	"Canoona"	Guyra	George Vickery, Landholder	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	"Canoona"	Guyra	Dorothy Vickery, Landholder	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Robert Gordon	Guyra	**Robert Gordon**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	P & D Jackson	Llangothlin	P Jackson	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Dick Burey Country Kitchens + Guyra Glass and Aluminium	Guyra	Richard Burey	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
4/03/2015	Dick Burey Country Kitchens + Guyra Glass and Aluminium	Guyra	Debbie Burey, partner	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	New England Community College	Guyra	Dorothy Lockyer, Manager	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	**CT Electrics**	Guyra	**Ann and Geoff Thrift**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Blue Bells Guyra	Guyra	**Kerry Gitteos and proprietor of Guyra Post Office**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Burgess Garage	Guyra	Greg Burgess	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Guyra Country Butchers	Guyra	Michael Garniss	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Rafters of Guyra	Guyra	Peter and Narelle Malcolm	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Guyra Motor Inn	Guyra	**Ron and Brenda Small, owners**	2	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	High on Bikes	Guyra	David Mills	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Landmark	Guyra	Josh Lawlor, Branch Manager	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Kanes Contracting	Guyra	Geoffrey Kane	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Guyra Summit Caravan Park	Guyra	Rebecca White	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Mick's Mechanical	Guyra	Michael Vanderwolf	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Dasha's Hardware and Building Supplies	Guyra	**Darren Lennan**	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required. **Not to affect landholders.**
27/02/2015	M & J Moffatt Groundspreading	Guyra	Mal Moffat	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
27/02/2015	Top of the Range Roadhouse	Guyra	J Reeves	1	Full in-principle support for NERT project Black Mountain - Ben Lomond, and for the closure of the rail corridor to establish the rail trail project, conditional on continuing government ownership of rail corridor to return to rail use if required.
TOTALS:	120 LETTERS OF SUPPORT			**247**	

The following text is from a flyer used to inform the local community about the project:

5. What is a Rail Trail and what does it look like?

6. With the current debate on establishing a rail trail on the rail corridor between Black Mountain and Ben Lomond [about 38kms in length] it is timely that we should better understand what is a rail trail.

1. What is a rail trail and who uses them?

- A rail trail is a trail located along a former railway line. The track or trail will be a gentle grade as it follows the train line and has the added benefit of the trail passing through historical localities, countryside and villages.
- The trail should be suitable for walkers, mountain bikes, hybrid bikes, prams, children's scooters and wheel chairs. It should allow for two way passage. No horses or motor bikes would be allowed on the trail due to biosecurity, risk and maintenance concerns.
- Rail trails are used by everyday people, such as, locals including children, tourists, families, retirees and community groups.

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2. Legislation and Governmental issues

- With the passing of an act by both Houses of State Parliament to close the rail corridor, the land reverts to Crown Land and is managed by the relevant local government, in this case the Armidale Regional Council (ARC). This land, or part thereof, cannot be sold in future without legislation again passing successfully through both Houses of the State Parliament. Travellers on the trail would be covered by insurance through Armidale Regional Council through their usual third party property insurance cover. This is the cover for all other ARC managed areas.
- Should a future Government need to reinstate the rail corridor for rail use, legislation would again need to be passed through both Houses of State Parliament. The rail trail would then be closed.
- It is anticipated that the funding to build the trail would come from the State Government. The ARC would undertake a form of ownership, trail upkeep and maintenance.

3. Appearance

- The rail trail should be approximately three metres wide and, subject to the final design, would be enclosed with fencing on either side of the trail pavement. It would be sign-posted with locations, distances and historical points of interest.
- The general practice throughout the world is that the rails and sleepers are removed, the ground compacted and then gravel or bitumen applied. Light gravel is usually the preferred surface. The rails and sleepers can either be sold to offset building costs or if suitable stored for possible future use.
- Trackside signs with distances as well as trail rules and conduct would be located at rail stations and other access points. Advertising of local businesses would also be considered.

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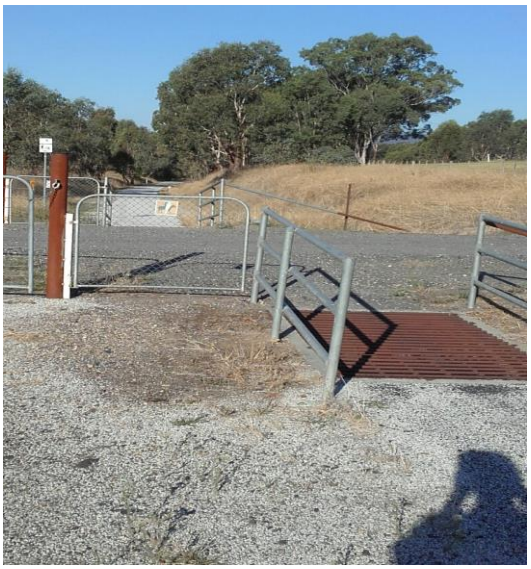
11. 

4. Graziers'access

- Current graziers' access rights would be maintained outside the fenced off area of the trail. Removal of noxious weeds in the grazed areas will remain the responsibility of graziers, as is the current practice.
- The management of the trail would need to include control of noxious weeds on the actual trail.
- Stock corridors at appropriate sites would allow stock to be moved from one side of the trail to the other, with stock grids on the entrances to the trail to exclude stock from the actual trail. Automatically closing gates would allow walkers to cross the open area. There would be signs advising trail users to remain on the trail at these points and not to trespass on grazing land.
- Trail access across high level bridges would possibly require more solid fencing. If the bridge is unsuitable, the trail would continue alongside the bridge.
- The usual pedestrian safety features would be established at road crossings. Stock grids and gates would be built where required.

12.

13. 

5. Benefits for the community

- The Guyra Rail Station and environs would retain track for the continued unchanged running of the popular trike activities.
- Seating and rest areas will be provided at appropriate distances, as well as ambulance access points to road-ways.
- The trail is a car-free facility for riders and families to walk, cycle and exercise in safety.
- It is also a place for tourists to come and experience the area away from their cars.
- We would see a significant flow of cashed up tourists intent on experiencing the New England cool climate rail trail. They would be encouraged to stay overnight and to enjoy a meal etc., as well as other attractions. Experience shows that in Victoria and overseas new businesses flourish and this leads to increased knowledge of the area and thereby encourages further permanent residents. Increased patronage also leads to increased property values and a wider range of more successful main street facilities.

4.6.6 ATTACHMENT 6 – Project Cash Flow

	Jul-Sept 21	Oct-Dec 21	Jan-Mar 22	Apr-Jun 22	Jul-Sept 22	Oct-Dec 22	Jan-Mar 23	Apr-Jun 23	Jul-Sept 23	Oct-Dec 23	Jan-Mar 24	Apr-Jun 24	Jul-Sept 24	Oct-Dec 24	Jan-Mar 25
Income															
Australian Government		$ 5,512,576					$ 5,512,576								
NSW Government		$ 5,512,576					$ 5,512,576								
Sales of rail steel & sleepers															
TOTAL INCOME	**$ -**	**$11,025,151**	**$ -**	**$ -**	**$ -**	**$ -**	**$11,025,151**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
Expenditure															
Pre-project															
Consultation			$ 127,000												
Approvals															
Tender process				$ 357,930											
Field-works, Stage 1 Armidale to Guyra 44.4kms & 5km Glen Innes pilot						$ 379,728									
Construction, Stage 1 Armidale to Guyra 44.4kms & 5km Glen Innes pilot							$ 3,260,441		$ 3,260,441						
Field-works, Stage 2 Guyra to Glen Innes 58.6kms										$ 382,405					
Construction, Stage 2 Guyra to Glen Innes 58.6kms											$ 6,724,783		$ 6,724,783		
Project Mangt					$ 166,559		$ 166,559		$ 166,559		$ 166,559		$ 166,559		
Maintanance of rail trail													$ 18,216	$ 18,216	$ 18,216
TOTAL EXPENSES	**$ -**	**$ -**	**$ 127,000**	**$ 357,930**	**$ 166,559**	**$ 379,728**	**$ 3,426,999**	**$ -**	**$ 3,426,999**	**$ 382,405**	**$ 6,891,341**	**$ -**	**$ 6,891,341**	**$ -**	**$ -**
Net Cash Flow	$ -	$11,025,151	-$ 127,000	-$ 357,930	-$ 166,559	-$ 379,728	$ 7,598,152	$ -	-$ 3,426,999	-$ 382,405	-$ 6,891,341	$ -	-$ 6,891,341	$ -	$ -
Cumulative Cash Flow	$ -	$11,025,151	$10,898,151	$ 10,540,221	$ 10,373,662	$ 9,993,935	$ 17,592,087	$17,592,087	$14,165,087	$13,782,683	$ 6,891,341	$ 6,891,341	$ -	$ -	$ -

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1. Securities Held By Trading Book Maturing Post 31 October 2020

Latest Deal Code	Latest Deal Settlement Date	Issuer	ISIN	WAL / Interim Maturity Date	Next Coupon Date	Coupon Rate/Latest Yield	Coupon Frequency	Security Type	Security Rating	Face Value Notional	Current Face Value Notional	Market Value
Armidale Regional Council												
LC92241	3 Mar 2020	Macquarie Bank		4 Nov 2020	4 Nov 2020	1.60	Maturity	TD	Moodys ST P-1	2,000,000.00	2,000,000.00	2,021,216.44
LC92242	12 Mar 2020	Macquarie Bank		11 Nov 2020	11 Nov 2020	1.70	Maturity	TD	Moodys ST P-1	2,000,000.00	2,000,000.00	2,021,704.10
LC92234	13 Feb 2020	National Australia Bank Ltd		11 Nov 2020	11 Nov 2020	1.48	Maturity	TD	S&P ST A1+	2,000,000.00	2,000,000.00	2,021,166.02
LC92235	19 Feb 2020	AMP Bank Ltd		18 Nov 2020	18 Nov 2020	1.70	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,011,876.71
LC92245	27 May 2020	AMP Bank Ltd		25 Nov 2020	25 Nov 2020	1.65	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,007,097.26
LC92228	23 Dec 2019	ING Bank Australia Limited		16 Dec 2020	16 Dec 2020	1.60	Maturity	TD	S&P ST A1	2,000,000.00	2,000,000.00	2,027,441.10
LC92229	15 Jan 2020	ING Bank Australia Limited		14 Jan 2021	14 Jan 2021	1.65	Maturity	TD	S&P ST A1	1,000,000.00	1,000,000.00	1,013,109.59
LC92238	25 Feb 2020	Defence Bank Ltd		20 Jan 2021	20 Jan 2021	1.65	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,011,256.16
LC92231	5 Feb 2020	AMP Bank Ltd		3 Feb 2021	3 Feb 2021	1.70	Maturity	TD	S&P ST A2	2,000,000.00	2,000,000.00	2,025,057.54
LC92237	19 Feb 2020	AMP Bank Ltd		17 Feb 2021	17 Feb 2021	1.70	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,011,876.71
LC92239	25 Feb 2020	ING Bank Australia Limited		24 Feb 2021	24 Feb 2021	1.60	Maturity	TD	S&P ST A1	1,000,000.00	1,000,000.00	1,010,915.07
LC92240	25 Feb 2020	ING Bank Australia Limited		24 Mar 2021	24 Mar 2021	1.60	Maturity	TD	S&P A	2,000,000.00	2,000,000.00	2,021,830.14
LC92243	6 May 2020	Macquarie Bank		5 May 2021	5 May 2021	1.30	Maturity	TD	Moodys ST P-1	1,000,000.00	1,000,000.00	1,006,339.73
LC92244	20 May 2020	Macquarie Bank		20 May 2021	20 May 2021	1.25	Maturity	TD	Moodys ST P-1	1,000,000.00	1,000,000.00	1,005,616.44
LC92246	8 Jul 2020	AMP Bank Ltd		8 Jul 2021	8 Jul 2021	1.20	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,003,780.82
LC92247	23 Jul 2020	National Australia Bank Ltd		23 Jul 2021	23 Jul 2021	0.90	Maturity	TD	S&P ST A1+	10,000,000.00	10,000,000.00	10,024,657.50
LC92248	29 Jul 2020	Bank of Queensland Ltd		28 Jul 2021	28 Jul 2021	0.90	Maturity	TD	Moodys ST P-2	5,000,000.00	5,000,000.00	5,011,589.05
LC93375	12 Aug 2020	Bank of Queensland Ltd		11 Aug 2021	11 Aug 2021	0.85	Maturity	TD	Moodys ST P-2	5,000,000.00	5,000,000.00	5,009,315.05
LC93376	20 Aug 2020	AMP Bank Ltd		20 Aug 2021	20 Aug 2021	0.80	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,001,578.08
LC95212	23 Sep 2020	Community Mutual Ltd t/as Regional Australia Bank		23 Sep 2021	23 Sep 2021	0.70	Maturity	TD	Unrated ST UR	1,000,000.00	1,000,000.00	1,000,728.77
LC96695	13 Oct 2020	Bendigo & Adelaide Bank Ltd		13 Oct 2021	13 Oct 2021	0.60	Maturity	TD	Moodys ST P-2	5,000,000.00	5,000,000.00	5,001,479.45
LC96611	28 Oct 2020	AMP Bank Ltd		27 Oct 2021	27 Oct 2021	0.60	Maturity	TD	S&P ST A2	1,000,000.00	1,000,000.00	1,000,049.32
										49,000,000.00	49,000,000.00	49,269,681.05
Total										49,000,000.00	49,000,000.00	49,269,681.05

Coupon Rate is the full coupon rate at the next coupon date if that next coupon exists.

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2. Interest and Distribution Income Received For 1 October 2020 to 31 October 2020

Security ISIN	Security	Issuer	Income Expense Code	Settlement Date	Face Value (Basis of Interest Calculation)	Consideration Notional	Income Type	Trading Book
	NAB 1.48 14 Oct 2020 245DAY TD	National Australia Bank Ltd	IEI128215	14 Oct 2020	1,000,000.00	**9,934.25**	Security Coupon Interest	Armidale Regional Council
	AMP 1.7 28 Oct 2020 273DAY TD	AMP Bank Ltd	IEI128210	28 Oct 2020	1,000,000.00	**12,715.07**	Security Coupon Interest	Armidale Regional Council
	NSWTC IM Short Term Income Fund UT	NSW Treasury Corporation	IEI137928	31 Oct 2020		**4,072.49**	Distribution Received	Armidale Regional Council
						26,721.81		

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3. Acquisitions, Disposals and Maturities Between 1 October 2020 and 31 October 2020

Security	Issuer	Security ISIN	Deal Code	Acquisition/ Disposal	Transaction Date	Settlement Date	Face Value Original	Face Value Current	Bond Factor	Capital Price	Accrued Interest Price	Gross Price	**Consideration Notional**
BENAU 0.6 13 Oct 2021 365DAY TD	Bendigo & Adelaide Bank Ltd		LC96695	Acquisition	13 Oct 2020	13 Oct 2020	5,000,000.00	5,000,000.00	1.00000000	100.000	0.000	100.000	**5,000,000.00**
NAB 1.48 14 Oct 2020 245DAY TD	National Australia Bank Ltd		LC92233	Maturity	14 Oct 2020		1,000,000.00	1,000,000.00	1.00000000	100.000	0.000	100.000	**(1,000,000.00)**
NSWTC IM Short Term Income Fund UT	NSW Treasury Corporation		UDA13275	Acquisition	20 Oct 2020	20 Oct 2020	5,000,000.00	5,000,000.00				0.993	**5,000,000.00**
AMP 1.7 28 Oct 2020 273DAY TD	AMP Bank Ltd		LC92230	Maturity	28 Oct 2020		1,000,000.00	1,000,000.00	1.00000000	100.000	0.000	100.000	**(1,000,000.00)**
AMP 0.6 27 Oct 2021 364DAY TD	AMP Bank Ltd		LC96611	Acquisition	28 Oct 2020	28 Oct 2020	1,000,000.00	1,000,000.00	1.00000000	100.000	0.000	100.000	**1,000,000.00**
NSWTC IM Short Term Income Fund UT	NSW Treasury Corporation		UDA13276	Acquisition	31 Oct 2020	31 Oct 2020	4,072.49	4,072.49				0.993	**4,072.49**
													9,004,072.49

Notes
1. The maturity of 'MBS' type securities are excluded from the above list
2. At maturitiy, securities are assumed to be priced at capital price = 100, accrued interest = 0
3. To avoid misleadnig maturity data, the reporting period should start immeiately after a month end and the reporting period should be kept small (e.g. 1 month).

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4. Interest Income Accrued As At 31 October 2020

Latest Deal Code	Security	WAL / Interim Maturity Date	Issue Date	Prior Coupon Date	Next Coupon Date	Accrual Period (Days)	Coupon Rate	Franking Credit Rate	Coupon Frequency	**Face Value Notional**	**Current Face Value Notional**	Latest Purchase Consideration	Market Value	Accrued Interest
LC92241	MACQ 1.6 04 Nov 2020 246DAY TD	4 Nov 2020	3 Mar 2020		4 Nov 2020	242	1.6000		Maturity	**2,000,000.00**	**2,000,000.00**	2,000,000.00	2,021,216.44	21,216.44
LC92242	MACQ 1.7 11 Nov 2020 244DAY TD	11 Nov 2020	12 Mar 2020		11 Nov 2020	233	1.7000		Maturity	**2,000,000.00**	**2,000,000.00**	2,000,000.00	2,021,704.10	21,704.11
LC92234	NAB 1.48 11 Nov 2020 272DAY TD	11 Nov 2020	13 Feb 2020		11 Nov 2020	261	1.4800		Maturity	**2,000,000.00**	**2,000,000.00**	2,000,000.00	2,021,166.02	21,166.03
LC92235	AMP 1.7 18 Nov 2020 273DAY TD	18 Nov 2020	19 Feb 2020		18 Nov 2020	255	1.7000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,011,876.71	11,876.71
LC92245	AMP 1.65 25 Nov 2020 182DAY TD	25 Nov 2020	27 May 2020		25 Nov 2020	157	1.6500		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,007,097.26	7,097.26
LC92228	ING 1.6 16 Dec 2020 359DAY TD	16 Dec 2020	23 Dec 2019		16 Dec 2020	313	1.6000		Maturity	**2,000,000.00**	**2,000,000.00**	2,000,000.00	2,027,441.10	27,441.10
LC92229	ING 1.65 14 Jan 2021 365DAY TD	14 Jan 2021	15 Jan 2020		14 Jan 2021	290	1.6500		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,013,109.59	13,109.59
LC92238	DFB 1.65 20 Jan 2021 330DAY TD	20 Jan 2021	25 Feb 2020		20 Jan 2021	249	1.6500		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,011,256.16	11,256.16
LC92231	AMP 1.7 03 Feb 2021 364DAY TD	3 Feb 2021	5 Feb 2020		3 Feb 2021	269	1.7000		Maturity	**2,000,000.00**	**2,000,000.00**	2,000,000.00	2,025,057.54	25,057.53
LC92237	AMP 1.7 17 Feb 2021 364DAY TD	17 Feb 2021	19 Feb 2020		17 Feb 2021	255	1.7000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,011,876.71	11,876.71
LC92239	ING 1.6 24 Feb 2021 365DAY TD	24 Feb 2021	25 Feb 2020		24 Feb 2021	249	1.6000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,010,915.07	10,915.07
LC92240	ING 1.6 24 Mar 2021 393DAY TD	24 Mar 2021	25 Feb 2020		24 Mar 2021	249	1.6000		Maturity	**2,000,000.00**	**2,000,000.00**	2,000,000.00	2,021,830.14	21,830.14
LC92243	MACQ 1.3 05 May 2021 364DAY TD	5 May 2021	6 May 2020		5 May 2021	178	1.3000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,006,339.73	6,339.73
LC92244	MACQ 1.25 20 May 2021 365DAY TD	20 May 2021	20 May 2020		20 May 2021	164	1.2500		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,005,616.44	5,616.44
LC92246	AMP 1.2 08 Jul 2021 365DAY TD	8 Jul 2021	8 Jul 2020		8 Jul 2021	115	1.2000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,003,780.82	3,780.82
LC92247	NAB 0.9 23 Jul 2021 365DAY TD	23 Jul 2021	23 Jul 2020		23 Jul 2021	100	0.9000		Maturity	**10,000,000.00**	**10,000,000.00**	10,000,000.00	10,024,657.50	24,657.53
LC92248	BOQ 0.9 28 Jul 2021 364DAY TD	28 Jul 2021	29 Jul 2020		28 Jul 2021	94	0.9000		Maturity	**5,000,000.00**	**5,000,000.00**	5,000,000.00	5,011,589.05	11,589.04
LC93375	BOQ 0.85 11 Aug 2021 364DAY TD	11 Aug 2021	12 Aug 2020		11 Aug 2021	80	0.8500		Maturity	**5,000,000.00**	**5,000,000.00**	5,000,000.00	5,009,315.05	9,315.07
LC93376	AMP 0.8 20 Aug 2021 365DAY TD	20 Aug 2021	20 Aug 2020		20 Aug 2021	72	0.8000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,001,578.08	1,578.08
LC95212	RAB 0.7 23 Sep 2021 365DAY TD	23 Sep 2021	23 Sep 2020		23 Sep 2021	38	0.7000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,000,728.77	728.77
LC96695	BENAU 0.6 13 Oct 2021 365DAY TD	13 Oct 2021	13 Oct 2020		13 Oct 2021	18	0.6000		Maturity	**5,000,000.00**	**5,000,000.00**	5,000,000.00	5,001,479.45	1,479.45
LC96611	AMP 0.6 27 Oct 2021 364DAY TD	27 Oct 2021	28 Oct 2020		27 Oct 2021	3	0.6000		Maturity	**1,000,000.00**	**1,000,000.00**	1,000,000.00	1,000,049.32	49.32
										49,000,000.00	**49,000,000.00**		49,269,681.05	269,681.10

Coupon Rate is the full coupon rate at the next coupon date if that next coupon exists. Accrued Interest is calculated as Current Face Value x Coupon Rate (Adjusted by Franking Credit Rate) x (Days Since Prior Coupon or Issue Date / 365). The accrued interest component of the Market Value does not consider the franking credit rate and is instead based upon market prices.

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5. Portfolio Valuation As At 31 October 2020

	Security	Security Rating	ISIN	Face Value Original	Face Value Current	FI Cap Price/ Unit Price/ Share Price	Unit Count/ Share Count	Accrued Interest Price	**Market Value**	% Total Value	Running Yield	Weighted Running Yield
Term Deposit												
	AMP 1.7 18 Nov 2020 273DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		1.188	**1,011,876.71**	1.70%	1.70%	
	AMP 1.65 25 Nov 2020 182DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		0.710	**1,007,097.26**	1.69%	1.65%	
	AMP 1.7 03 Feb 2021 364DAY TD	S&P ST A2		2,000,000.00	2,000,000.00	100.000		1.253	**2,025,057.54**	3.40%	1.70%	
	AMP 1.7 17 Feb 2021 364DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		1.188	**1,011,876.71**	1.70%	1.70%	
	AMP 1.2 08 Jul 2021 365DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		0.378	**1,003,780.82**	1.68%	1.20%	
	AMP 0.8 20 Aug 2021 365DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		0.158	**1,001,578.08**	1.68%	0.80%	
	AMP 0.6 27 Oct 2021 364DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		0.005	**1,000,049.32**	1.68%	0.60%	
	BOQ 0.9 28 Jul 2021 364DAY TD	Moodys ST P-2		5,000,000.00	5,000,000.00	100.000		0.232	**5,011,589.05**	8.41%	0.90%	
	BOQ 0.85 11 Aug 2021 364DAY TD	Moodys ST P-2		5,000,000.00	5,000,000.00	100.000		0.186	**5,009,315.05**	8.41%	0.85%	
	BENAU 0.6 13 Oct 2021 365DAY TD	Moodys ST P-2		5,000,000.00	5,000,000.00	100.000		0.030	**5,001,479.45**	8.40%	0.60%	
	RAB 0.7 23 Sep 2021 365DAY TD	Unrated ST UR		1,000,000.00	1,000,000.00	100.000		0.073	**1,000,728.77**	1.68%	0.70%	
	DFB 1.65 20 Jan 2021 330DAY TD	S&P ST A2		1,000,000.00	1,000,000.00	100.000		1.126	**1,011,256.16**	1.70%	1.65%	
	ING 1.6 16 Dec 2020 359DAY TD	S&P ST A1		2,000,000.00	2,000,000.00	100.000		1.372	**2,027,441.10**	3.40%	1.60%	
	ING 1.65 14 Jan 2021 365DAY TD	S&P ST A1		1,000,000.00	1,000,000.00	100.000		1.311	**1,013,109.59**	1.70%	1.65%	
	ING 1.6 24 Feb 2021 365DAY TD	S&P ST A1		1,000,000.00	1,000,000.00	100.000		1.092	**1,010,915.07**	1.70%	1.60%	
	ING 1.6 24 Mar 2021 393DAY TD	S&P ST A1		2,000,000.00	2,000,000.00	100.000		1.092	**2,021,830.14**	3.39%	1.60%	
	MACQ 1.6 04 Nov 2020 246DAY TD	Moodys ST P-1		2,000,000.00	2,000,000.00	100.000		1.061	**2,021,216.44**	3.39%	1.60%	
	MACQ 1.7 11 Nov 2020 244DAY TD	Moodys ST P-1		2,000,000.00	2,000,000.00	100.000		1.085	**2,021,704.10**	3.39%	1.70%	
	MACQ 1.3 05 May 2021 364DAY TD	Moodys ST P-1		1,000,000.00	1,000,000.00	100.000		0.634	**1,006,339.73**	1.69%	1.30%	
	MACQ 1.25 20 May 2021 365DAY TD	Moodys ST P-1		1,000,000.00	1,000,000.00	100.000		0.562	**1,005,616.44**	1.69%	1.25%	
	NAB 1.48 11 Nov 2020 272DAY TD	S&P ST A1+		2,000,000.00	2,000,000.00	100.000		1.058	**2,021,166.02**	3.39%	1.48%	
	NAB 0.9 23 Jul 2021 365DAY TD	S&P ST A1+		10,000,000.00	10,000,000.00	100.000		0.247	**10,024,657.50**	16.83%	0.90%	
				49,000,000.00	49,000,000.00				**49,269,681.05**	82.71%		1.14%
Unit Trust												
	NSWTC IM Cash Fund UT	S&P AAA				0.934	5,676,496.190		**5,303,550.39**	8.90%		
	NSWTC IM Short Term Income Fund UT	S&P AAA				0.992	5,041,377.350		**4,999,533.92**	8.39%		
									10,303,084.31	17.29%		
Total Portfolio				49,000,000.00	49,000,000.00				**59,572,765.36**	100.00%		1.14%

ARMIDALE Regional Council

Investment Report Pack
Armidale Regional Council
1 October 2020 to 31 October 2020

6. Portfolio Valuation By Categories As At 31 October 2020

Short Term Issuer/Security Rating Group	Market Value	% Total Value
N/R	1,000,728.77	1.68%
A2	24,094,956.15	40.45%
A1	12,128,172.61	20.36%
A1+	12,045,823.52	20.22%
Portfolio Total	49,269,681.05	82.71%

Market Value by Security Rating Group (Short Term)

Long Term Issuer/Security Rating Group	Market Value	% Total Value
AAA	10,303,084.31	17.29%
Portfolio Total	10,303,084.31	17.29%

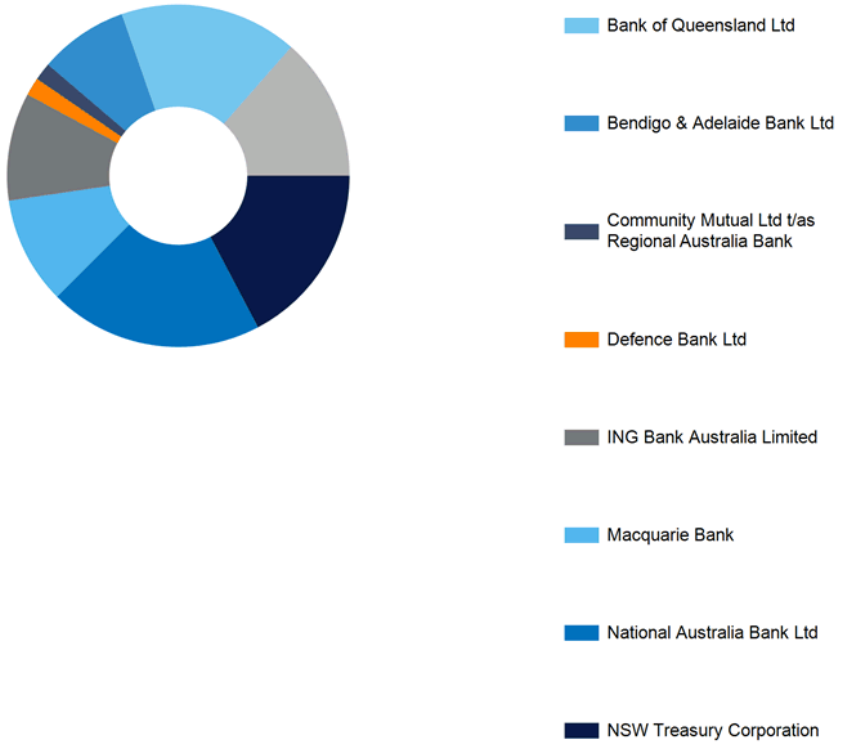
Market Value by Security Rating Group (Long Term)

ARMIDALE Regional Council

Investment Report Pack
Armidale Regional Council
1 October 2020 to 31 October 2020

Issuer	Market Value	% Total Value
AMP Bank Ltd	8,061,316.44	13.53%
Bank of Queensland Ltd	10,020,904.10	16.82%
Bendigo & Adelaide Bank Ltd	5,001,479.45	8.40%
Community Mutual Ltd t/as Regional Australia Bank	1,000,728.77	1.68%
Defence Bank Ltd	1,011,256.16	1.70%
ING Bank Australia Limited	6,073,295.90	10.19%
Macquarie Bank	6,054,876.71	10.16%
National Australia Bank Ltd	12,045,823.52	20.22%
NSW Treasury Corporation	10,303,084.31	17.29%
Portfolio Total	59,572,765.36	100.00%

Market Value by Issuer



ARMIDALE Regional Council

Investment Report Pack
Armidale Regional Council
1 October 2020 to 31 October 2020

Security Type	Market Value	% Total Value
Term Deposit	**49,269,681.05**	82.71%
Unit Trust	**10,303,084.31**	17.29%
Portfolio Total	**59,572,765.36**	100.00%

Market Value by Security Type

PLAN FORM 2 (A2)

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Sheet 1 of 1 sheet/s

REFERENCE TO CURVED BOUNDARIES

NO.	RADIUS	ARC LENGTH	CHORD BEARING	CHORD DISTANCE
1	12	24.245	3°03'	20.325
2	12	10.865	201°59'	10.5
3	12	27.45	293°27"	21.845
4	12	9.53	201°44"	9.28
5	187.5	35.025	290°28'20"	34.97
6	187.5	34.375	279°52'20"	34.33

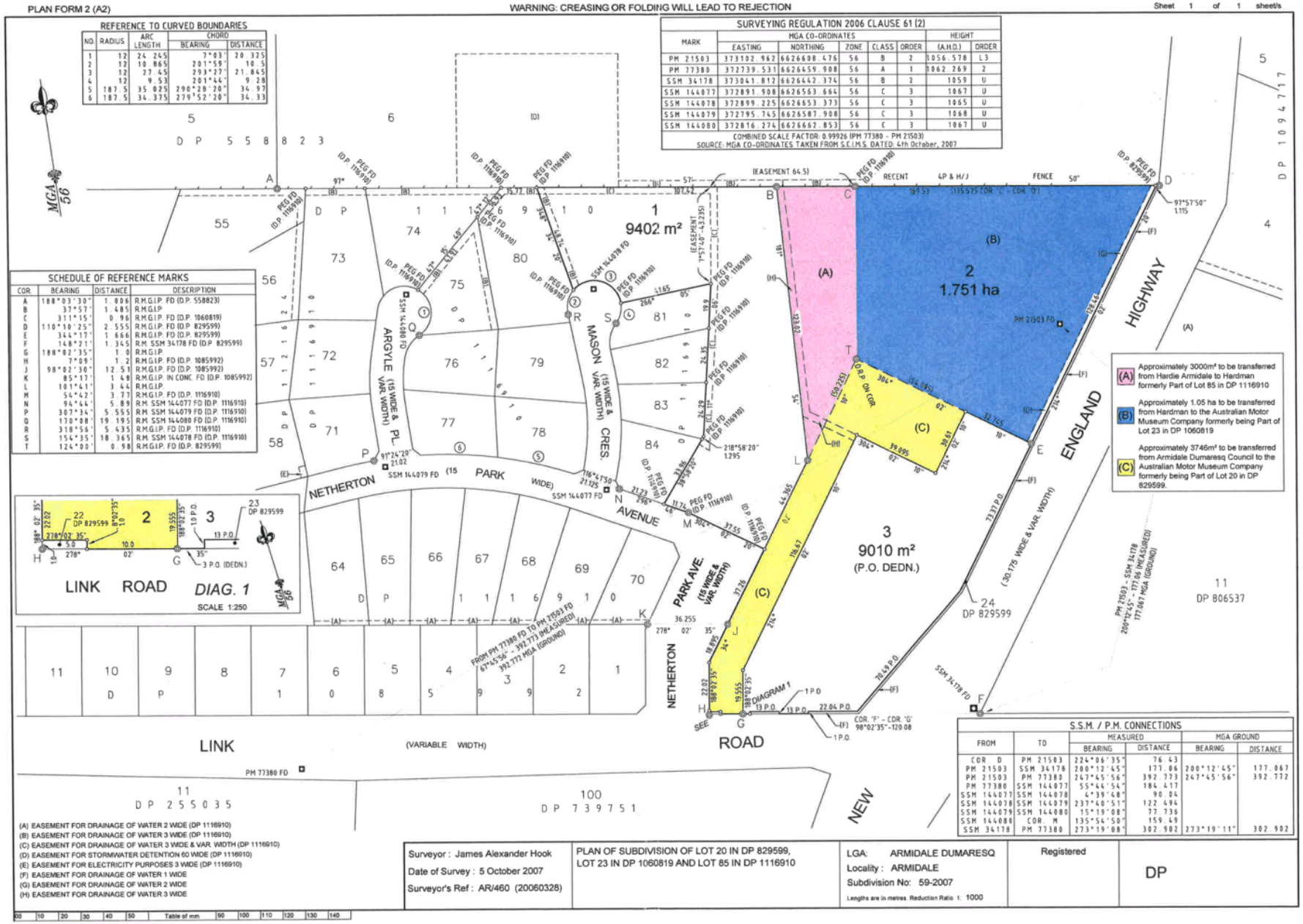
SURVEYING REGULATION 2006 CLAUSE 61 (2)

MARK	MGA CO-ORDINATES EASTING	NORTHING	ZONE	CLASS	ORDER	HEIGHT (A.H.D.)	ORDER
PM 21503	373102.962	6626608.476	56	B	2	1056.578	L3
PM 77380	372739.531	6626459.908	56	A	1	1062.269	2
SSM 34178	373041.812	6626442.374	56	B	2	1059	U
SSM 144077	372891.908	6626553.664	56	C	3	1067	U
SSM 144078	372899.225	6626653.373	56	C	3	1065	U
SSM 144079	372795.745	6626587.908	56	C	3	1068	U
SSM 144080	372816.274	6626662.853	56	C	3	1067	U

COMBINED SCALE FACTOR: 0.99926 (PM 77380 - PM 21503)
SOURCE: MGA CO-ORDINATES TAKEN FROM S.C.I.M.S. DATED: 4th October, 2007

SCHEDULE OF REFERENCE MARKS

COR	BEARING	DISTANCE	DESCRIPTION
A	188°03'30"	1.006	R.M.G.I.P. FD (D.P. 558823)
B	37°57'	1.485	R.M.G.I.P.
C	311°15'	0.96	R.M.G.I.P. FD (D.P. 1060819)
D	110°10'25"	2.555	R.M.G.I.P. FD (D.P. 829599)
E	344°17'	1.666	R.M.G.I.P. FD (D.P. 829599)
F	148°21'	1.345	R.M. SSM 34178 FD (D.P. 829599)
G	188°02'35"	1.0	R.M.G.I.P.
H	7°09'	1.2	R.M.G.I.P. FD (D.P. 1085992)
J	98°02'30"	12.51	R.M.G.I.P. FD (D.P. 1085992)
K	85°17'	1.48	R.M.G.I.P. IN CONC. FD (D.P. 1085992)
L	101°41'	3.44	R.M.G.I.P.
M	54°42"	3.77	R.M.G.I.P. FD (D.P. 1116910)
N	94°44'	5.89	R.M. SSM 144077 FD (D.P. 1116910)
P	307°34'	5.555	R.M. SSM 144079 FD (D.P. 1116910)
Q	170°08'	19.195	R.M. SSM 144080 FD (D.P. 1116910)
R	318°56'	5.435	R.M.G.I.P. FD (D.P. 1116910)
S	154°35'	18.365	R.M. SSM 144078 FD (D.P. 1116910)
T	124°00'	0.98	R.M.G.I.P. FD (D.P. 829599)



S.S.M. / P.M. CONNECTIONS

FROM	TO	MEASURED BEARING	MEASURED DISTANCE	MGA GROUND BEARING	MGA GROUND DISTANCE
COR. D	PM 21503	224°06'35"	76.43		
PM 21503	SSM 34178	200°12'45"	177.06	200°12'45"	177.067
PM 21503	PM 77380	247°45'56"	392.773	247°45'56"	392.772
PM 77380	SSM 144077	55°44'54"	184.417		
SSM 144077	SSM 144078	4°39'48"	90.04		
SSM 144078	SSM 144079	237°40'51"	122.494		
SSM 144079	SSM 144080	15°19'08"	77.736		
SSM 144080	COR. M	135°54'50"	159.49		
SSM 34178	PM 77380	273°19'08"	302.902	273°19'11"	302.902

(A) EASEMENT FOR DRAINAGE OF WATER 2 WIDE (DP 1116910)
(B) EASEMENT FOR DRAINAGE OF WATER 3 WIDE (DP 1116910)
(C) EASEMENT FOR DRAINAGE OF WATER 3 WIDE & VAR. WIDTH (DP 1116910)
(D) EASEMENT FOR STORMWATER DETENTION 60 WIDE (DP 1116910)
(E) EASEMENT FOR ELECTRICITY PURPOSES 3 WIDE (DP 1116910)
(F) EASEMENT FOR DRAINAGE OF WATER 1 WIDE
(G) EASEMENT FOR DRAINAGE OF WATER 2 WIDE
(H) EASEMENT FOR DRAINAGE OF WATER 3 WIDE

Surveyor : James Alexander Hook
Date of Survey : 5 October 2007
Surveyor's Ref : AR/460 (20060328)

PLAN OF SUBDIVISION OF LOT 20 IN DP 829599, LOT 23 IN DP 1060819 AND LOT 85 IN DP 1116910

LGA: ARMIDALE DUMARESQ
Locality : ARMIDALE
Subdivision No: 59-2007
Lengths are in metres. Reduction Ratio 1: 1000

Registered

DP

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ABN 38 605 231 855

256 Peel Street, Tamworth NSW 2340 Ph: 02 6766 1065
111 Faulkner Street, Armidale NSW 2350 Ph: 02 6772 9644
285 Conadilly Street, Gunnedah NSW 2380 Ph: 02 6742 9965

VALUATION REPORT

ON

11087–11097 NEW ENGLAND HIGHWAY
ARMIDALE NSW 2350
(Lot 2 DP 1129942)

MARKET VALUE ASSESSMENT
FOR
STAMP DUTY PURPOSES

Under instructions from
David Clifton
Clifton Legal
113 Faulkner Street
Armidale NSW 2350

Matter
Hardman & Armidale Regional Council

August 2016

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APPENDICES

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111 Faulkner Street, Armidale NSW 2350 Ph: 02 6772 9644
285 Conadilly Street, Gunnedah NSW 2380 Ph: 02 6742 9965

CERTIFICATE OF MARKET VALUE DETERMINATION

Lot 2 DP 1129942
LINK ROAD, ARMIDALE NSW 2350

Acting under instructions from David Clifton, Clifton Legal, we have been instructed to determine the current market value of the subject land identified herein, for Stamp Duty purposes.

Our specific instructions are to assess the market value of the three previous components of the property (prior to amalgamation into the current title), being Part Lot 85 DP 1116910 (approx 3,000m^2), Part Lot 23 DP 1060819 (approx 1.05ha) and Part Lot 20 DP 829599 (approx 3,746m^2).

MVS NEW ENGLAND & NORTH WEST has undertaken a determination and do hereby certify that Greg Windred, a registered valuer, has personally inspected the property more particularly described herein and has prepared this report.

This Certificate of Valuation forms part of and should not be used or read independently of the attached report. Particular attention is drawn to the limiting conditions and warranties included in this report. I hereby certify that the valuer and / or valuation firm does not have any direct, indirect or financial interest in the property or clients described herein.

I hereby certify that I am of the opinion that the market value of the subject property on a freehold vacant possession basis for Stamp Duty purposes on behalf of the Office of State Revenue, as at 2nd August 2016 is:

Pt Lot 85 DP 1116910	$32,181
Pt Lot 23 DP 1060819	$112,635
Pt Lot 20 DP 829599	$55,184
Total	**$200,000**

This valuation proceeds on a GST Exclusive basis.

MVS NEW ENGLAND & NORTH WEST

.....
Greg Windred
FAPI, Certified Practising Valuer
B Bus (Land Economy)
Dated this 2nd August 2016
Job No.: 160502A

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1.0 PURPOSE OF VALUATION

To determine the current market value of the land defined herein with vacant possession, for the purpose of Stamp Duty, apportioned between the 3 previous components of the current title (as defined herein).

This Report and Valuation has been prepared following instructions from the applicants for the purposes identified herein. No responsibility will be accepted for its use for other purposes or for its use in whole or part by any third party who may rely on it.

Definition of Market Value
"The estimated amount for which an asset should exchange on the date of valuation between a willing buyer and a willing seller in a arms' length transaction after proper marketing wherein the parties had each acted knowledgably, prudently and without compulsion."

2.0 DATE OF INSPECTION / VALUATION

2nd August 2016

3.0 NATURE OF THE SUBJECT PROPERTY

The subject property comprises a (mostly) vacant allotment with an advised total approximate area of 1.751ha, of irregular "battle-axe" shape and mostly cleared and as level (with the exception of a mound constructed along the western side of the access handle and with windbreak trees). Improvements comprise a 60m^2 (approx.) Colorbond shed, retaining walls, part boundary fencing and a concrete council crossing on the Link Road frontage. The site is situated on the northern fringe of the Armidale urban area, adjacent to the Netherton Park residential precinct and rural land.

4.0 PARTICULARS OF THE SUBJECT PROPERTY

Title Particulars

We are advised title particulars of the property are as follows:

Part Lot 85 in Deposited Plan 1116910
Part Lot 23 in Deposited Plan 1060819
Part Lot 20 in Deposited Plan 829599
Currently contained in Lot 2 in Deposited Plan 1129942
Local Government Area: Armidale Dumaresq
Parish of Armidale
County of Sandon

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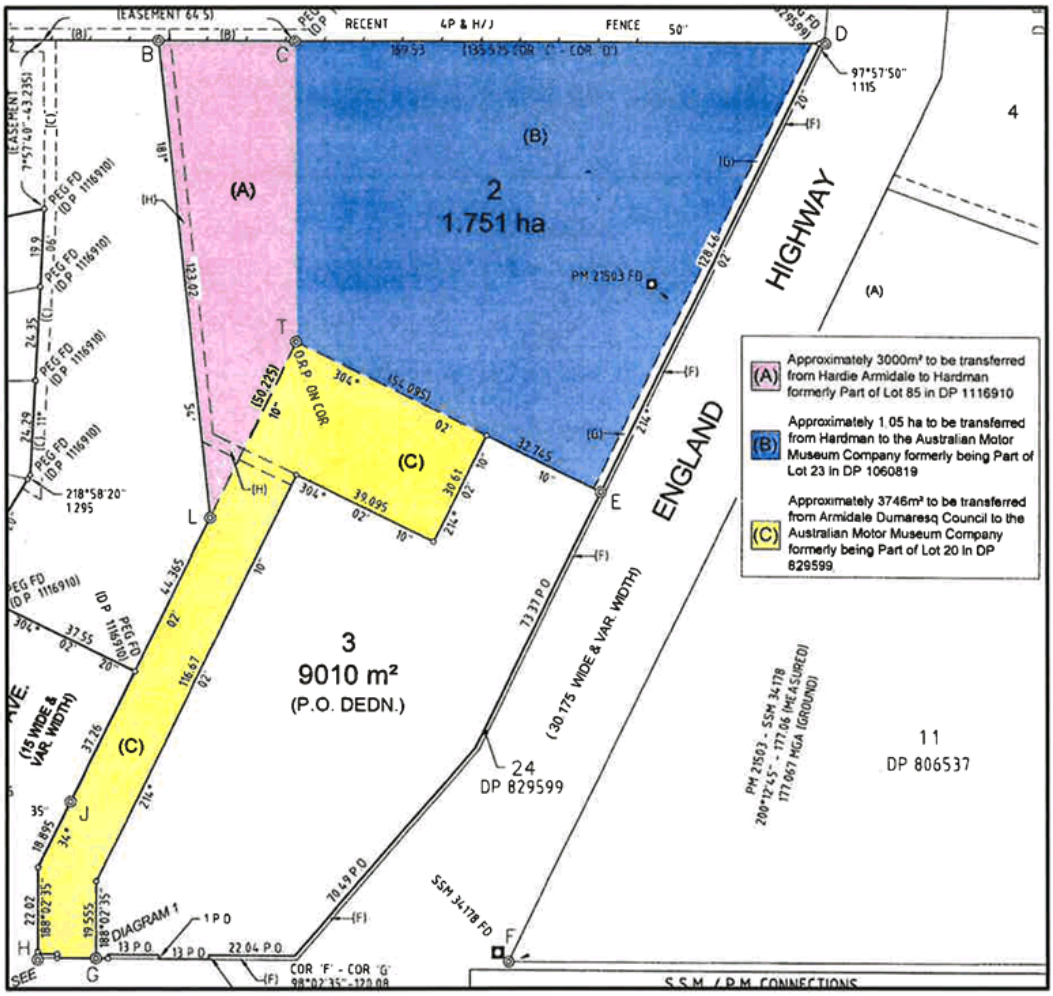
4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

The land has been identified by reference to a draft plan of subdivision which highlights the land in question by shading, as follows:



We have been provided with a Computer Folio Search (Folio 2 / 1129942), although this search is noted to date from 1/11/2012, indicating various encumbrances on title, including easement(s) appurtenant and affecting the land for drainage of water and storm water detention. A copy of this folio search is annexed hereto.

A current full search of title has not been provided or undertaken.

No encroachments by or upon the subject property were observed on inspection. This should be confirmed by a survey report or advice from a registered surveyor. If any encroachments are noted by a survey report, then the valuation should be returned to the valuer for further comment.

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4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

Registered Proprietor

The provided (2012) search of title indicates the land is held in the ownership of:

- Armidale Dumaresq Council (of the part formerly in 20 / 829599)
- Lyndon Roy Hardman and Desmond Arthur Hardman, as tenants in common in equal shares (of the part formerly in 23 / 1060819)
- Hardie Armidale Pty Limited (of the part formerly in 85 / 1116910).

Areas

The provided draft plan indicates the area of the whole of the site at 1.751 ha.

It also indicates the three separate components of the site to have approximate areas as follows:

Pt Lot 85 DP 1116910	3,000 m^2
Pt Lot 23 DP 1060819	10,500 m^2
Pt Lot 20 DP 829599	3,746 m^2

It is noted that these apportionments do not add precisely to the advised total area. This report is subject to confirmation by survey of the above areas. Should there be a discrepancy from the areas relied upon above, this report should be returned for comment.

Site Description

The land in question is of overall irregular, "battle-axe" configuration, with an elongated 15.0m wide access handle off Link Road (although street frontage is 10.0 metres. The land has a 128.46 metre frontage to the New England Highway, although a 1.0 metre wide strip separates the property from the highway (and prohibiting access to / from that road).

The land is of mostly cleared and near level topography, although with a mound that extends along the western side (approx 5 metres wide) of the access handle, and with windbreak trees (pines and tea tree) along the mound and separating Part Lots 20 and 23. The land contains native grasses and comprises red basalt soils.

Link Road Frontage

New England Highway Frontage

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4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

Site Description (cont.)

Aerial Photograph of land in question, showing outlines of overall lot boundaries, is set out below (courtesy NSW LPI):

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4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

Environmental Issues

The subject land comprises (effectively) vacant rural / en-globo land. Previous land uses are unknown although appear to have been mostly of a rural nature.

We note evidence of some fill (appears uncontrolled) and refuse lying on Part Lot 20 (in the vicinity of the shed).

No environmental report has been provided. Should such a report disclose the existence of site contamination issues to the subject land, we reserve the right to review our valuation, should we deem it necessary.

This report proceeds on the basis that there are no contamination issues that would affect the existing use and occupation of the site for retail / commercial purposes and that there is no adverse effect on the value of the property.

Town Planning

Our examination of Town Planning records of Armidale Dumaresq Council, supported by advice from Council Town Planning staff, indicates that the land in question is zoned partly *R1 General Residential* and partly *RU4 Rural Smallholdings* under the provisions of Armidale Dumaresq Local Environmental Plan (LEP) 2012 (as amended).

The Land Use Tables from the LEP are set out as follows:

Armidale Dumaresq Local Environmental Plan 2012 Zone R1 – General Residential	
Objectives of zone	To provide for the housing needs of the community. To provide for a variety of housing types and densities. To enable other land uses that provide facilities or services to meet the day to day needs of residents.
Permitted without consent	Home occupations; Roads
Permitted with consent	Attached dwellings; Boarding houses; Building identification signs; Business identification signs; Child care centres; Community facilities; Dwelling houses; Group homes; Home industries; Hostels; Multi dwelling housing; Neighbourhood shops; Places of public worship; Plant nurseries; Residential flat buildings; Respite day care centres; Semi-detached dwellings; Seniors housing; Sewage reticulation systems; Shop top housing; Water reticulation systems; Any other development not specified in item 2 or 4
Prohibited	Agriculture; Air transport facilities; Airstrips; Amusement centres; Animal boarding or training establishments; Backpackers' accommodation; Boat building and repair facilities; Boat launching ramps; Boat sheds; Car parks; Cemeteries; Charter and tourism boating facilities; Commercial premises; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Entertainment facilities; Environmental facilities; Extractive industries; Farm buildings; Farm stay accommodation; Forestry; Freight transport facilities; Function centres; Heavy industrial storage establishments; Helipads; Highway service centres; Industrial retail outlets; Industrial training facilities; Industries; Jetties; Marinas; Mooring pens; Moorings; Mortuaries; Open cut mining; Passenger transport facilities; Public administration buildings; Recreation areas; Recreation facilities (indoor); Recreation facilities (major); Recreation facilities (outdoor); Registered clubs; Research stations; Restricted premises; Rural industries; Rural workers' dwellings; Service stations; Sewerage systems; Sex services premises; Signage; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Vehicle repair stations; Veterinary hospitals; Warehouse or distribution centres; Waste or resource management facilities; Water recreation structures; Water supply systems; Wharf or boating facilities; Wholesale supplies

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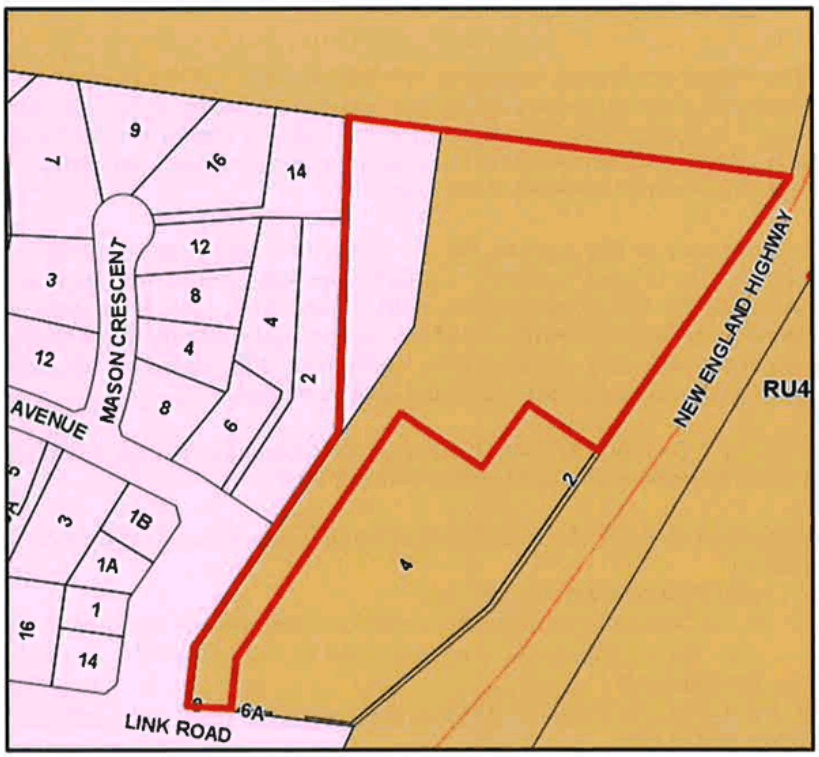
4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

Town Planning (cont.)

Armidale Dumaresq Local Environmental Plan 2012 Zone RU4 – Primary Production Small Lots	
Objectives of zone	To enable sustainable primary industry and other compatible land uses. To encourage and promote diversity and employment opportunities in relation to primary industry enterprises; particularly those that require smaller lots or that are more intensive in nature. To minimise conflict between land uses within this zone and land uses within adjoining zones.
Permitted without consent	Environmental protection works; Extensive agriculture; Forestry; Home occupations; Home occupations (sex services); Roads
Permitted with consent	Airstrips; Animal boarding or training establishments; Aquaculture; Boat launching ramps; Boat sheds; Building identification signs; Business identification signs; Cellar door premises; Cemeteries; Charter and tourism boating facilities; Community facilities; Crematoria; Depots; Dual occupancies; Dwelling houses; Eco-tourist facilities; Environmental facilities; Extractive industries; Farm buildings; Flood mitigation works; Function centres; Funeral homes; Helipads; Heliports; Home businesses; Home industries; Industrial training facilities; Information and education facilities; Intensive plant agriculture; Jetties; Landscaping material supplies; Marinas; Mooring pens; Moorings; Mortuaries; Neighbourhood shops; Open cut mining; Places of public worship; Plant nurseries; Recreation areas; Recreation facilities (outdoor); Roadside stalls; Rural industries; Rural supplies; Rural workers' dwellings; Service stations; Tourist and visitor accommodation; Transport depots; Truck depots; Veterinary hospitals; Water recreation structures; Water supply systems
Prohibited	Hotel or motel accommodation; Livestock processing industries; Serviced apartments; Any other development not specified in item 2 or 3

Zoning mapping indicates that Part Lot 85 is zoned R1, the remainder being RU4, as per the following Zoning Map extract:



Zoning Map (Extract)

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4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

Town Planning (cont.)

The R1 zoning allows for a range of residential development, including residential subdivision to a minimum area of 500 m^2 and detached housing. The RU4 zoning has a minimum subdivision standard of 40 hectares. This minimum land area is required for dwelling house approval, other than if benefitted by the other provisions of Clause 4.2A(3) of the LEP. These provisions are set out as follows:

Development consent must not be granted for the erection of a dwelling house or dual occupancy on land to which this clause applies, and on which no dwelling house or dual occupancy has been erected, unless the land:

(a) is a lot that is at least the minimum lot size shown on the Lot Size Map in relation to that land, or

(b) is a lot created before this Plan commenced and on which the erection of a dwelling house or dual occupancy was permissible immediately before that commencement, or

(c) is a lot resulting from a subdivision for which development consent (or equivalent) was granted before this Plan commenced and on which the erection of a dwelling house or dual occupancy would have been permissible if the plan of subdivision had been registered before that commencement, or

(d) is an existing holding, or

(e) is a 2004 holding on which the erection of a dwelling house or dual occupancy was permissible immediately before this Plan commenced, or

(f) would have been a lot or a holding referred to in paragraph (a), (b), (c), (d) or (e) had it not been affected by:

(i) a minor realignment of its boundaries or a plan of consolidation that did not create an additional lot, or

(ii) a subdivision creating or widening a public road or public reserve or for another public purpose.

The subject land does not appear to comply with the provisions of this clause and, therefore, the RU4 zoned part of the land does not appear to have a building right. (We note that this advice is subject to confirmation from Council of the building entitlement status of this land. Should written advice from Council differ from our assessment above, we reserve the right to review our valuation, should we deem it necessary.)

As indicated previously in this section, the R1 zoned land does appear to have a building entitlement (subject to Council consent). Furthermore, this area of land (approx 3,000 m^2) may have potential for further subdivision, with access from Link Road over the access handle. However, due to the relatively small size and irregular nature of this section, and the elongated access / servicing requirements, residential subdivision is not considered a feasible highest and best use of this land in the current market.

A check of Clause 2.5 of the LEP (Additional permitted uses for particular land) reveals the subject site to come under that clause, which sets out that:

(1) Development on particular land that is described or referred to in Schedule 1 may be carried out:

(a) with development consent, or

(b) if the Schedule so provides—without development consent, in accordance with the conditions (if any) specified in that Schedule in relation to that development.

(2) This clause has effect despite anything to the contrary in the Land Use Table or other provision of this Plan.

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4.0 PARTICULARS OF THE SUBJECT PROPERTY (cont.)

Town Planning (cont.)

Schedule 1 provides, in respect of the subject land, the following:

Use of certain land at 11087–11097 New England Highway, Armidale

(1) This clause applies to land at 11087–11097 New England Highway, Armidale, being Lot 2, DP 1129942.

(2) Development for the purposes of a vehicle sales or hire premises, vehicle body consent, if the development is associated with a transport museum on the land and is for the display, sale or repair of veteran motor vehicles, vintage motor vehicles or classic motor vehicles only.

(3) In this clause:

- *classic motor vehicle refers to any motor vehicle that was manufactured at least 25 years before the commencement of this Plan.*
- *veteran motor vehicle refers to any motor vehicle built up to and including 1918.*
- *vintage motor vehicle refers to any motor vehicle built from January 1919 to December 1930.*

Our enquiries of Council indicate a Development Consent in 2004 for a "truck mounted sign" (being for promotion of the previously proposed "National Transport Museum on the site). No other consent has been advised.

Our enquiries of Council indicate no current development consent in respect of this use. We are further advised that this proposal is no longer being pursued by the parties and this specific use is not one that would, in our opinion, have broad market appeal.

We consider the highest and best use of the overall site to be as a single dwelling rural lifestyle block, the building "envelope" being on the western R1 zoned part of the land (STCA).

The land is not in an area affected by flooding, bushfire or landslip.

Note, however, a Section 149 (Zoning) Certificate confirming the zoning of the land has not been sighted. In the event that such certificate reveals that the above information is incorrect our valuation may require revision.

Services

All usual urban services (eg. mains water, sewer, electricity and telephone) are available in the immediate precinct. Link Road is bitumen sealed with concrete kerb and gutter at this immediate location.

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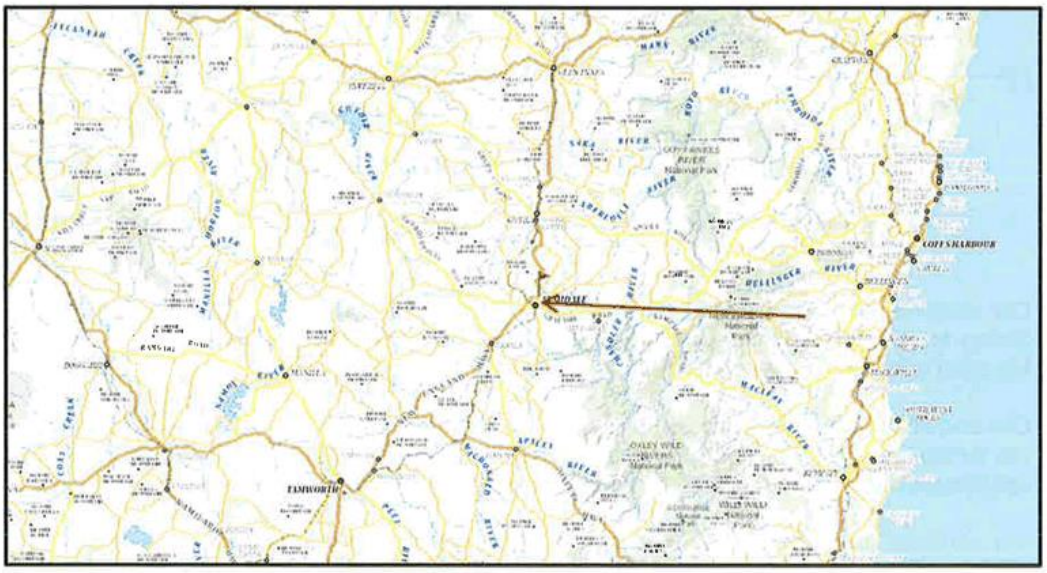
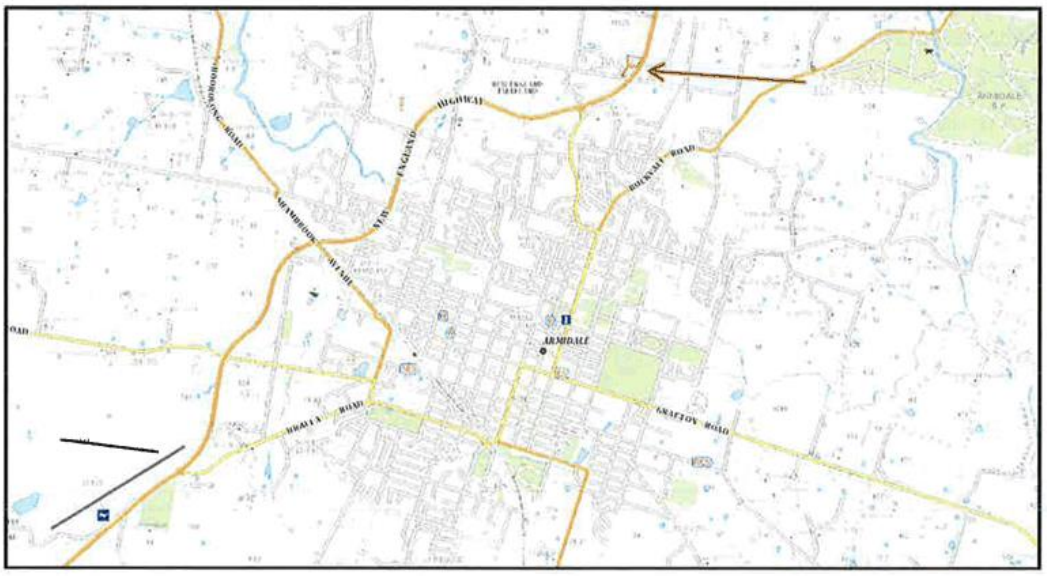
5.0 LOCATION

The property is located in Armidale, which is approximately midway between Sydney and Brisbane on the New England Highway. Armidale is a regional centre for the northern tablelands servicing the surrounding district and several nearby smaller towns.

Armidale has numerous facilities such as a University, Public and Private Schools, Public and Private Hospitals and Airport as well as a wide range of goods and services typical to a regional centre.



The subject land is located in a northerly position of Armidale, about 3.5 km north of the Armidale post office. This is a fringe residential position within the city, with surrounding development comprising vacant rural / undeveloped lands and adjacent / nearby modern detached housing.



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6.0 IMPROVEMENTS

At the date of inspection, the subject land was mostly unimproved, with the exception of minor improvements as follows:

- Colorbond clad shed on concrete floor and with internal partition and amenities, accessed via 2 roller shutter doors and personnel access door. Appears constructed C.1993, approx area 60 m^2. (Note – no internal access available at the time of inspection, visibility obtained through windows.) Contained on Part Lot 20;
- Timber and masonry retaining wall along eastern side of mound on access handle (Part Lot 20);
- Concrete Council crossing on Link Road frontage;
- Agricultural post and wire fencing on northern (rear) and eastern (NE H'way) boundaries; Colorbond fencing to part western side boundary.




7.0 VALUATION CONSIDERATIONS & CONCLUSIONS

Our instructions are to assess the current market value of the subject land for Stamp Duty purposes, apportioned between the 3 previous titles, as follows:

Pt Lot 85 DP 1116910	Hardie Armidale Pty Limited
Pt Lot 23 DP 1060819	Lyndon Roy Hardman and Desmond Arthur Hardman
Pt Lot 20 DP 829599	Armidale Dumaresq Council

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7.0 VALUATION CONSIDERATIONS & CONCLUSIONS (cont.)

As indicated previously in this report, the previously intended use of the site (as per its inclusion in Schedule 1 of the LEP) as a Motor Transport Museum is considered to be of particularly limited market appeal and is not considered to be the land's highest and best use. For the purposes of this assessment, we have adopted a highest and best use of the overall site as a rural lifestyle block with a potential home site on the western (part Lot 85) part of the block. None of the 3 individual components of the site are considered to have development potential in their own right.

In considering the market value of the 3 individual components, we note the following:

- Part Lot 85 – This part is, as a stand-alone block, landlocked. It is affected by a 3m wide drainage easement, although mostly along its side boundary, and adjoins residential housing with a side Colorbond fence. However, it is the R1 zoned part of the overall site, contributing the building entitlement(s);
- Part Lot 23 – This part is also landlocked, and adjoins New England Highway (with resulting traffic noise issues). It contributes no building entitlement. Nevertheless, it comprises the bulk of the site and is good useable level / cleared land.
- Part Lot 20 – This part contains the access way for the total site and contains existing (minor) improvements, although is irregular in shape, appears to have uncontrolled fill / refuse on site and contributes no building entitlement.

We consider it appropriate to firstly assess the market value of the whole of the land as a rural lifestyle parcel. In this regard, we consider the most appropriate methodology to be by Direct Comparison with recent sales of rural residential allotments which have occurred in and around Armidale.

The improvements upon Part Lot 20 are considered to be of minor added value (as future ancillary improvements).

Available comparable sales evidence to which we have had regard is as follows:

SALE ONE	
Property	62 Coluche Road, Armidale
Sale Date	15 February 2016
Sale Price	$252,500
Land Area	2.556 ha
Comments	A vacant allotment situated approx 7.5km north of Armidale post office, zoned R5 - Large Lot Residential, with bitumen sealed access, town water, electricity and telephone available. The land is slightly irregular in shape, gently sloping, comprises a mix of cleared and native tree cover and has a small gully through the site. Levelled building platform.
Comparability	Larger, superior regular shape and building site, inferior quality land. Superior overall.

SALE TWO	
Property	1 Lilley Lane, Armidale
Sale Date	14 June 2016
Sale Price	$245,000
Land Area	3.377 ha
Comments	A vacant allotment situated approx 8 km south of Armidale post office, zoned R5 - Large Lot Residential, with bitumen sealed access, town water, electricity and telephone available, within a recently established rural lifestyle estate (Gostwyck Park). The land is in a corner location, slightly irregular in shape, gently sloping, cleared and with basalt soils. Fenced boundaries and culvert to entrance gate. (Previously sold 14/01/2015 for $249,000.)
Comparability	Larger lot, superior regular shape, superior new estate location, similar quality land. Superior overall.

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7.0 VALUATION CONSIDERATIONS & CONCLUSIONS (cont.)

SALE THREE	
Property	9 Lilley Lane, Armidale
Sale Date	25 May 2016
Sale Price	$198,000
Land Area	2.576 ha
Comments	A vacant allotment situated approx 8 km south of Armidale post office, zoned R5 - Large Lot Residential, with bitumen sealed access, town water, electricity and telephone available, within a recently established rural lifestyle estate (Gostwyck Park). The land is of irregular shape (end of cul-de-sac), cleared and sloping gradually up to rear (with a good southerly aspect). It is significantly affected (over its rear section) by a large transmission line easement, which significantly affected its sale price.
Comparability	Larger lot, similar irregular shape, superior new estate location, similar quality land, superior aspect, inferior easement affectation. Slightly superior land overall.

SALE FOUR	
Property	5 Lilley Lane, Armidale
Sale Date	19 May 2016
Sale Price	$198,000
Land Area	2.425 ha
Comments	A vacant allotment situated approx 8 km south of Armidale post office, zoned R5 - Large Lot Residential, with bitumen sealed access, town water, electricity and telephone available, within a recently established rural lifestyle estate (Gostwyck Park). The land is of irregular / elongated in shape, cleared and with a gradual crossfall.
Comparability	Larger lot, similar irregular shape, superior new estate location, similar quality land. Slightly superior land overall.

SALE FIVE	
Property	21 Post Way, Armidale
Sale Date	26 February 2016
Sale Price	$196,000
Land Area	2.01 ha
Comments	A vacant allotment situated approx 8 km south of Armidale post office, zoned R5 - Large Lot Residential, with bitumen sealed access, town water, electricity and telephone available, within a recently established rural lifestyle estate (Gostwyck Park). The land of mostly regular in shape, cleared and sloping gradually down to rear. It backs onto the main northern railway line, which appears to have significantly affected its sale price.
Comparability	Larger lot, superior regular shape, superior new estate location, similar quality land, similar noise affectation. Superior land overall.

SALE SIX	
Property	10350 New England Highway, Armidale
Sale Date	25 May 2016
Sale Price	$515,000
Land Area	1.261 ha
Comments	The Property comprises a detached single storey (brick veneer / terra cotta tile, metal deck roof) dwelling 1964 built in "average" condition with three (3) bedrooms and two (2) bathrooms. Living area of approximately 213 m^2. Includes single garage plus carport, extended and upgraded condition, pergola, gardens, clay tennis court. Irregular / very elongated shaped lot, highway noise and nearby transmission tower detracting features, approx 10km south of Armidale. Estimated land component $165,000.
Comparability	Smaller lot, inferior elongated irregular shape, slightly inferior fringe location. Inferior to the subject land overall.

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7.0 VALUATION CONSIDERATIONS & CONCLUSIONS (cont.)

Having regard to available sales evidence, we are of the opinion that the overall site has a current market value reflecting as follows:

Land	1.751 ha	=	$185,000
Improvements – Pt Lot 20	Shed 60 m^2 x $150	$9,000	
	Retaining walls / misc.	$6,000	$15,000
Total			**$200,000**

Having regard to the various attributes of each Part Lot, we consider it appropriate to apportion the market value to each component on a pro-rata rate basis, based on their assessed land areas. We note that the advised assessed areas do not correlate with the advised total land area (adding to 1.7246ha). We have adopted the added area as a basis for apportioning value. This basis results in a land apportionment rate of $10.7271 per m^2.

(Note – Should a survey of the site disclose any variance with the basis of our assessment, we reserve the right to review our valuation, should we deem it necessary.)

Our apportionment of value is set out as follows:

Part Lot 85 (Hardie)	3,000 m^2 x $10.7271	=	**$32,181**
Part Lot 23 (Hardman)	10,500 m^2 x $10.7271	=	**$112,635**
Part Lot 20 (Council)	3,746 m^2 x $10.7271	$40,184	
	Improvements	$15,000	**$55,184**
Total			**$200,000**

This valuation proceeds on a GST Exclusive basis.

8.0 LIMITING CONDITIONS AND WARRANTIES

(a) The valuer certifies that he is registered in the State of New South Wales to practice the valuation of all real estate.

(b) This determination provided by MVS New England and North West is for Stamp Duty assessment purposes only, in relation to the proposed retrospective land transfer. MVS New England and North West does not, and shall not, assume any responsibility for any other person or party for any reason whatsoever should they choose to use all or any part of the contents of this valuation for any purpose.

(c) Any encumbrance, restriction or any other factor not specifically referred to in this report or evident from current title copies issued which would in the opinion of the instructing party affect the rental value of the property should be referred back to the valuers immediately for comment.

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8.0 LIMITING CONDITIONS AND WARRANTIES (cont.)

(d) This valuation is current as at the date of valuation only. The value assessed herein may change significantly and unexpectedly over a relatively short period (including as a result of general market movements or factors specific to the particular property). We do not accept liability for losses arising from such subsequent changes in value. Without limiting the generality of the above comment, we do not assume any responsibility or accept any liability where this valuation is relied upon after the expiration of three (3) months from the date of the valuation, or such earlier date if you become aware of any factors that have any effect on the valuation.

(e) Without limiting the generality of the above comment, we do not assume any responsibility or accept any liability where this valuation is relied upon after the expiration of three months from the date of the valuation, or such earlier date if you become aware of any factors that have any effect on the valuation.

(f) GST: This valuation report has been prepared on a GST exclusive basis.

(g) All measurements and land areas quoted in this report are approximate only. We note that this valuation is subject to confirmation of land areas by registered surveyor. Should areas disclosed by a survey report differ from those contained herein; we reserve the right to review our assessment, should we deem it necessary.

(h) Liability limited by a scheme approved under Professional Standards Legislation.

This report is not to be utilised for mortgage lending purposes.

(j) Unless stated as otherwise in this report we advise that we have not searched or been provided with a copy of the current Title or Registered Plans and that any dimensions or land areas quoted in this report have been obtained from third party information sources and whilst every endeavour has been made to verify such information we accept no responsibility for inaccuracy of any information provided and relied upon.

(k) The client acknowledges and recognizes that the Valuer is not expert in identifying environmental hazards and compliance requirements affecting properties. The Valuer has endeavoured to identify all matters of environmental concern and the effect they might have on the value of the property. However, the Valuer will not be held liable nor responsible for his / her failure to identify all such matters of environmental concern and the impact which any environmental related issue has on the property and its value including loss arising from site contamination; or the non-compliance with environmental laws; or costs associated with the clean-up of the property to which an environmental hazard has been recognized, including action by the Environmental Protection Agency to recover clean-up costs pursuant to the relevant Environmental Protection Act.

(l) Unless stated as otherwise in this report we advise that we have not searched or been provided with a copy of the current Title and that any dimensions or land areas quoted in this report are as advised or obtained from third party information sources and whilst every endeavour has been made to verify such information we accept no responsibility for inaccuracy of any information provided and relied upon.

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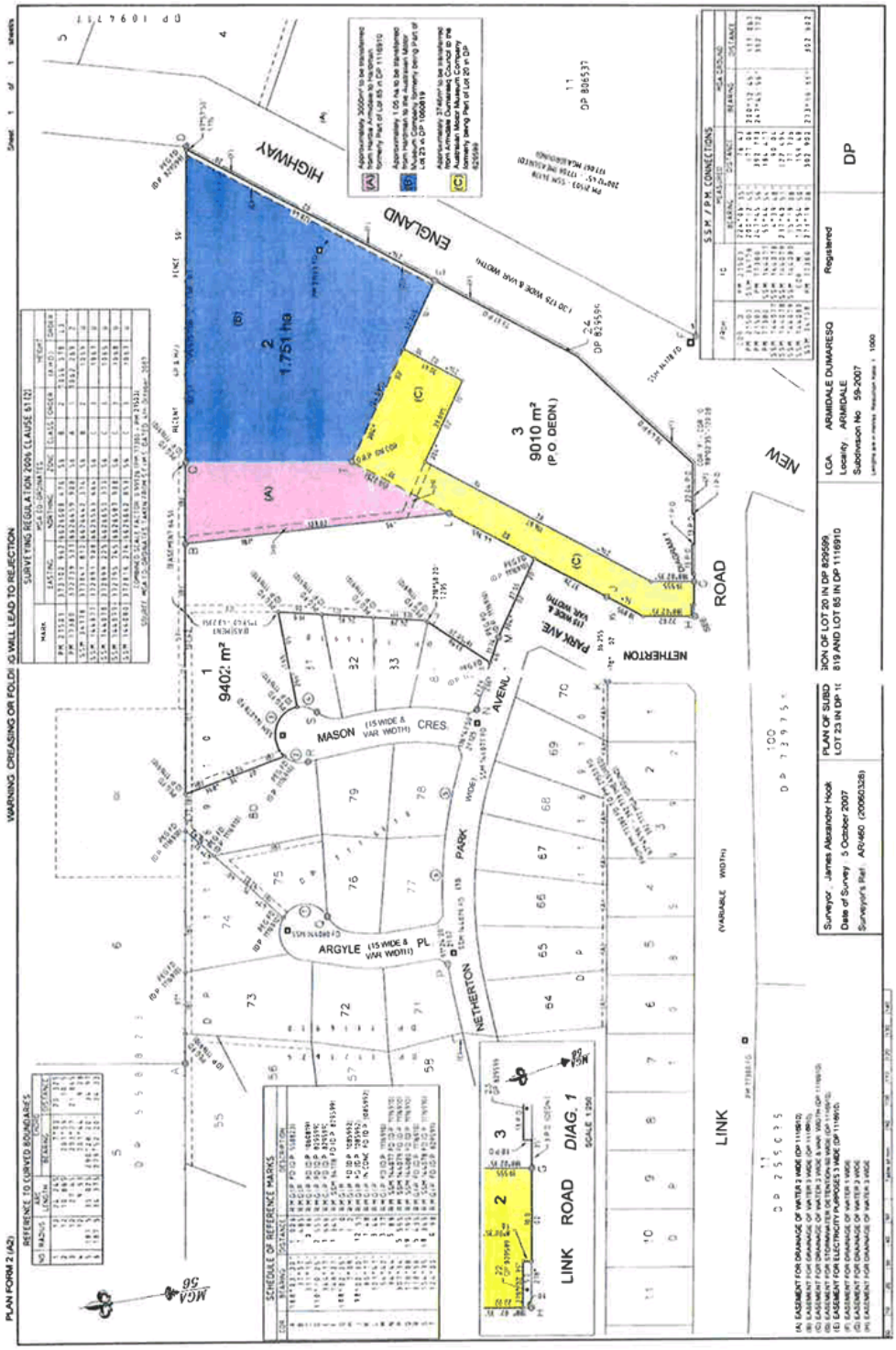
Appendix #1 – Plan of Subdivision



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Appendix #2 – Copy of Title Search

```
        LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH
        ------------------------------------------------------------

FOLIO: 2/1129942
------

            SEARCH DATE        TIME              EDITION NO     DATE
            -----------        ----              ----------     ----
            1/11/2012         3:43 PM                1        8/9/2008

LAND
----
LOT 2 IN DEPOSITED PLAN 1129942
   AT ARMIDALE
   LOCAL GOVERNMENT AREA ARMIDALE DUMARESQ
   PARISH OF ARMIDALE   COUNTY OF SANDON
   TITLE DIAGRAM DP1129942

FIRST SCHEDULE
--------------
ARMIDALE DUMARESQ COUNCIL
    OF THE PART FORMERLY IN 20/829599
LYNDON ROY HARDMAN
DESMOND ARTHUR HARDMAN
    AS TENANTS IN COMMON IN EQUAL SHARES
    OF THE PART FORMERLY IN 23/1060819
HARDIE ARMIDALE PTY LIMITED
    OF THE PART FORMERLY IN 85/1116910

SECOND SCHEDULE (9 NOTIFICATIONS)
---------------
1   RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
2   E194455    COVENANT
3   AC704586   MORTGAGE TO SUNCORP-METWAY LIMITED OF THE PART
               FORMERLY IN 85/1116910
4   DP1116910  EASEMENT FOR DRAINAGE OF WATER 3 METRE(S) WIDE
               APPURTENANT TO THE LAND ABOVE DESCRIBED
5   DP1116910  EASEMENT FOR STORM WATER DETENTION 60 METRE(S) WIDE
               APPURTENANT TO THE LAND ABOVE DESCRIBED
6   DP1129942  EASEMENT FOR DRAINAGE OF WATER 1 METRE(S) WIDE
               APPURTENANT TO THE LAND ABOVE DESCRIBED
7   DP1129942  EASEMENT FOR DRAINAGE OF WATER 2 METRE(S) WIDE
               AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE
               DIAGRAM
8   DP1129942  EASEMENT FOR DRAINAGE OF WATER 3 METRE(S) WIDE
               AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE
               DIAGRAM
* 9   AG152183  CAVEAT BY LYNDON ROY HARDMAN & DESMOND ARTHUR HARDMAN
               AS REGARDS THE PART FORMERLY IN 85/1116910

NOTATIONS
---------
UNREGISTERED DEALINGS: NIL

        ***  END OF SEARCH  ***

DVC:SCL:8330                          PRINTED ON 1/11/2012
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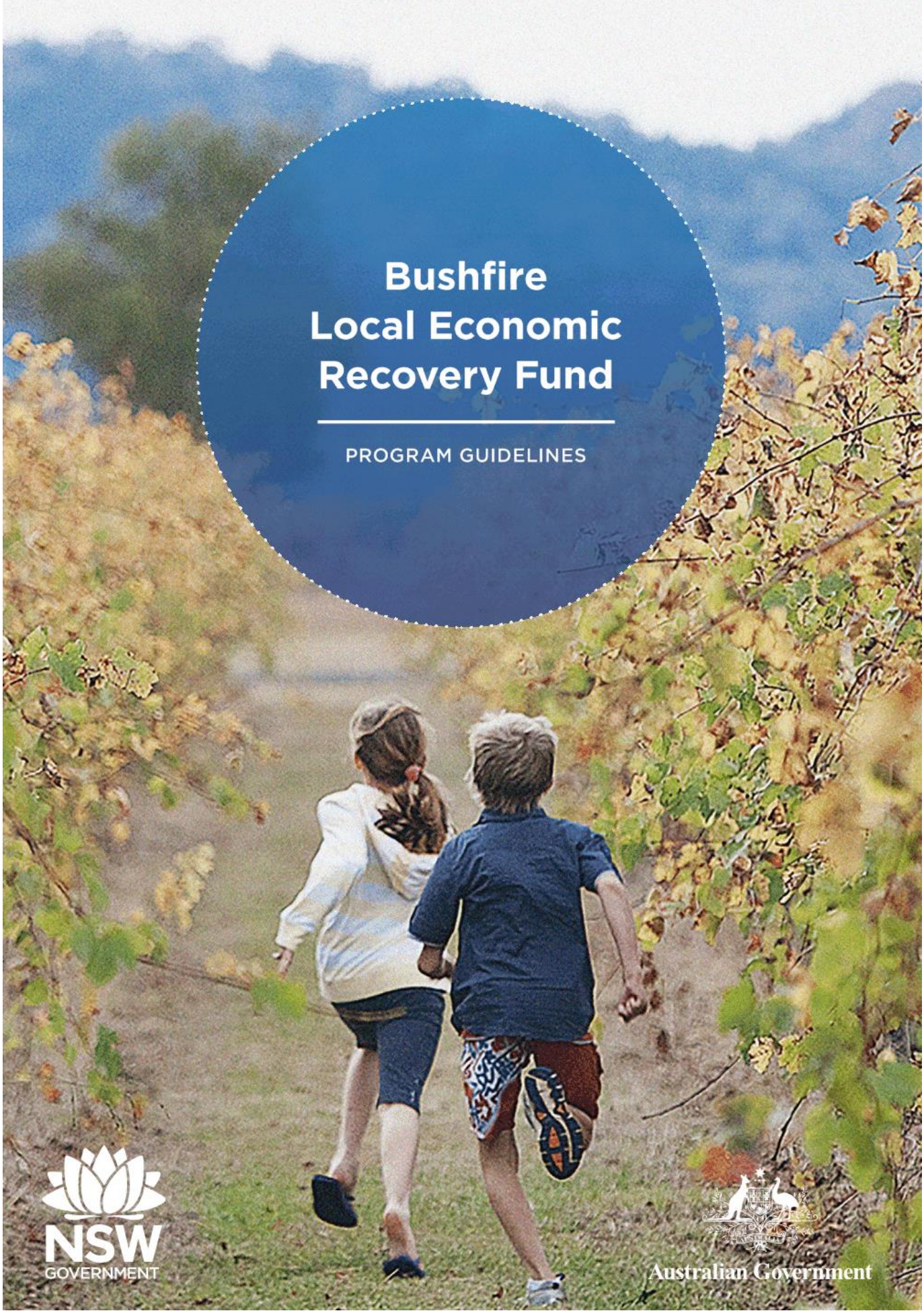
Bushfire
Local Economic
Recovery Fund
PROGRAM GUIDELINES
NSW
GOVERNMENT
Australian Government

CONTENTS

FOREWORD

People living in regional NSW have been doing it tough in 2020, and none more so than those whose homes and livelihoods were affected by the bushfires across much of the state. Many are still rebuilding their lives, restricted by the ongoing impacts of COVID-19.

Despite the daily demands of the coronavirus, the NSW Government continues to prioritise support for communities in bushfire affected regions.

More than $2.3 billion has been committed to assist communities impacted by the bushfires, which includes supporting a temporary accommodation program, property clean-up and mental health services.

We established Resilience NSW to co-ordinate a range of support initiatives offered across government, and over the next two years has allocated $1 billion to help rebuild our bushfire-affected communities and make them stronger into the future.

This latest $250 million Bushfire Local Economic Recovery (BLER) Fund package is jointly funded by the Australian and NSW Government to further support the social and economic recovery of communities from 47 bushfire-affected Local Government Areas (LGAs) across the state. It aims to promote community, industry and local economic recovery in the short, medium and long-term.

Combined with a range of fast-tracked priority projects, over $500 million in joint funding will be provided to support bushfire impacted communities under the BLER Fund.

It will help retain and create jobs in regional areas and stimulate regional economies by supporting entrepreneurship and innovation, diversification, market expansion and capacity building.

It will also help prepare communities for future bushfire seasons, by funding refuge centres and energy security infrastructure for community buildings for example and will support regional economies by funding tourism campaigns and attractions that bring visitors to experience our beautiful countryside.

I understand many people in regional areas are feeling overwhelmed by the amount of paperwork they have had to complete this year as they rebuild their lives after years of drought and the devastating bushfires.

I would like to assure regional communities that staff from the Department of Regional NSW are on hand and are willing to help applicants to make funding applications.

The new Department of Regional NSW is a central agency for regional issues, focused on putting the needs of regional communities, industries and businesses first. Its mission is to help build strong, resilient communities and economies, support our young people, grow primary industries, create jobs and employment and oversee the use of our natural resources: our lands, mining and minerals and agricultural resources. It is also to make sure government investment into regional NSW is fair and delivers positive outcomes.

I encourage potential applicants to review the BLER Fund Guidelines, consider what your community needs and take every available opportunity to secure funding to recover, grow and thrive.

The Hon. John Barilaro MP
Deputy Premier
Minister for Regional NSW, Industry and Trade

OVERVIEW

The NSW Government and Australian Government are supporting the recovery of bushfire impacted communities through a range of funding programs that support local and regional economic and social recovery – including initiatives across economic, social, built and natural environment recovery.

The Bushfire Local Economic Recovery (BLER) Fund supports communities to recover both economically and socially from the 2019-2020 bushfires. The BLER Fund will make $500 million available for projects in bushfire affected communities.

All projects supported under the BLER Fund will be jointly funded by the NSW and Australian Governments.

Bushfire affected communities will have access to funding for infrastructure projects and local programs and initiatives that encourage the short, medium and long-term recovery.

Bushfire funding streams

COMMUNITY RECOVERY AND RESILIENCE FUND

Support community recovery, capacity building and improve future disaster resilience

INDUSTRY RECOVERY PACKAGE

Targeted support for driver industries of forestry, agriculture and horticulture

BUSHFIRE LOCAL ECONOMIC RECOVERY FUND

Support local and regional economic and social recovery projects

PROGRAM OBJECTIVE

The objective of the BLER Fund is to support economic and social recovery at a local and regional level in areas impacted by the 2019-2020 bushfires. The BLER Fund will support job retention and creation in these regions, strengthen community resilience and reduce the impact future natural disasters will have on our communities. The majority of funding should be committed to the areas most impacted by the fires.

Key Dates

KEY PHASE	DATE
BLER Fund applications open	27 October 2020
Applications close	11 December 2020
Assessment and approval process	Complete end of March 2021
Announcement of successful applications	From April 2021
Final project completion	No later than 30 June 2022

In extenuating circumstances, late applications may be accepted at the sole discretion of the Department of Regional NSW (the Department).

PROGRAM FUNDING

$250 million is available for new projects under the BLER Fund. Funding will be available in impacted regions, but will be focused on supporting the areas most impacted. Regions not directly or minimally impacted by the 2019-2020 bushfires are not eligible for funding under BLER. Eligible Local Government Areas (LGAs) are listed in Appendix A.

Grant amounts

The grant funding for individual projects is dependent on the project type.

- Infrastructure projects must seek a minimum of $400,000 with a maximum available grant of $20 million.
- Environmental projects including rehabilitation, remediation and resilience improvements must seek a minimum of $200,000 with a maximum available grant of $4 million.
- Programs, including social, business and environmental education initiatives must seek a minimum of $200,000 with a maximum available grant of $4 million.

Funding will be prioritised to support applications from areas most impacted by bushfires.

For organisations registered for GST and where it is payable, successful applications will be paid the approved grant amount plus 10 per cent by the Department.

Where an organisation is not registered for GST, it is not payable on grant amounts under the BLER Fund. Organisations not registered for GST must incorporate any GST paid by them to third parties into their project budget and funding request.

Co-contributions

Applicants are strongly encouraged to make a financial co-contribution to their projects; however, this is not an eligibility requirement. Co-contributions could include leveraging community funds, in-kind support, local government funds as well as funding from other sources including other NSW or Australian Government programs. Evidence of secured co-contributions will be required as part of an application where relevant. The delivery or viability of projects should not be dependent on co-contributions that have not been secured.

ELIGIBILITY CRITERIA

Projects will need to meet the program eligibility and assessment criteria to receive funding. All applications will be assessed for eligibility and only eligible applications will be considered for funding.

Applicants

Applicants must hold an Australian Business Number (ABN), Australian Company Number (ACN) or be registered with NSW Fair Trading under the Associations Incorporation Act 2009 or other Act.

An applicant must be one of the following entities:

- Councils
- Joint Organisation of Councils
- not-for-profit organisations, including business chambers, industry associations and charities
- research or academic organisations
- State Government corporations
- Local Aboriginal Land Councils.

For-profit organisations and state government agencies may be considered eligible applicants only where projects will deliver a clear public benefit.

A public/private partnership may only seek funding where the lead applicant is an eligible entity.

Section 355 committees of council are eligible to apply for funding, but the council will be required to execute the funding deed should the project be successful.

Applicants must have or be able and willing to purchase at least $20 million in public liability insurance.

Ineligible applicants

Ineligible applicants include:

- an individual or group of individuals (including sole traders and partnerships)
- an unincorporated association (including trusts) that is not a registered not-for-profit organisation
- discretionary investment trusts that are not a registered not-for-profit organisation.

Project location

Projects seeking funding must be delivered in an eligible LGA as listed in Appendix A.

Applicants are permitted to submit more than one application. Applications can be submitted for projects that will be delivered and provide benefit across multiple LGAs.

Where the applicant is not the owner of the land where the project will be delivered, landowner's consent will be required as part of the application.

Project type

To be eligible projects must:

- support the recovery of the local community's economy, social well-being, environment or improve resilience to future natural disasters
- be able to commence within six months of the funding deed being executed by the Department and be completed by 30 June 2022
- align with one of the following categories:
  - enabling infrastructure
  - industry and business development
  - social development
  - natural environment and resource development
  - built environment adaption.

The specific scope of works and key milestones of the project must be defined in the application.

CATEGORY	DESCRIPTION	PROJECT EXAMPLES
Enabling infrastructure	New infrastructure and functionality enhancements or upgrades to existing infrastructure, including improvements.	• Shared pathway, bike paths and pedestrian access • Restoration of bushfire impacted roads • Development of roads to support increased industrial development • Art galleries and other facilities to support social community development and economic recovery • Improved community road access and vehicle capacity
Industry and business development	Initiatives supporting entrepreneurship and innovation, business retention, development of regional specialisations, economic diversification, expansion and attraction, capacity building, workforce participation, skills development, small business development, and local and regional industry networks.	• Tourism campaigns (including digital product development) • Regional events • Workforce adaptation and work ready training programs • Remote working facilities and campaigns to boost regional economies
Social development	Community development and wellbeing, social support or social development initiatives.	• Resilience programs • Pools and other amenities • Community groups • Community hall upgrades and other critical social infrastructure • Community mental health programs
Natural environment and resource development	Natural environment restoration, environmental improvement initiatives and research into improved fire management.	• Regeneration activities • Breakwater and other coastal protection • Walking and mountain bike trail development • Restoration and improvement of parkland and other natural resources
Built environment adaption	Disaster risk reduction through adapting the built environment to future climate change and natural hazard conditions, including through the development of emerging technologies.	• Community refuge centres • Fire resistant infrastructure • Energy security infrastructure, such as solar power for community buildings • Commercialisation of new fire detection technology • Fire-resistant streetscaping • Upgrades to mobile communication security

Ineligible projects and project costs

Infrastructure and programs are not eligible for funding if they:

- are for the day to day delivery of essential or core local government services
- have exclusive private benefits or provide direct commercial and/or exclusive private benefit to an individual or business.

Ineligible project costs include:

- costs related to buying or upgrading non–fixed equipment or supplies unless it is a small component of a larger fixed project
- financing, including debt financing, or insurance
- rental costs for infrastructure projects and environmental projects
- for community programs, rental costs not directly associated with the program
- costs relating to depreciation of plant and equipment beyond the life of the project
- prizes
- non-project related staff training and development costs
- operational expenditure, including but not limited to regular repairs and maintenance
- ongoing / recurrent funding that is required beyond the stated timeframe of the project
- for infrastructure projects, funding for any ongoing staff or operational costs
- for non-infrastructure projects, funding for ongoing staff or operational costs beyond the scope and timeframe of the funded project
- retrospective funding to cover any project component that is already complete before a funding deed is executed by the Department.

Any project management or administration cost over 20 per cent of the total funding request is ineligible to be claimed under BLER funding. Administration and project management costs may include accommodation, transport, contingency and on-costs for eligible wages.

ASSESSMENT CRITERIA

All applications meeting the eligibility criteria must also meet the assessment criteria to receive funding, including:

1. Alignment with regional objectives
2. Local support and participation
3. Need for project
4. Feasibility
5. Enduring benefit.

1. Alignment with regional objectives

Applications must demonstrate that the project will support:

- the economic or social recovery of the LGA or region
- the strengthening of community resilience.

Evidence must be provided showing how the project aligns with one or more of the following:

- National Disaster Risk Reduction Framework
- National Strategy for Disaster Resilience
- State Recovery Plan
- Regional Economic Development Strategy
- Regional Recovery Plan
- Relevant local government strategies.

2. Local support and participation

Applications must provide evidence the community supports the project.

Evidence could include:

- letters of support
- minutes or reports from community meetings
- community led funding proposals.

The application must also demonstrate the project will optimise local and or indigenous employment and procurement opportunities. This could include work for local trades, services or other input businesses as well as potential for direct community employment on the project.

3. Evidence base

Applications must demonstrate the community has a need for the proposed project and its outcomes. This need can either be demonstrated through data analysis or through community driven interest in the project and its outcome.

Evidence could be demonstrated through:

- community surveys
- gap analysis
- local media
- evidence of degraded services or facilities
- local strategic plans.

4. Feasibility

Applications must provide evidence the project has been adequately planned, costed and appropriate mitigation strategies are in place for identified risks.

Applicants must provide:

- a detailed and realistic project management plan
- evidence that the project can be delivered by 30 June 2022
- confirmation that no serious planning, construction, zoning or other impediments exist for the delivery of the project
- evidence the applicant has the necessary expertise to deliver the project or can access experienced and qualified personnel to support the project delivery
- confirmation that all construction work delivered through the project would be delivered by builders accredited under the Australian Government Construction WHS Accreditation Scheme.

5. Enduring benefit

Applications must demonstrate the project output will deliver an ongoing, sustainable benefit for the community.

Applicants must demonstrate the project's outcome will either:

- improve community resilience to future natural disasters
- reduce future disaster risks
- provide ongoing facilities for community use
- provide community services
- provide economic benefit for the area
- sustained employment opportunities.

APPLICATION PROCESS

The BLER Fund is a single-stage application process.

Staff from the Department will be available to provide advice to applicants in preparing their applications.

It is strongly recommended applicants seek input from the Department prior to applying to ensure applications are consistent with BLER Fund's key objectives, are well-developed and the project is ready to commence within six months.

Applicants must submit the following documents as part of their application through the online portal:

PROJECT CATEGORY	APPLICATION DOCUMENTS REQUIRED
Category 1: $200,000 to $1 million funding requested	• Completed application form • Completed project plan template • Completed budget template (with evidence of estimated costs)
Category 2: Over $1 million funding requested	• Completed application form • Completed business case in BLER template (with evidence of estimated costs)

Assessment process

Departmental staff assess projects against the eligibility requirements and then facilitate the assessment of projects against the assessment criteria.

Through the assessment process, the Department may request additional information from the applicant or from any other source. The Department may also seek advice from other NSW Government agencies or other third parties (such as probity advisors) to assist with the assessment of projects.

The Bushfire Local Economic Recovery Assessment Panel (the Assessment Panel) will review project eligibility and assessment outcomes and form a list of projects that are deemed suitable/not suitable for funding. The Assessment Panel will consist of representatives from the Department, Resilience NSW and an independent member.

Where there is uncertainty or unintended outcomes arising from the BLER Fund eligibility requirements a practical approach will be taken to resolve issues. Final eligibility determinations will be made at the discretion of the Assessment Panel, with advice and recommendations from the Department.

The Assessment Panel will consider the individual merits of each project against the assessment criteria and how the project fits with the package of projects to support overall regional recovery. Broader factors that may be considered when assessing the overall package of projects suitable for funding include:

- variety of project size, scale, type, and domain
- amount of funding available
- importance of a project to the local and regional economies
- importance of a project to the economic and industry recovery of a local and regional area
- ability for a project to diversify an economy
- geographical spread of projects across bushfire impacted regions
- project benefits relative to the impact from the bushfires in a local and regional area
- broader recovery context and outlook
- alignment with existing NSW Government policies and strategies
- whether a project is most suited for funding under the BLER or another funding source
- market failure, market barriers and the role of government.

The Assessment Panel may recommend part-funding of projects if there is insufficient funding available for the whole project or only a component of the project is considered suitable/ eligible for funding.

The NSW Government may refer projects to other funding programs for consideration.

The NSW Government and Australian Government will review all suitable projects for co-funding. Other factors may be taken into consideration when determining final projects to receive co-funding.

Projects are considered by the NSW Cabinet Committee on Expenditure Review for the final funding decision.

If the project is successful

Successful applicants will receive written notification of the grant outcome. Once notified, successful applicants will be required to:

- contact the Regional NSW Grant Management Office to enter into a funding deed with the NSW Government
- submit project progress reports to the NSW Government on a quarterly basis or, as outlined in the funding deed. Grants will be paid via milestone payments set out in the funding deed
- pay back unspent funds or those funds which have not been spent in accordance with the funding deed or receive a reduced final payment
- participate in a program evaluation after the project has commenced to determine the extent to which their projects have contributed to the objectives of the fund
- acknowledge the joint Australian and NSW Governments support for the project as per the NSW Government Funding Acknowledgment Guidelines available at nsw.gov.au/nsw-government-communications/branding
- note the NSW Government and Australian Government reserve the right to undertake an audit of grant funding within a period seven years from the signing of the funding deed.

Requests for variations or changes to the project will only be considered by the Department in limited circumstances.

The evaluation of the Program will require applicants to provide evidence of how projects have resulted in a measurable benefit to the community that is consistent with the objectives of the fund.

The NSW Government or Australian Government may use any information submitted by an applicant for promotional material.

If the project is unsuccessful

The NSW Government will notify applicants in writing the outcome of each application and will offer feedback session to unsuccessful applicants.

FIND OUT MORE

To help applicants prepare their application, additional information and resources will be placed on the Bushfire Local Economic Recovery web page, including relevant application templates.

A webinar will be held during the application open period.

nsw.gov.au/blerfund

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APPENDIX A

- Armidale Regional Council
- Ballina Shire Council
- Bega Valley Shire Council
- Bellingen Shire Council
- Blue Mountains City Council
- Byron Shire Council
- Central Coast Council
- Cessnock City Council
- Clarence Valley Council
- Coffs Harbour City Council
- Cootamundra-Gundagai Regional Council
- Dungog Shire Council
- Eurobodalla Shire Council
- Glen Innes Severn Council
- Goulburn Mulwaree Council
- Greater Hume Shire Council
- Gwydir Shire Council
- Hawkesbury City Council
- Inverell Shire Council
- Kempsey Shire Council
- Kyogle Council
- Lake Macquarie City Council
- Lismore City Council
- City of Lithgow Council
- MidCoast Council
- Mid-Western Regional Council
- Muswellbrook Shire Council
- Nambucca Shire Council
- Narrabri Shire Council
- Oberon Council
- Port Macquarie-Hastings Council
- Queanbeyan-Palerang Regional Council
- Richmond Valley Council
- Shoalhaven City Council
- Singleton Council
- Snowy Monaro Regional Council
- Snowy Valleys Council
- Tamworth Regional Council
- Tenterfield Shire Council
- Tweed Shire Council
- Upper Hunter Shire Council
- Upper Lachlan Shire Council
- Uralla Shire Council
- Wagga Wagga City Council
- Walcha Council
- Wingecarribee Shire Council
- Wollondilly Shire Council

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Phone: **1300 679 673**
Email: regionalnsw.business@dpc.nsw.gov.au
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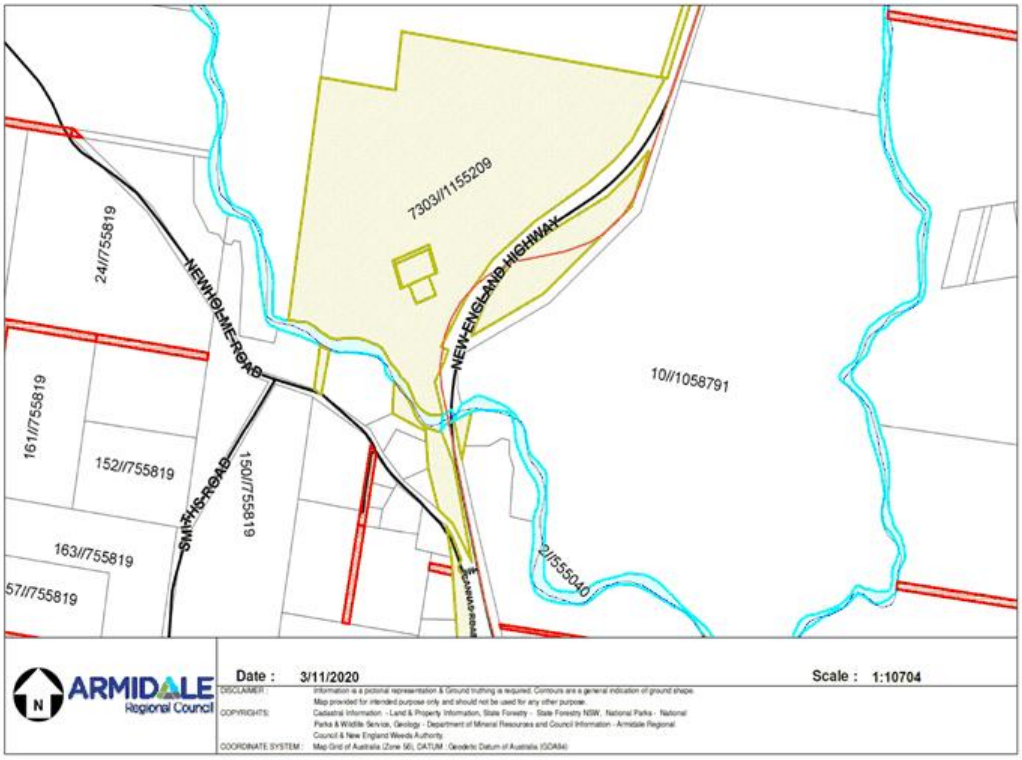
JN0158

Tilbuster Landfill Map & Location



Note in the picture above, it would appear that the landfill is part of the NSW Governments highway land and doesn't have its own lot and DP number.

Tilbuster Photographs

2 November 2020






CodyHart Environmental
Monitoring & Management

Helping You Protect Your Environment

NEW WELLS INSTALLATION, COMMISSIONING, AND ROUND ONE GROUNDWATER MONITORING REPORT

TILBUSTER LANDFILL

July – September 2010

for Armidale Dumaresq Council

CodyHart Consulting Pty Ltd ACN: 076 662 989 ABN: 23 809 060 895
Trading as CodyHart Environmental
Groundwater and Landfill Environmental Monitoring Specialists

Tilbuster Landfill - New Wells Installations, Commissioning & Round 1 Monitoring
July - September 2010

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Tilbuster Landfill - New Wells Installations, Commissioning & Round 1 Monitoring
July - September 2010

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APPENDICES

Presented by: Barbara Hart
Hydrogeologist & Environmental Scientist
CodyHart Environmental

Date: 30 December 2010
Report: CodyHart 10.2104.1

DISCLAIMER

CodyHart Consulting Pty Ltd, PO Box 1073, 3/29 Township Drive, BURLEIGH HEADS QLD 4220
Phone: (07) 5520 5532 Mobile: 042 777 5120 Email: pelican@codyhart.com.au

1. INTRODUCTION

Three monitoring wells named TW1, TW2 and TW3 were installed at the closed Tilbuster Landfill in July 2010. This report provides information on the well installation and commissioning, and the first round of monitoring of the wells and two surface water sampling points.

2. AIM OF MONITORING

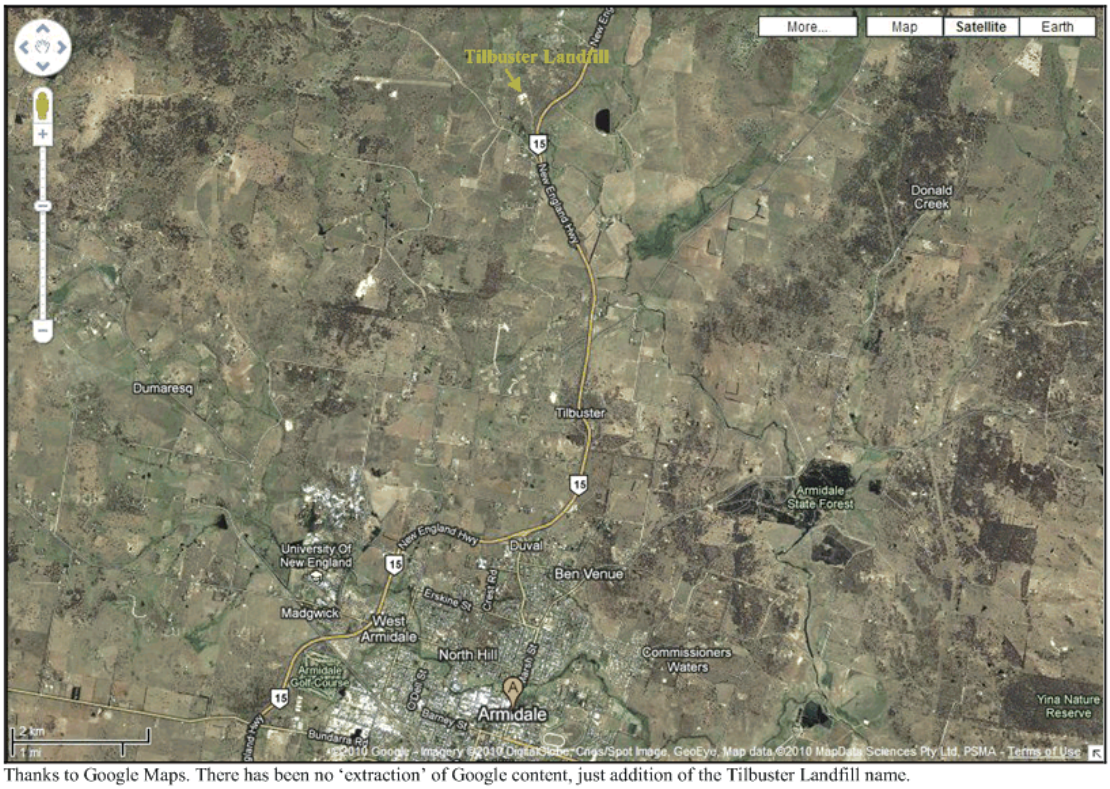
Four rounds of groundwater and surface water monitoring are planned. The program aims

- to assess if there is landfill leachate contamination of surface water and groundwater, and
- to review if gold mining in bygone days downgradient of the landfill on the banks of Duval Creek may have affected surface water quality.

3. LOCATIONS

Access to the Tilbuster Landfill is along a short road off the New England Highway just north of Duval Creek. It is approximately 7 km north of the Armidale suburb, Duval (Figures 1 and 2).

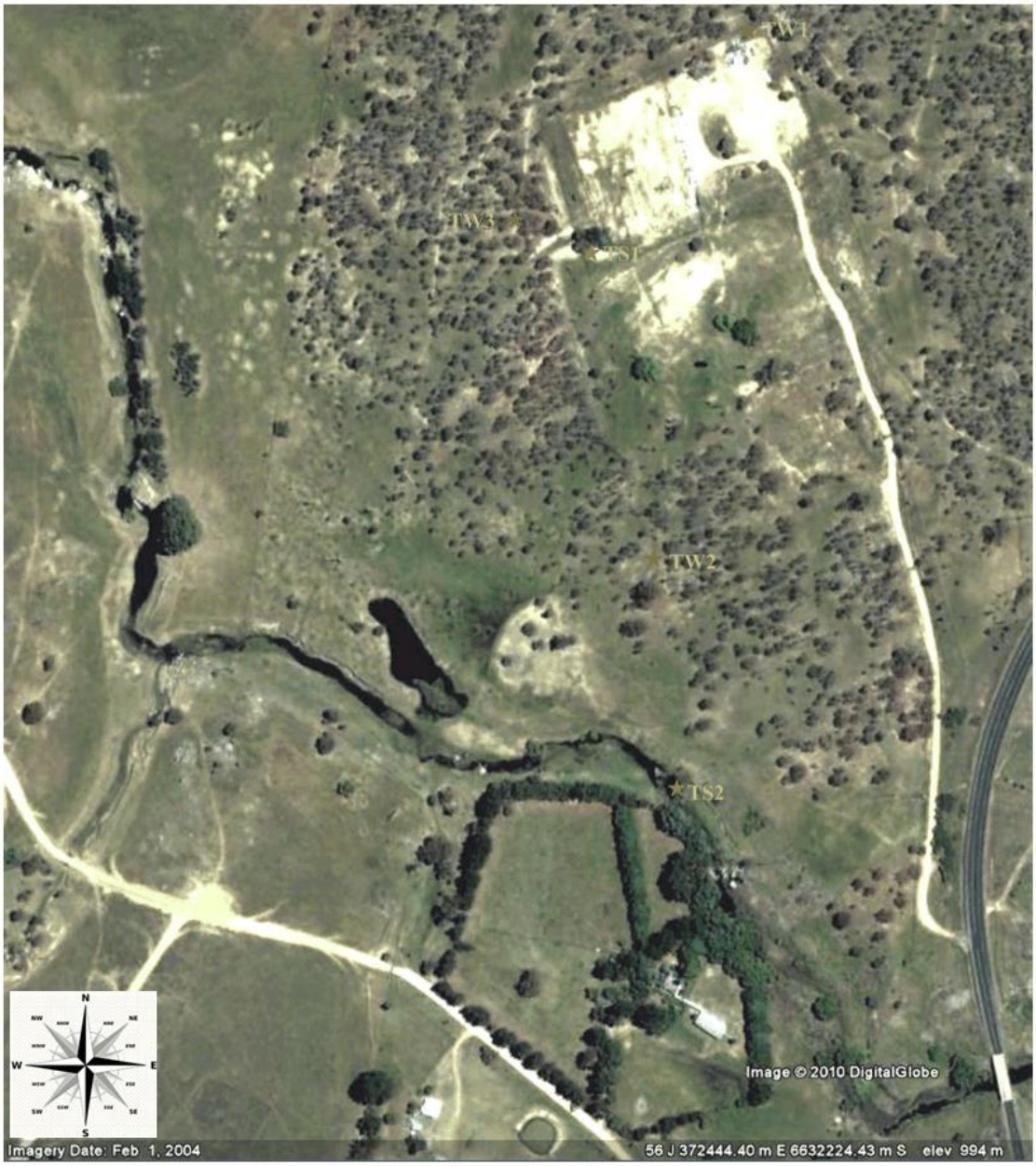
Figure 1: Tilbuster Landfill location



Thanks to Google Maps. There has been no 'extraction' of Google content, just addition of the Tilbuster Landfill name.

Figure 2 shows the locations of the three new monitoring wells (TW1, TW2 and TW3) and the two surface water sampling points: the sedimentation dam TS1, and a sampling point in Duval Creek TS2.

Figure 2: Monitoring well and surface water sampling locations

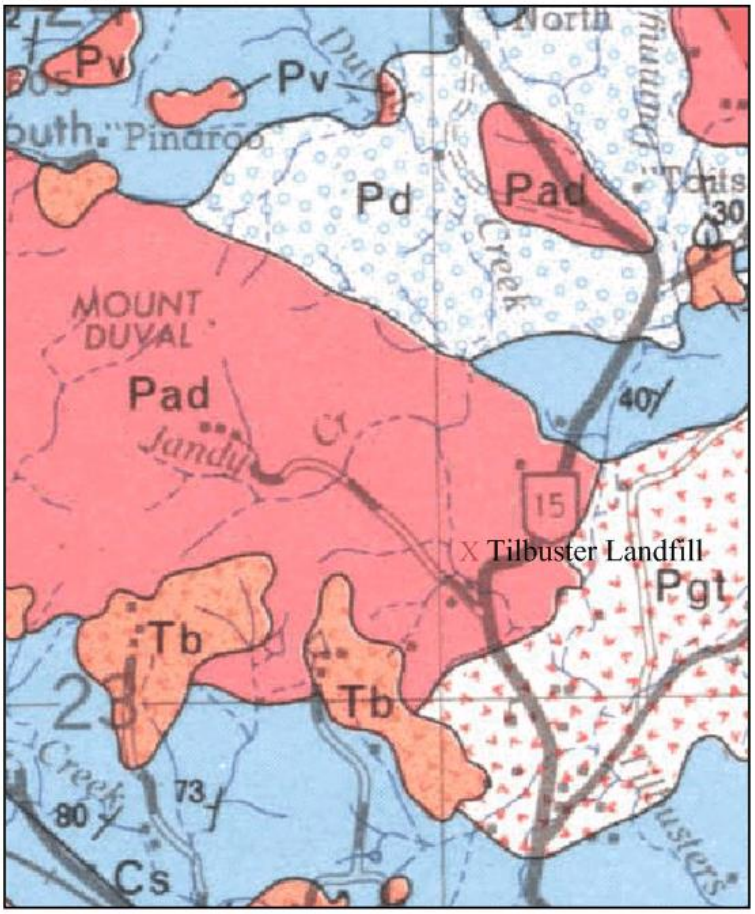


©Google Earth. Downloaded December 2010. Added sampling points.

4. GEOLOGY

The Dorrigo - Coffs Harbour 1:250,000 Geological Series Sheet SH 56-10&11 indicates that the geology underlying the Tilbuster Landfill is Mt Duval Adamellite ('Pad' classification coloured pink, Figure 3).

Figure 3: Site geology



Pad	Mt Duval Adamellite
Pgt	Tilbuster Granodiorite
Tb	Tholeiitic and alkaline basalts, minor trachyte and dolerite

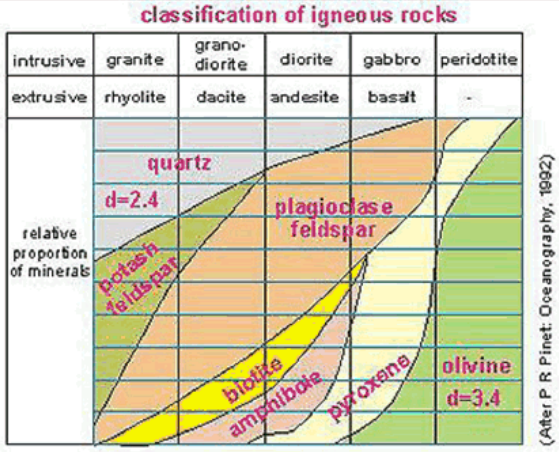
Adamellite and granodiorite are igneous rocks. Adamellite is usually left out of igneous rock field classifications (Table 1 and Figure 4). Granodiorite is sometimes included (Figure 4).

Table 1: Igneous Rock field classification

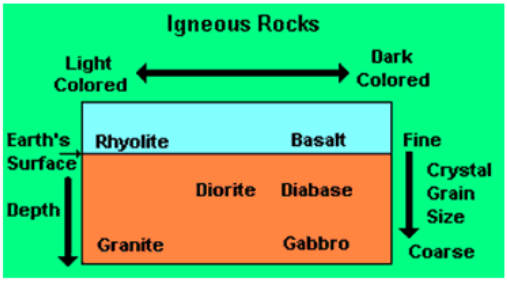
COLOR	LIGHT COLORED	MEDIUM COLOR	DARK COLOR
CHEMISTRY	FELSIC	INTERMEDIATE	MAFIC
COARSE GRAINED	GRANITE	DIORITE	GABBRO
FINE GRAINED	RHYOLITE	ANDESITE	BASALT

(Glendale Community College - < http://www.gc.maricopa.edu/earthsci/imagearchive/igenous.htm>)

Figure 4: Adamellite has more feldspar than granodiorite



http://rst.gsfc.nasa.gov/Sect2/soil50.jp…



http://www.rockhounds.com

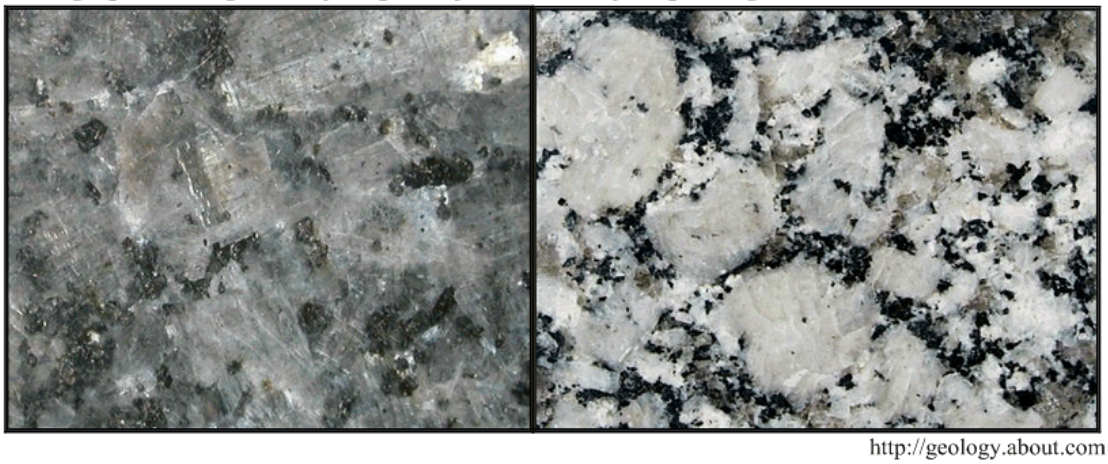
Granodiorite has mixed characteristics of granite and diorite.

> It has a high quartz content, like a granite, but also a high mafic (amphibole/biotite) content (10-25%) more like a diorite. Granodiorite is typically intermediate coloured with a subequal mixture of light coloured sodium plagioclase/quartz, and dark coloured amphibole and biotite.
>
> (http://csmres.jmu.edu/geollab/fichter/IgnRx/GranoDio-1A1.html)

Granodiorite is darker in colour than granite. It usually contains abundant biotite mica and hornblende, giving it a darker appearance than true granite. It contains more plagioclase feldspar than potassium (alkali) feldspar.

Adamellite differs from granodiorite by containing more alkali feldspar, usually more biotite and less hornblende, and oligoclase instead of andesine as the plagioclase mineral (http://www.britannica.com). The feldspars are generally light in colour. They vary in colour from white or grey to pink or red (Roberts 1998, p. 24). Plagioclase feldspar forms a continuous series of solid solutions (Roberts, 1998, p. 25) and tends to be more transparent than alkali feldspar (Photograph 1).

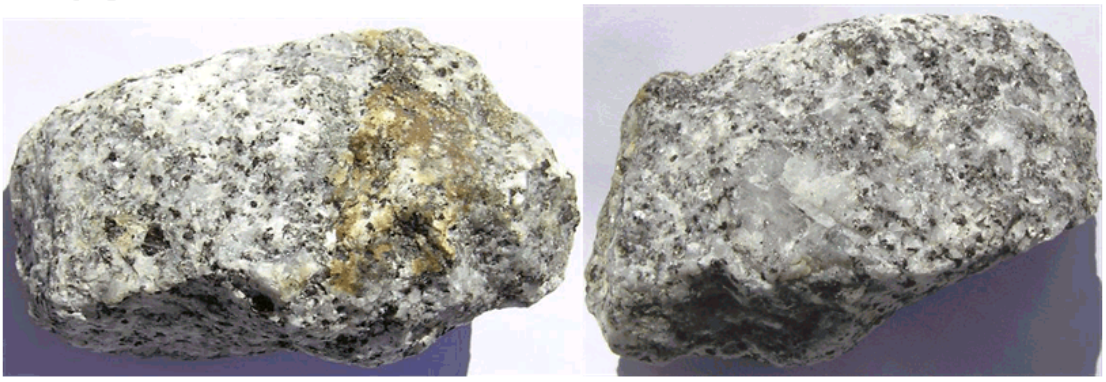
Photograph 1: Plagioclase feldspar (left) and alkali feldspar (right)



http://geology.about.com

It appears that a large rock chip from borehole TW1 is adamellite (Photograph 2). Smaller chips in borehole TW3 are also similar. Therefore the actual bedrock material matches that mapped on the geological sheet.

Photograph 2: TW1 adamellite x1.3 (both sides)



Note the white alkali feldspar and red feldspar on the left hand photograph, and the cleaved and more transparent plagioclase feldspar on the right hand photograph. Note also the black biotite mica, some as fine flecks and other larger pieces such as that on the left hand side of the left hand photograph.

The adamellite was close to the surface in both borehole TW1 and TW3. In borehole TW1 there was 0.2 m of topsoil, then heavy clay to 2.0 m, before striking the adamellite. In borehole TW3 there was brown sand to 2.0 m, then sandy clay from 2.0 – 3.0 m, before striking the adamellite.

In borehole TW2, there was no topsoil, sandy clay from 0.0 to 2.0 m, basalt amongst brown sand from 2.0 to 5.0 m, and then weathered rock with mica from 5 to 18 m. Bedrock was not reached. The basalt suggests that borehole TW2 is in the geological map 'Tb' classification (Tholeiitic and alkaline basalts, minor trachyte and dolerite). Other rocks collected below the basalt may be weathered trachyte due to the specs of biotite mica on alkali feldspar (Photograph 3). Trachyte consists mainly of alkali feldspar (Roberts 1998, p. 94).

Photograph 3: TW2 weathered rock x2

Note the predominance of white alkali feldspar indicative of trachyte. Yellow and black specs on the alkali feldspar are biotite. Some small red feldspar pieces are also present.

5. INSTALLATION OF WELLS

In consultation with James Turnell of Armidale Dumaresq Council, Barbara Hart, hydrogeologist of CodyHart Environmental ascertained the most suitable positions for the monitoring wells (Figure 2) taking into account site topography, hydrogeology, position in relation to the historical landfilled areas, and drilling rig accessibility.

Council obtained Bore Licences No. 90BL255092, 90BL255093, and 90BL255094 to drill the monitoring wells from the Moree Bore Licence Application Section, Office of Water, Department of Environment, Climate Change and Water (DECCW).

From 2 to 5 July 2010 Mannion Drilling of Inverell drilled the boreholes, then screened and cased them for monitoring wells. Daniel Baldwin was one of the drilling team and has NSW Driller's Licence No. 1922, Class 3. A percussion rotary air drilling rig with downhole hammer was used for air drilling without use of water. This meant that soil samples were not wet by drilling water and that if water ejections occurred they would be solely groundwater. A monitoring well screen and casing were installed down the borehole, and the surrounding annulus was filled, in order from the base with sand filter pack, bentonite and grout. Due its depth, well TW3 had some granite backfill inserted below the grout.

The well construction specifications meet the general requirements of the NSW EPA (1996, p.20) Benchmark Techniques and the more detailed specifications of current United States standards*: 'ASTM Standards on Ground Water and Vadose Zone Investigations'*, second edition (ASTM 1994) and *'Monitor Well Design, Installation, and Documentation at Hazardous and/or Toxic Waste Sites'* (ASCE 1996). Specific construction details for the individual wells are given on the first page of appendices for each well: Appendix A for TW1, Appendix B for TW2, and Appendix C for TW3. Form As that detail the completed work for each well for the NSW Office of Water, are provided at the end of each well's appendix.

Heights and locations of screens and filter pack were determined taking a number of factors into account:

1. levels at which the soil or rock was first saturated or moist (only possible with air rather than water as a drilling medium) and/or at which water flow rates were high;
2. geological strata with differing water carrying capacities;
3. whether upper aquifer or lower aquifer groundwater quality or piezometric levels were of interest;
4. water head rise soon after sufficient well depth had been drilled;
5. relative level in relation to the base of the landfill; and
6. the need to have sufficient grout above the rest of the pack material to prevent rainfall ingress into the well.

Barbara Hart and the drillers discussed the screen needs for each well at appropriate times during drilling progress.

All proposed work was carried out successfully.

6. WELL COMMISSIONING

Well commissioning consisted of well development, electrical conductivity (EC) profiling, purge volume testing, and slug testing to estimate hydraulic conductivity (*K*).

6.1 Well development

Well development is a process whereby drilling fines caught between sand pack grains surrounding the screen are cleaned out so that relatively clear water samples will be available.

A number of groundwater monitoring authors stress the importance of well development. Barcelona et al. (1985) explain that well development is essential prior to hydraulic conductivity testing. Puls and Barcelona (1996) explain that a well needs to be left for at least a week after well development before sampling. ASCE (1996) recommends at least 14 days. They explain that if sampling commences too early after well installation and development, water levels and analyte concentrations may not reflect the true nature of the surrounding groundwater regime.

CodyHart developed the wells. Wells TW1 and TW2 were developed by bailing until the groundwater was relatively clear. For well TW1, 80 L was extracted equivalent to 5 wells volumes. In well TW2 110 L was extracted, which was equivalent to 2.5 well volumes. Due to the greater depth of well TW3, a specialised QED brand well development pump was used. The groundwater was relatively clear after 185 L had been extracted.

6.2 Electrical conductivity (EC) profiling

An EC profile test is used to establish the best pump position for following tests and future groundwater quality sampling. An EC probe on a long electrical cord is lowered down the well's water column and EC values noted every ¼ meter. A change is usually noted when the probe enters the screen. The values are reviewed to determine the most representative or practical location to position the sampling pump. Results for each well are given in their individual appendices.

A change in EC values is often noted when the EC probe enters into the screen. Higher value EC within the screen may indicate contaminants or simply salt dissolution from soil and rock, especially clays and mudstones. Lower value EC regions may indicate zones of more permeable rock (not clays) from which groundwater is inflowing more quickly.

There was no indication of contaminants or clays adjacent to the screened levels. Instead, the EC values were relatively low which is indicative of the Adamellite rock (TW1, TW3) and weathered trachyte and biotite (TW2) in which the wells are screened.

6.3 Purge volume testing

Due to mixing and stagnation in the well, the EC values obtained in the EC profile test may not represent the formation water horizontally adjacent. Ensuring that groundwater collected for samples is representative of the formation water is assisted by a 'purge volume test'.

Field analyte values are noted as groundwater passes through a flow through cell. Stabilisation of EC values is used to determine future purge volume (Hart et al. 2000). Water level drawdown is measured to decide on pump rate for future sampling. The psi may also be adjusted to maintain a 100 mL sample volume.

Purge volume tests were conducted with a bladder pump in each well in conjunction with the first round of sampling. Pumping was continued after samples had been collected and field analyte values noted. The results confirmed that stabilisation was complete when sampling commenced. Results are presented and discussed in the appendices for each well. A future purge volume is recommended for all three wells.

6.4 Slug tests

Slug tests are used to estimate the hydraulic conductivity (*K*) (in-situ permeability) of the well strata. They are a popular method for estimating *K* in low permeable material such as clay and silt where wells have a slow recovery, and provide a more realistic estimate than laboratory tests for *K* (Campbell et al. 1990, p. 86). The *K* value is needed in the estimation of seepage rates (Watson & Burnett 1995, pp. 94-100), that is, groundwater flow rate, and for prediction of contaminant concentrations in fate and transport models. *K* information is also useful for determining an appropriate sampling frequency.

From well development it was noted that recovery in these wells was relatively slow, the slowest being well TW3. Therefore manual noting of water level change using a dip meter after insertion ('slug-in' test) and later removal ('slug-out' test) of a closed bar 'slug' was possible in all wells.

The time and water level results were input into a computer program called *Super Slug*. Site and well parameters were also inputted. The most appropriate *K* estimation method for the well's regime was used. Full data and results are given in each well's appendix (A-C). Summary *K* results are provided in Table 2. The greatest *K* was 94.2 metres per year in well TW2, the southern downgradient well.

Table 2: Hydraulic conductivity (K) estimates from slug tests

	Hydraulic conductivity Slug in (falling-head test)	Hydraulic conductivity (*K*) Slug out (rising-head test)	Average (geometric mean) hydraulic conductivity $*K = (K_{RH} \cdot K_{FH})^{1/2}$	Most appropriate method
TW1	0.003 m/day = 1.095 m/year = 3.5 x 10^{-8} m/sec	0.043 m/day = 15.695 m/year = 5.0 x 10^{-7} m/sec	0.011 m/day = 4.0 m/year = 1.3 x 10^{-7} m/sec	Bouwer & Rice
TW2	0.1659 m/d = 60.6 m/year = 1.9 x 10^{-6} m/s	0.4013 m/d = 146.47 m/year = 4.6 x 10^{-6} m/s	0.258 m/d = 94.2 m/year = 3.0 x 10^{-6} m/s	Bouwer & Rice
TW3	0.003 m/d = 1.095 m/year = 3.5 x 10^{-8} m/s	0.0026 m/d = 0.949 m/year = 3.0 x 10^{-8} m/s	0.003 m/day = 1.095 m/year = 3.5 x 10^{-8} m/s	Bouwer & Rice

* Sevee (2006, p. 933) explains that the difference in rising and falling head tests in the one well can vary by up to a factor of 100, with typically the falling-head result being greater than the rising-head result. 'The errors in measurement are believed to be associated with well-installation effects, which cause a disturbance of the aquifer material around the borehole'. He recommends Milligan's (1975) method for the 'best' *K* estimate: $K = (K_{RH} \cdot K_{FH})^{1/2}$, that is, the geometric mean. Bouwer (1978, pp. 132-133) also recommends using the geometric mean when averaging *K*.

It is important to be cautious about the predictive accuracy of slug test results. Theoretical perfection about hidden hydrogeology is impossible. Groundwater flow direction may be anisotropic (flow in different directions from the one point); groundwater flow rate is often not homogeneous due to different confining influences; well diameters vary vertically due to varying diameters of the pack's gravel envelope; and, as explained by Butler (1997, p. 4, 16), well development is often quite minimal resulting in partially or unevenly removed low hydraulic skins not representative of the formation on the bore walls. [Note: No drilling mud was introduced into Tilbuster Landfill wells, and the thorough well development before conducting the slug test, makes the above criticism inappropriate for the Kentucky Landfill wells.] Bouwer (1989) explains slug test result inaccuracies in terms of vulnerability to aquifer heterogeneities and to inaccuracies in estimating effective well diameters. Hyder and Butler (1995, p. 21) give examples of over-prediction of hydraulic conductivity by 100% and under-prediction by 50%.

6.5 Summary data

Findings of the EC profile tests, purge volume tests, and slug tests are summarised in Table 2.

Table 3: Major parameters from well commissioning tests

	EC profile range (µS/cm)	**Hydraulic conductivity (*K*)**	**Sampling pump position** (from top PVC casing)	**Purge volume**	**Discharge/refill** (secs/secs)	**psi**
TW1	937 - 1300	0.011 m/day	12.0 m	3.0 L	20/20	30
TW2	577 - 586	0.258 m/day	16.0 m	3.0 L	20/20	30
TW3	1226 - 1511	0.003 m/day	34.5 m	3.0 L	45/45	55

The EC values are relatively low which is indicative of the Adamellite rock (TW1, TW3) and weathered trachyte and biotite (TW2) in which the wells are screened.

Pump positions, purge volumes and discharge/refill rates are recommended for all three wells. Sampling pump rates are slow in comparison to those used in productive aquifers.

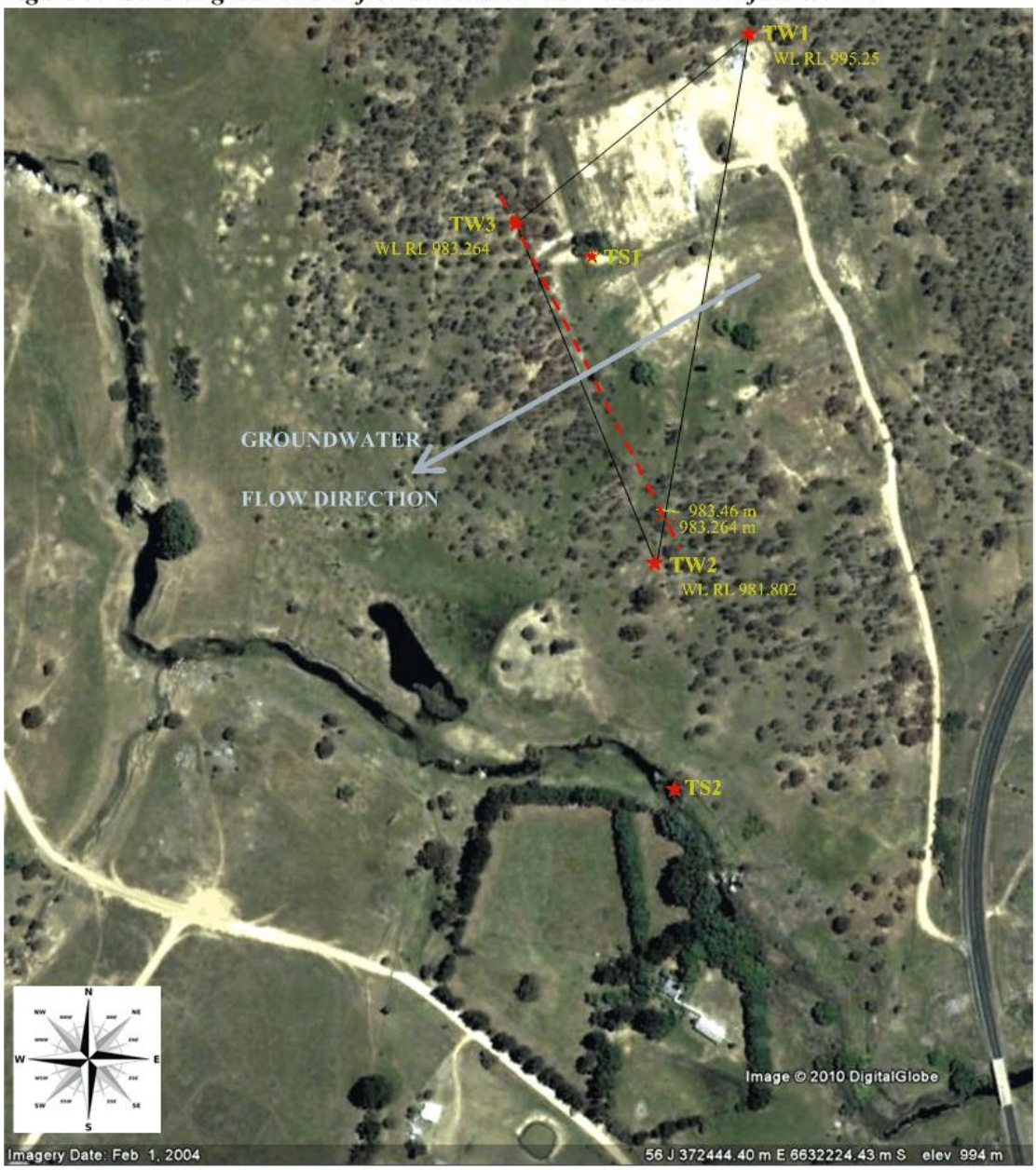
Hydraulic conductivities are slow in the upper wells (TW1, TW3) which are cased and screened within Adamellite rock. However, well TW2 has a moderate flow at 94.2 m/year for a monitoring well.

7. GROUNDWATER FLOW DIRECTION

The general groundwater flow direction is estimated from groundwater levels (WL) measured on 18 and 19 September 2010 converted to the relative levels (RLs) which Council surveyed (Figure 5).

The water levels in each well (TW1, TW2, and TW3) were measured with an electronic dip meter from the top of the PVC casing which is inside the locked standpipe. They were converted to Reduced Levels (RL) relative to Australian Height Datum (AHD) adjusted for height difference from the AHD surveyed by Council at the top of the standpipe. The computed water level relative levels (WLRLs) for each well are noted on Figure 5.

Figure 5: General groundwater flow direction under Tilbuster Landfill 18/09/10



The general groundwater flow direction was estimated using a method recommended by the United States Environmental Protection Agency (US EPA) in *Ground Water Handbook*, 2nd edn (US EPA, 1992, Vol. 1: 85). This method sets up and joins equipotential WLRL points to form an equipotential line (red dashed line on Figure 5). Groundwater is then estimated to flow at a right angle to the equipotential line. The general groundwater flow direction under the site is to the southwest towards Duval Creek. This is in keeping with the common tendency of groundwater flow direction to be in sympathy with topographical fall.

Although general groundwater flow commonly follows topographical fall due to water fall with gravity, groundwater flow rate and direction are complex. Devinny & Lu (1990, p. 2) describe the common groundwater environment:

> *The soil and rock which make up the system are commonly non-uniform. Sand permits the easy passage of large volumes of water, while irregular layers and lenses of clay retard it. Layers of easily permeated material separated by an impermeable layer may split the flow into separate currents of different velocities (Sutton and Barker, 1985). Adjacent layers of differing permeabilities exchange contaminants, causing the contaminants to move slower than the water in one layer and faster than the water in the other. Holes left by the decay of tree roots or the burrows of small animals allow the water to flow rapidly away from the source. Breaks and fissures may penetrate the bedrock. Fractured rock or even fractured clay beds produce a groundwater flow system which diverts water into pathways difficult to understand from the data available at the surface. Horizontal fractures can be closed by the weight of the strata while vertical fractures remain open. Further, the vertical fractures will not have random orientation, but may all trend in one direction (Spayd, 1985). Such a system will divert water from paths predicted by the unsuspecting investigator.*
>
> *The pollutants may not move passively with water. They are often retarded by adsorption on the soils or degraded by micro-organisms. Contaminants evaporate into the atmosphere of the vadose zone and redissolve in groundwater some distance away. Pollutants which do not dissolve in water will float in layers on top of the saturated zone or sink into its bottom, and travel in different directions and at different speeds than the water. The result is a complex dynamic system for which descriptive data are very difficult to obtain.*

8. GROUNDWATER VELOCITY

Three parameters are used in a simple advection formula to estimate groundwater velocity: (1) saturated hydraulic conductivity (*K*) which measures the relative ability of groundwater to move through a geological material in distance/time; (2) hydraulic gradient (*i*) which is the rate of change in head per length of flow in a given direction; and (3) effective porosity (*Ne*) which is the amount of interconnected pore space in the geological material that is available for fluid flow (Weight & Sonderegger 2000, Glossary). The advection formula is:

$V = (K \times i) / Ne$ (Sara, 1994, p.7-41)

This advection formula is a simple estimate because it only takes general groundwater movement into account, and does not factor in other physical, chemical or biological processes that may change the velocity.

For the Tilbuster Landfill site, the following values will be used in the advection formula:
$K = 0.258$ m/day at TW2 (the fastest K value of the three wells); $i = 0.04$ (a 13.45 m fall in Water Level Relative Level (WLRL) between TW1 and TW3 on 18/09/10 over a distance of 336 m); and Ne = 0.45 [Bedient *et al.* (1999:20) estimate for Ne weathered granite 45%].

$V = (0.258 \text{ metres/day} \times 0.04) / 0.45$
$= 0.023$ metres /day or 8.3 m/year

This estimated groundwater velocity of 8.3 m /year indicates that the lower areas downgradient from the landfill would have been affected by the landfill by now given that the landfill has been operating for decades. (Measured K in monitoring wells is predominately in a horizontal direction because the length of the screen is far greater than the diameter of the screen.)

9. FIRST ROUND GROUNDWATER MONITORING

The first round of groundwater sampling was conducted on 17 and 18 September 2010. Three wells (TW1-TW3), the sedimentation dam (TS1) and Duval Creek downstream from the landfill were sampled. Details are provided in the following sections. Field parameter forms are provided in Appendix D, chain of custody form and laboratory sample receipt notifications in Appendix E, and certificate of analysis and quality assurance reviews in Appendix F.

9.1 Field work

A TPS field lab is used by CodyHart Environmental to take field temperature, pH, electrical conductivity (EC), redox potential (Eh), and dissolved oxygen (DO) readings. Sampling is undertaken within 24 hours of the last calibration of the field lab at or near the site.

The water level was measured at each well. Into each well, a decontaminated, stainless steel, bladder pump attached to ¼ inch OD LDPE tubing for compressed air and ¼ inch OD LDPE tubing for water, was lowered to pump groundwater to the surface. From close observations this sampling round, purge characteristics were chosen for this and following sampling rounds. A set pump position, discharge/refill rate and psi, and purge volume were chosen to suit each well's hydraulic characteristics (Hart et al. 2000). The aim is to minimise water level drawdown in a method called 'low-flow' groundwater sampling. Minimal drawdown means that the groundwater is less disturbed and samples are more likely to be representative of true groundwater quality. Repetition of these purge characteristics in following sampling rounds reduces variation in analytical results. A flow-through cell is used to house field probes for measuring field analytes (EC/Temp, pH, Eh and DO) values which are noted are on each well's field parameter form (Appendix D). When purging was complete, sample containers were filled generally from the most volatile analyte to be sampled to the least. Metal samples were filtered from wells TW2 and TW3 which had more sediment than the clear sample from TW1.

After samples were collected at each well, they were immediately put in the CodyHart mobile refrigerator. Transport was arranged in iced eskies so as to reach the ALS laboratory well within holding times.

Surface water samples at TS1, the sedimentation dam, and TS2, downgradient from the landfill, were collected in a decontaminated beaker. Sample containers were filled as per groundwater samples. Metal samples were not filtered and were analysed for total metals which generally provides results of a greater concentration and therefore the worst case scenario.

An anemometer, thermometer and compass were used to determine air temperature, wind speed and wind direction. Their values were noted on each field parameter form (Appendix D).

9.2 Quality assurance (QA)

A number of techniques assure a high quality of sampling and analyses.

- Sampling procedures documented by CodyHart Environmental were followed. These included tests of deionised water and field blanks to assure proper decontamination of equipment.

- Relative percentage differences (RPDs) of field analytes on the field parameter forms (Appendix D) were reviewed. The general RPD of 20% was not exceeded for any field analyte. Dissolved oxygen (DO) and redox potential (Eh) have the potential to vary more than other field analytes when water is extracted from its normal environment.
- Chain of custody forms were completed to document the lack of tampering with sample containers and for the ALS laboratory to advice of sample receipt (Appendix E).
- Australian Laboratory Services (ALS), Stafford, Brisbane, conducted the majority of laboratory analyses. They are a global, Australian company who analyses a broad range of analytes and provides good service. In addition to the certificate of analysis and analytical results, ALS provide quality control reports for laboratory duplicates, method blank and laboratory control samples, matrix spikes, and an interpretive quality control report that summarises the quality assurance findings (Appendix F). A few laboratory control spikes and two surrogates were outside their control limits.
- CodyHart conducted laboratory analyses (yellow sheet, Appendix F) that are best conducted on fresh samples – for alkalinity using the EPA approved method, and for free CO_2 using the APHA 4500-CO_2 C titration method.
- The CodyHart sampling team took duplicate samples (TWD) as replicate samples (one after the other as the groundwater came out of the hose) for all inorganic analytes tested at well TW1. The laboratory was not given the time of sampling or the duplicate sampling point name. This assists impartial analysis because laboratory personnel do not know the duplicate's sampling point origin. The analyte values were within the ALS quality control duplicate criteria.

9.3 Water quality results

This round's results are tabled on portrait tables. Results for the next three rounds will be added to these tables which will enable a quick comparison of each analyte's historical results by looking down each analyte's column. Appendix F has a copy of the detailed laboratory results for this monitoring round preceding the laboratory QC reports. CodyHart laboratory results follow the QC reports.

Table 4: Analytes A - Groundwater quality Well TW1

TW1	*Field analytes*							*Ions and metals*															
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
17/09/10	0.27	1065	6.28	+118	15.4	198	270	83	127	39	45	108	10	**0.014**	**<0.0001**	**0.002**	**0.018**	**0.025**	**0.003**	**0.199**	**1.07**	**0.69**	**<0.0001**

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 5: Analytes B & hydraulic parameters - Groundwater quality Well TW1

TW1	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*		
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill/ psi**	**Purge volume**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1
17/09/10	<0.01	0.2	0.2	21	ND	ND	ND	9.85	995.25	12.0	20/20/30	3.5

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); ND = Nil detected.
Notes: TW1 top of PVC casing RL = 1,005.10 m (top of standpipe RL = 1,005.17 m); Easting 372374.671, Northing 6632552.924 Zone MGA 56.
Depth of well from top of PVC = 12.85 m. Hydraulic conductivity estimate = 1.3 x 10^{-7} m/sec = 0.011 m/day = 4.0 m/year.

Table 6: Analytes A - Groundwater quality Well TW2

TW2	*Field analytes*							*Ions and metals*															
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
17/09/10	1.26	611	6.62	+143	15.1	110	207	2	41	30	31	49	5	0.012	0.0002	<0.001	0.005	0.005	<0.001	0.050	0.009	<0.05	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 7: Analytes B & hydraulic parameters - Groundwater quality Well TW2

TW2	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*		
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill /psi**	**Purge volume**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1
17/09/10	0.09	<0.1	<0.1	13	ND	ND	ND	4.78	981.802	16.0	20/20/30	5.0

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); ND = Nil detected.
Notes: TW2 top of PVC casing RL = 986.582 m (top of standpipe RL = 986.677 m); Easting 372312.096, Northing 6632252.928 Zone MGA 56.
Depth of well from top of PVC = 17.60 m. Hydraulic conductivity estimate 3.0 x 10^{-6} m/s = 0.258 m/d = 94.2 m/year.

Table 8: Analytes A - Groundwater quality Well TW3

TW3	*Field analytes*							*Ions and metals*															
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
18/09/10	0.99	1510	6.69	+102	14.8	117	317	111	261	112	49	128	7	0.003	0.0002	<0.001	0.004	0.013	<0.001	0.095	0.690	0.32	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 9: Analytes B & hydraulic parameters - Groundwater quality Well TW3

TW3	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*		
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill/psi**	**Purge volume**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1
18/09/10	0.03	0.2	0.2	15	ND	ND	ND	9.49	983.264	34.5	45/45/55	3.0

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD).
Notes: TW2 top of PVC casing RL = 992.754 m (top of standpipe RL = 992.834 m); Easting 372226.775, Northing 6632434.961 Zone MGA 56.
Depth of well from top of PVC = 35.40 m. Hydraulic conductivity estimate 3.5 x 10^{-8} m/s = 0.003 m/day = 1.095 m/year

Table 10: Analytes A – Surface water quality – Landfill dam TS1

TS1	*Field analytes*							*Ions and metals*															
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
18/09/10	8.61	1215	7.04	+117	11.4	32	179	10	154	10	6	18	2	**0.020**	**0.0002**	**0.001**	**0.005**	**0.008**	**0.001**	**0.071**	**1.23**	**5.24**	**<0.0001**

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 11: Analytes B & water level - Landfill dam TS1

TS1	*Nutrients and TOC*					VOC	Pesticides		*Water level*
	NO_x	**TKN**	**TotN**	**TOC**	**TotP**	**various**	**OC**	**OP**	**D**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m
Reporting Limit	0.01	0.1	0.01	1	0.01	0.002-0.050	0.5-2	0.5-2	0.01
18/09/10	0.06	2.3	2.4	45	0.30	ND	ND	ND	0.20

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; TotP = Total Phosphorus; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; ND = Nil detected; D = Depth of water at sampling point.

Table 12: Analytes A – Surface water quality – Duval Creek 2m upstream from fence TS2

TS2	*Field analytes*							*Ions and metals*															
	DO	EC	pH	Eh	Temp	Free CO_2	Alk	SO_4	Cl	Ca	Mg	Na	K	As	Cd	Cr	Cu	Ni	Pb	Zn	Mn	Fe	Hg
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.05	0.0001
18/09/10	11.96	186	7.11	+88	15.2	9	51	211	16	78	33	88	60	**0.004**	**<0.0001**	**<0.001**	**0.002**	**0.002**	**<0.001**	**<0.005**	**0.046**	**1.00**	**<0.0001**

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 13: Analytes B & water level - Duval Creek 2m upstream from fence TS2

TS2	*Nutrients and TOC*					VOC	Pesticides		*Water level*
	NO_x	TKN	TotN	TOC	TotP	various	OC	OP	D
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m
Reporting Limit	0.01	0.1	0.01	1	0.01	0.002-0.050	0.5-2	0.5-2	0.01
18/09/10	<0.01	0.7	0.7	12	0.04	ND	ND	ND	0.60

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; TotP = Total Phosphorus; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; ND = Nil detected; D = Depth of water at sampling point.

9.4 Analyte guideline values

Analytes have been chosen for testing to provide evidence on whether or not

- landfill leachate is discharging from the landfill into groundwater and surface water.
- alluvial gold mining has affected surface water quality.

The creek water has previously been used for drinking purposes. It is therefore applicable to review the groundwater and surface water results against Australian drinking water guidelines. Aquatic ecosystem guidelines are also useful for reviewing the water quality of Duval Creek sampled at TS2.

Groundwater usually has greater concentrations of salts and metals than surface water due to groundwater's considerable residence time amongst its surrounding silts, clays and rocks. In addition, groundwater may be affected by Tilbuster Landfill leachate. Natural groundwater analyte concentrations and concentrations indicating landfill leachate intrusion need to be assessed. This review needs to consider attenuation over distance by silts and clays, and the maxim of protecting Duval Creek from contaminated groundwater.

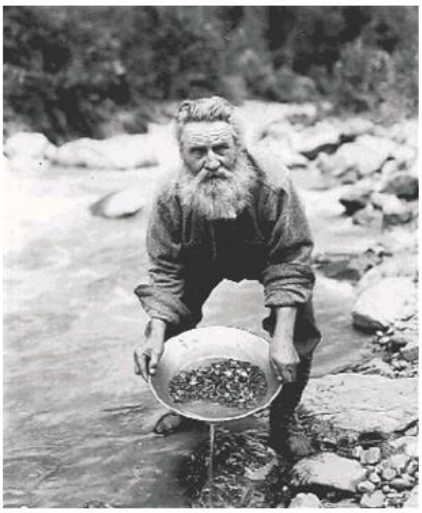
In bygone days, there was gold mining in Duval Creek. Small mullock heaps and the dam on the northern side of Duval Creek resulted from the diggings. There were various gold mining sites in the district. Records indicate that the major initial gold mining area was Rocky River 2 km west of Uralla where gold mining commenced in 1852 (Uralla Visitor Centre). Mining was alluvial, shallow mining alongside rivers and creeks. Panning and cradling were the most common methods of extracting the gold from the wash-dirt. Some historical photographs of gold mining methods follow.

Photograph 4: Cradling for gold at Box Ridge, near Sofala, NSW. Circa 1870.

www.landlearnnsw.org.au

Alluvial ore was shovelled into the top of the cradle and water poured over it to disperse silt, clay and light rocks. Gold is heavier and remains. Gold pans were used for the final separation. The ore was sifted and re-sifted with water until hopefully some gold remained (Photograph 5).

Photograph 5: Alluvial gold mining equipment



Gold panning
http://selfinterestandsympathy.wordpress.com/2007/09/

Rocker cradle & wheelbarrow
http://www.oldmogotown.com.au/panning.html

Photograph 6: Australian alluvial gold mining scene

Tyrrell Photographic Collection, Powerhouse Museum

The banks of a creek have been dug up and the alluvial ore sorted. Perhaps the miners were adding some cyanide to the finely crushed ore and maybe some mercury to the pans to more efficiently separate out the gold.

Mercury has been used for centuries to extract gold. It has a chemical affinity to gold. When mercury is added to gold-bearing material, the two metals form an amalgam. Mercury is toxic to humans and bioaccumulates in animals. However, the gold miners reused mercury which limits the possibility that it is still in Duval Creek water today.

Logsdon et al. (1999) states that cyanide began to be used for more effective metal separation in Year 1887. However, cyanide is unlikely to still be present in Duval Creek - if it was used. Very dilute solutions of sodium cyanide are used and cyanide is noted for biodegrading in 100 days.

The major contaminant of concern from gold mining remains is arsenic.

A Government of Nova Scotia reference on old alluvial gold panning area explains

> *Gold bearing rock that also contained arsenic was crushed and spread over liquid mercury to remove the gold. The mercury was then evaporated, leaving the gold. The remaining sand-like substance, known as tailings, was typically dumped into low-lying areas or lakes and streams near the mine. The arsenic is still present in the tailings.*
>
> *Ingestion of arsenic, usually through drinking water, in high concentrations over a short period of time can cause sickness. Over a lifetime, exposure to moderate levels of arsenic may cause certain types of cancer.*
>
> < http://www.gov.ns.ca/nse/contaminatedsites/docs/faq-goldminearsenic.pdf>

Alluvial gold was most often found in clay soil, clay-laden gravel or between layers of thin rock that had to be pried apart. Naturally occurring arsenic compounds are likely to be in higher concentration in volcanic derived soil and rock (Weiner 2007, p.374) – which is the case at Tilbuster. The breaking up of the soil for gold mining exposed and desorbed arsenic compounds, and the water used for revealing the gold, dissolved the arsenic.

Arsenate [pentavalent arsenic (As^{+5})] and arsenite [trivalent arsenic (As^{+3})] are the two typical forms of arsenic found in water because they are relatively water soluble. Arsenate is generally the most common in oxygenated surface waters with positive redox, but under reducing conditions (negative redox), such as those found in deep lake sediments and some groundwaters, arsenite predominates (NHMRC 2004, Arsenic Fact Sheet). Arsenite is more toxic than arsenate.

The Department of Health, Victoria (2010) provided the following guidance to prevent exposure to arsenic in mine tailings:

> *Children and adults who live near mine tailings are at risk of exposure to arsenic. The risk can be reduced if you:*
> - *Reduce your exposure to mine tailing soil and dust.*
> - *Do not allow young children to play in or eat mine tailings.*
> - *Wash young children's hands and their toys frequently.*
> - *Bring in clean soil for vegetable garden beds and ensure all fruit and vegetables are washed before eating.*
> - *Do not swim in or eat fish or yabbies from dams with walls made from mine tailings.*

They should have added – don't drink the water from creeks and rivers in mine tailing areas.

A summary table of Australian environmental health warning limits relating to landfill and gold mining are provided in Table 14 for comparative purposes.

Table 14: *Environmental health warning limits - some landfill and gold panning analytes*

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Temperature	Biodegradation of waste increases temperature. Temp + EC have successfully defined a leachate plume (Scrudato & Pagano, 1994). An increase in temperature decreases free CO_2 in groundwater and increases pH.	>80%ile <20%ile	NR	NR	NR
pH	varies from acidic to alkaline as waste decomposition progresses (Andreottola & Cannas, 1992:72). But pH levels in groundwater are often naturally low.	6.5 to 8.0 (2000); 6.5 – 9.0 (1992)	6.5 to 8.5 (A)	>6 limits corrosion of pipes	NR
Electric Conductivity (EC)	a general indicator that summarises the general trend of major cation and anion concentrations.	≤30 - 350µS/cm (2000); ≤1500 µS/cm (1992)	≤1500µS/cm (A)	varies, e.g., ≤1,000µS/cm carrots	≥3582 µS/cm analyse for specific ions which may affect
Alkalinity	Measures acid-neutralising capacity, a solution's ability to buffer, that is stop pH changing. Often high in leachate, but some groundwaters can also have high alkalinity.	NR	NR	NR	NR
Ammonia	From decaying plants and animals. May be high in leachate (Hancock & Phillips, 1992:22). Toxic to fish (ANZECC, 1992:2-30).	≤0.18 mg/L as N for pH 9.0; ≤0.9 mg/L as N pH 8.0 ; ≤2.18 mg/L pH 7.0.	≤0.01 mg/L as N (1992) (A) ≤0.05 mg/L as NH_4 (2004) (A)	Nitrogen ≤5 mg/L (long term; 25-125 mg/L (short term – up to 20 years)	NR
Iron and manganese	High iron concentrations affect plant growth and high manganese concentrations clog irrigation equipment and are toxic to plants (ANZECC, 1992:5-15, 5-16).	Fe NR (2000), ≤1 mg/L (1992), Mn≤1.9mg/L	Fe 0.3 mg/L (A) Mn 0.5 mg/L	Fe & Mn 0.2 mg/L long term, 10 mg/L short term	not sufficiently toxic (2000); ≤17 mg/L for dairy cattle (1992)

Table 14 continued:

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Nitrate	From final stage of plant and animal decomposition or fertilisers. May be high in leachate (Canter *et. al*, 1997:6). Toxic to infants and livestock (ANZECC, 1992:4-10,5-23).	NO_x ≤0.015 mg/L; TN ≤0.25 mg/L (2000); TN ≤0.1 to 0.75 mg/L (1992)	≤10 mg/L as N (1992) ≤11.3 mg/L as N (1996) ≤50 mg/L as NO_3 (2004)	As for ammonia	≤ 90 mg/L as N; Nitrite ≤9 mg/L as N
Phosphorus	Csuros (1994:228-229) explains that phosphorus occurs in animal, plant and mineral kingdoms. Its discharge to streams may stimulate growth of photosynthetic organisms especially if it is the nutrient whose low values are limiting the primary productivity of the water.	Total P ≤0.02 mg/L	NR	≤0.05 mg/L (long term to prevent clogging equipment; ≤0.8-12 mg/L (short term)	NR
VOCs	Good indicators of man-made pollutants found in landfill leachate (USEPA, 1991:51075). Toxic and carcinogenic to animals and humans.	varies for different compounds	varies for different compounds	NR	NR
Arsenic	Found in cattle dip soils; toxic, possibly carcinogenic (Manahan, 1990:150), toxic to livestock in high concentrations (ANZECC, 1992:5-25) Various forms of arsenic are common in gold deposits. Upon crushing and weathering such minerals routinely lower the pH of nearby waters, mobilizing arsenic and other metals (Straskraba & Moran 1990:181). Effects of consuming water with arsenic greater than 0.3 mg/L over 5-25 years 'include skin lesions, skin cancer, vascular disease, effects on the nervous system, and possibly cancer of other organs (USEPA 1988 in NHMRC 2004, Arsenic Fact Sheet).	≤0.024 mg/L (III) form; ≤0.05 aquaculture	≤0.007 mg/L	≤0.1 mg/L long term; ≤2 mg/L short term	0.5 to 5 mg/L tolerated
Cadmium	Causes high blood pressure, kidney damage, destroys testicular tissue and red blood cells, toxic to aquatic biota (Manahan, 1990:150), toxic and carcinogenic to livestock (ANZECC, 1992:5-26)	≤0.0002 mg/L	≤0.002 mg/L	≤0.01 mg/L long term; ≤0.05 mg/L short term	≤0.01 mg/L
Chromium	Cr+6 is possibly carcinogenic and is toxic to humans (anaemia, kidney disease, nervous system) (Manahan, 1990:150), reduces crop yield (ANZECC, 1992:5-14).	≤0.001 mg/L for Cr+6	≤0.05 mg/L (Cr+6)	≤0.1 mg/L long term; ≤1 mg/L short term	≤1 mg/L
Copper	Essential in small concentrations for plant growth and animals (ANZECC, 1992:5-15&5-27). Toxic to sensitive plants and animals and bioaccumulated.	0.0014 mg/L	<2 mg/L	≤0.2 mg/L long term; ≤5 mg/L short term	<0.4 mg/L sheep, <1 mg/L cattle; <5 mg/L pigs and poultry
Nickel (mg/L)	In humans, long-term exposure may result in toxic effects to the kidney and skin allergies.	≤0.011	≤0.02	≤0.2 long term; ≤2 short term	≤1
Lead	Wildlife destruction (Manahan, 1990:151). Reduces plant growth (ANZECC, 1992:5-16). Decreases human intelligence, growth (Csuros, 1994:210).	≤0.0034 mg/L	≤0.01 mg/L	≤2 mg/L long term; ≤5 mg/L short term	≤0.1 mg/L
Mercury	Very toxic to humans - numbness, deafness, loss of muscle control (Csuros, 1994:212); toxic to fish (ANZECC, 1992:2-38).	NR (2000); ≤0.0001 mg/L (1992)	≤0.001 mg/L	≤0.002 mg/L	≤0.002mg/L
Selenium	Toxic to cattle, fish & humans (Manahan, 1990:151). Used in electronics, glass, ceramics, pigments, rubber (Csuros, 1994:213). Occurs in igneous rocks, major source - weathering of rocks & soils (Weiner 2008: 402).	≤0.005 mg/L	≤0.01 mg/L	≤0.02 mg/L long term; ≤0.05 mg/L short term	≤0.02 mg/L

Table 14 continued:

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Zinc	Found both naturally (weathering & erosion) and from anthropogenic sources (ANZECC, 1992:2-42). Zinc coating used to protect iron, steel and brass; used in dry batteries, construction materials, printing processes (Csuros, 1994:215). One of seven analytes with greatest percentage increase from 71 unlined landfills in North Carolina, USA (Borden and Yanoschak, 1990:269). Also found by CodyHart in landfill ponds and leachate.	≤0.008 mg/L	≤3 mg/L (A)	≤2 mg/L long term; ≤5 mg/L short term	≤20 mg/L
Cyanide	In seeds of apples, apricots, cherries, peaches and plums; in arrowgrass, sorghum, flax, velvet grass and white clover (Manahan, 1990:510). Used in plastics, electroplating, metallurgy and in synthetic fibres and chemicals (Csuros, 1994:220). Sodium cyanide used for gold extraction. Toxic to fish (ANZECC, 1992:2-36). From gasworks activities – storage areas for gas purifying masses and ammonia purification, 0.7 to 2.7 mg/L (Kunze and Isenbeck-Schroter, 2000:181).	≤0.007 mg/L	≤0.08 mg/L	NR	NR

1. from Tables 3.3.1, 3.3.2, 3.3.3 - Default trigger values for aquatic ecosystems in upland rivers of south-east Australia that are slightly-moderately disturbed; and Table 3.4.1 trigger values for toxicants 95% level aquatic ecosystem protection in *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality'*, ANZECC & ARMCANZ 2000.
2. from *'Summary of Australian Drinking Water Guidelines'* NHMRC & ARMCANZ 1996:26-32. Updated 2004.
   (A) = aesthetic, no health guideline
3. from Tables 4.2.5, 4.2.10, 4.2.11, 4.2.14 and 4.2.15 *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality'*, ANZECC & ARMCANZ 2000.
4. from page 4.3-3 – 4.3-5 *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality'*, ANZECC & ARMCANZ 2000.

NR - No recommendation
(A) aesthetic guideline rather than an environmental health guideline
(1992) refers to 1992 edition of the *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality'*.

9.5 Comments on water quality results

This is the first of four rounds of quarterly water monitoring to characterise the groundwater quality of three wells and surface water quality of two sampling points relevant to the Tilbuster Landfill and the gold mining flats between the landfill and Duval Creek.

There is no sign of landfill leachate contamination in all the wells and two surface water sampling points. A review of the analyte concentrations in Tables 4-13 reveals:

- TS1 (landfill sediment dam) had the greatest total nitrogen concentrations at 2.4 mg/L and was predominantly total kjeldahl nitrogen (TKN) indicating young decomposition of animal and/or vegetable matter. Both surface water sampling points (TS1 and TS2) exceeded the Australian aquatic freshwater 95% protection limit for total nitrogen of 0.25 mg/L. As there was no flow through the dam, and the creek has cattle regularly on its banks and in its waters, this nitrogen was likely due to animal faeces and decaying grass and other greenery rather than landfill leachate seepage.
- No volatile organic compounds (VOCs) were detected at any sampling points. VOCs are from anthropogenic (man-made) causes and therefore found in solid waste and are a strong indicator of likely landfill leachate contamination.
- No pesticides were detected - also possible from landfill deposits.
- Heavy metals were acceptable given that groundwater is likely to have higher concentrations simply due to its proximity to soil and rocks. Iron was a little high in Duval Creek (TS2) (1.0 mg/L) which affects the taste but not health attributes of drinking water.

Copper was greater than the aquatic ecosystem recommended concentration at all sampling points, even at the upgradient well TW1 which should not be affected by landfill leachate. Thus it is likely that copper is being entrained from the soil and rock, not landfill leachate.

Arsenic is the analyte of particular note. Its concentrations were greatest when the sample was not filtered (TW1 0.014 mg/L), or the surrounding soil and rock was weathered material as in the downgradient well TW2 (0.012 mg/L), or there had been recent upgradient soil disturbance as for the sedimentation dam TS1 (0.020 mg/L). All these concentrations were greater than the recommended upper limit for human drinking water of 0.007 mg/L, and greater than the upper limit of 0.010 mg/L in most groundwaters (Brunt et al. 2004, p. 3). Hence the extra attention paid to arsenic in the review of analytes in Section 9.4 of this report. The results from this first round of monitoring show that:

- There is arsenic greater than the drinking water guideline in the igneous soil and rock surrounding and under the landfill.
- It cannot be said that the arsenic is from the landfill. Well TW1 has considerable arsenic, but it is upgradient from the landfill and generally speaking, groundwater does not flow uphill.
- The form of dissolved arsenic present is likely to be arsenate (As^{+5}) because all the redox potentials were positive. Arsenate is less toxic than arsenite, the other major form of arsenic dissolved in water.
- The arsenic in the September 2010 sample of Duval Creek water had an acceptable concentration of arsenic (0.004 mg/L). However, this probably would not have been the case at the time of gold mining and probably for a long time thereafter.
- It is a risk for humans to use groundwater in the area for drinking water without it being tested for arsenic and/or having it treated to remove the arsenic.

Cyanide and selenium will be added to the analyte list for next sampling round. Volatile organic compounds will no longer be tested at the surface sampling points TS1 and TS2. One sampling gave an indication and VOCs volatilise quickly in surface water where they are exposed to air.

10. CONCLUSION

This report has detailed:

- well installation and commissioning for monitoring wells TW1, TW2 and TW3, and
- one round of groundwater sampling in these wells.

Well TW1 is upgradient from the landfill and was drilled to 12 metres below ground. Heavy clay, weathered rock and Adamellite strata were encountered. Water spray occurred at ~10.5 m below ground.

Well TW2 is to the south of the landfill and to the north of Duval Creek. It was drilled to 18 metres below ground. Sandy clay, basalt and sand, then moist, weathered trachyte and biotite strata were encountered. Bedrock was not reached, but the moistness of the lower stratum indicated that sufficient depth had been reached at 18.0 m. The hole collapsed back to 17.0 m below ground.

Well TW3 was drilled to 36.0 metres below ground, through sand to 2 metres, sandy clay to 3.0 m, then Adamellite to 36.0 metres. No water spray occurred, and no moisture was noted in the drillings. However, there was a colour change in the Adamellite at 30 m below ground which may have indicated more porous rock.

The drill holes were screened to capture the moist zones or possible moist zones and then cased to above ground. Sand pack was poured to encapsulate the screen and 1 metre above, and then bentonite and grout installed to seal the upper strata from allowing surface water ingress. CodyHart developed wells TW1 and TW2 by bailing, and well TW3 with a well development pump.

CodyHart conducted well commissioning tests (EC profile, purge volume test and slug test). Well recovery is generally slow and hydraulic conductivities (K) were slow to moderate with the greatest estimated at 94.2 m/year in well TW2, so pump rates used in low-flow sampling were also slow. The general groundwater flow direction under the site is to the southwest towards Duval Creek. This is in keeping with the common tendency of groundwater flow direction to be in sympathy with topographical fall. Once hydraulic gradient and porosity of the weathered rock are taken into account with K, the estimated average linear velocity of groundwater under the site is slow at 8.3 m/year.

The first round of groundwater monitoring indicates that the landfill is not impacting groundwater or Duval Creek.

Arsenic that is naturally occurring in the volcanic soil and rock is being dissolved into the groundwater, and into the surface water of the sedimentation dam TS1. The dissolved concentrations are greater than the Australian drinking water guideline limit of 0.007 mg/L. When gold mining was occurring along the banks and in Duval Creek, the alluvial ore was crushed and arsenic compounds eluted with rinse water. Effects of consuming water with arsenic greater than 0.3 mg/L over 5-25 years 'include skin lesions, skin cancer, vascular disease, effects on the nervous system, and possibly cancer of other organs (USEPA 1988 in NHMRC 2004, Arsenic Fact Sheet). Although the Duval Creek sample (TS2) was less than the drinking water guideline limit, it is likely to have exceeded it during the gold mining days, and for a considerable time thereafter. It is a risk for humans to use groundwater in the area for drinking water without it being tested for arsenic and/or having it treated to remove the arsenic.

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CodyHart Environmental
Monitoring & Management

Helping You Protect Your Environment

ROUND TWO WATER MONITORING REPORT

TILBUSTER LANDFILL

February 2011

for Armidale Dumaresq Council

CodyHart Consulting Pty Ltd ACN: 076 662 989 ABN: 23 809 060 895
Trading as CodyHart Environmental
Groundwater and Landfill Environmental Monitoring Specialists

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Tilbuster Landfill - Round 2 Monitoring
February 2011

FIGURES

APPENDICES

Presented by: Barbara Hart
Hydrogeologist & Environmental Scientist
CodyHart Environmental

Date: 12 March 2011
Report: CodyHart 11.2104.1

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1. INTRODUCTION

Three monitoring wells named TW1, TW2 and TW3 were installed at the closed Tilbuster Landfill in July 2010. This report provides information on the second round of monitoring of the wells and two surface water sampling points.

2. AIM OF MONITORING

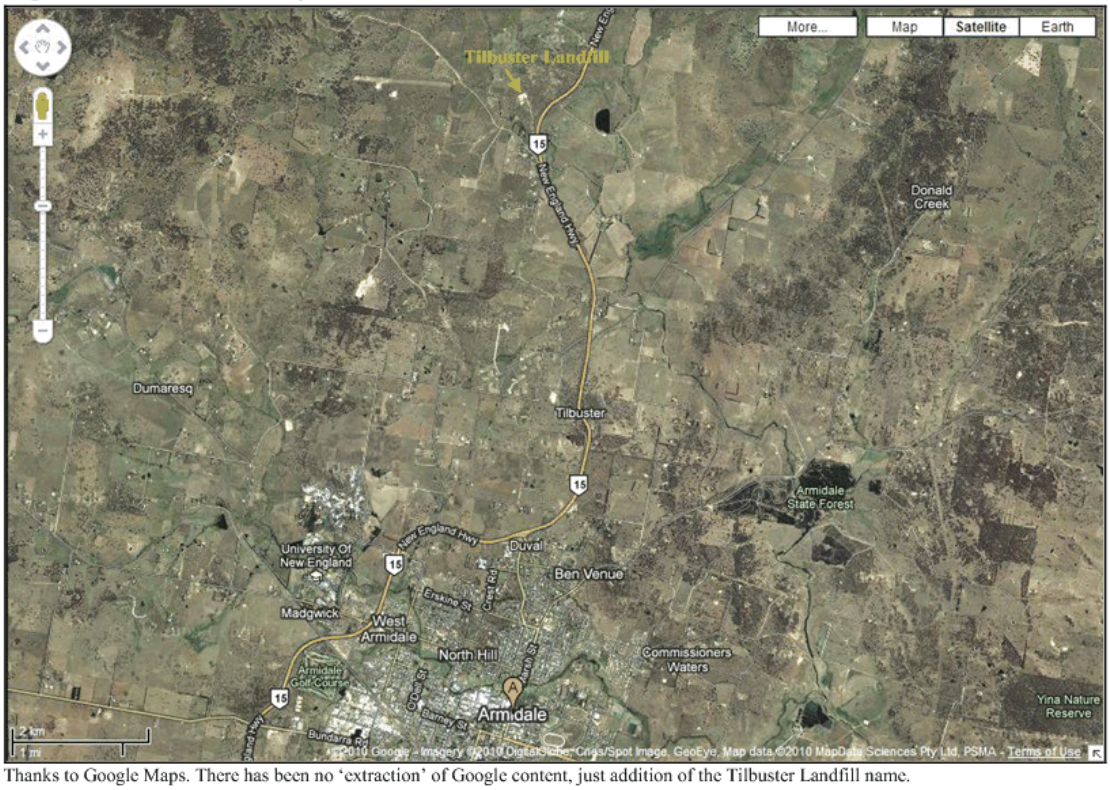
Four rounds of groundwater and surface water monitoring are planned. The program aims

- to assess if there is landfill leachate contamination of surface water and groundwater, and
- to review if gold mining in bygone days downgradient of the landfill on the banks of Duval Creek may have affected surface water quality.

3. LOCATIONS

Access to the Tilbuster Landfill is along a short road off the New England Highway just north of Duval Creek. It is approximately 7 km north of the Armidale suburb, Duval (Figures 1 and 2).

Figure 1: Tilbuster Landfill location



Thanks to Google Maps. There has been no 'extraction' of Google content, just addition of the Tilbuster Landfill name.

Figure 2 shows the locations of the three new monitoring wells (TW1, TW2 and TW3) and the two surface water sampling points: the sedimentation dam TS1, and a sampling point in Duval Creek TS2.

Figure 2: Monitoring well and surface water sampling locations

©Google Earth. Downloaded December 2010. Added sampling points.

4. FIRST ROUND GROUNDWATER MONITORING

The second round of groundwater sampling was conducted on 22 and 23 February 2011. Three wells (TW1-TW3), the sedimentation dam (TS1) and Duval Creek downstream from the landfill were sampled. Details are provided in the following sections. Field parameter forms are provided in Appendix A; chain of custody form and laboratory sample receipt notifications in Appendix B; and certificate of analysis and quality assurance reviews in Appendix C.

4.1 Field work

A TPS field lab is used by CodyHart Environmental to take field temperature, Ph, electrical conductivity (EC), redox potential (Eh), and dissolved oxygen (DO) readings. Sampling is undertaken within 24 hours of the last calibration of the field lab at or near the site.

The water level was measured at each well. Into each well, a decontaminated, stainless steel, bladder pump attached to ¼ inch OD LDPE tubing for compressed air and ¼ inch OD LDPE tubing for water, was lowered to pump groundwater to the surface. A set pump position, discharge/refill rate and psi, and purge volume as chosen in the first monitoring round to suit each well's hydraulic characteristics (Hart et al. 2000) were used again. The aim is to minimise water level drawdown in a method called 'low-flow' groundwater sampling. Minimal drawdown means that the groundwater is less disturbed and samples are more likely to be representative of true groundwater quality. Repetition of these purge characteristics in following sampling rounds reduces variation in analytical results. A flow-through cell is used to house field probes for measuring field analytes (EC/Temp, Ph, Eh and DO) values which are noted are on each well's field parameter form (Appendix A). When purging was complete, sample containers were filled generally from the most volatile analyte to be sampled to the least. Metal samples were filtered from all wells to assess filtering effects on the analytical results.

After samples were collected at each well, they were immediately put in the CodyHart mobile refrigerator. Transport was arranged in iced eskies so as to reach the ALS laboratory well within holding times.

Surface water samples at TS1, the sedimentation dam, and TS2, downgradient from the landfill, were collected in a decontaminated beaker. Sample containers were filled as per groundwater samples. Metal samples were filtered and analysed for dissolved metals to compare with the unfiltered and total metals analysis results from last sampling round.

An anemometer, thermometer and compass were used to determine air temperature, wind speed and wind direction. Their values were noted on each field parameter form (Appendix A).

4.2 Quality assurance (QA)

A number of techniques assure a high quality of sampling and analyses.

- Sampling procedures documented by CodyHart Environmental were followed. These included tests of deionised water and field blanks to assure proper decontamination of equipment.
- Relative percentage differences (RPDs) of field analytes on the field parameter forms (Appendix A) were reviewed. The general RPD of 20% was not exceeded for any field analyte. Dissolved oxygen (DO) and redox potential (Eh) have the potential to vary more than other field analytes when water is extracted from its normal environment.
- Chain of custody forms were completed to document the lack of tampering with sample containers and for the ALS laboratory to advice of sample receipt (Appendix B).
- Australian Laboratory Services (ALS), Stafford, Brisbane, conducted the majority of laboratory analyses. They are a global, Australian company who analyses a broad range of analytes and provides good service. In addition to the certificate of analysis and analytical results, ALS provide quality control reports for laboratory duplicates, method blank and laboratory control samples, matrix spikes, and an interpretive quality control

report that summarises the quality assurance findings (Appendix C). There were no untoward quality control issues.

- CodyHart conducted laboratory analyses (yellow sheet, Appendix C) that are best conducted on fresh samples – for alkalinity using the EPA approved method, and for free CO_2 using the APHA 4500-CO_2 C titration method.
- The CodyHart sampling team took duplicate samples (TWD) as replicate samples (one after the other as the groundwater came out of the hose) for all inorganic analytes tested at well TW1. The laboratory was not given the time of sampling or the duplicate sampling point name. This assists impartial analysis because laboratory personnel do not know the duplicate's sampling point origin. The analyte values were within the ALS quality control duplicate criteria.

4.3 Water quality results

Results are summarised on the following portrait tables to enable a quick comparison of each analyte's historical results by looking down each analyte's column. Appendix F has a copy of the detailed laboratory results for this monitoring round preceding the laboratory QC reports. CodyHart laboratory results follow the QC reports.

Table 1: Analytes A – Groundwater quality Well TW1

TW1	*Field analytes*							*Ions and metals*																
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	Mv	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
17/09/10	0.27	1065	6.28	+118	15.4	198	270	83	127	39	45	108	10	**0.014**	**<0.0001**	**0.002**	**0.018**	**0.025**	**0.003**	**0.199**	**1.07**	**0.69**	**<0.0001**
22/02/11	0.15	1004	8.00	-176	16.3	15	303	44	87	54	22	101	28	0.032	<0.0001	0.002	0.001	0.003	<0.001	<0.005	0.055	<0.05	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 2: Analytes B & hydraulic parameters – Groundwater quality Well TW1

TW1	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*			*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill/ psi**	**Purge volume**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1	0.01	0.004
17/09/10	<0.01	0.2	0.2	21	ND	ND	ND	9.85	995.25	12.0	20/20/30	3.5		
22/02/11	0.05	0.3	0.4	4	ND	ND	ND	9.67	995.43	12.0	20/20/30	8.0	<0.01	0.019

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); Se = Selenium; Cn = Total Cyanide; ND = Nil detected.
Notes: TW1 top of PVC casing RL = 1,005.10 m (top of standpipe RL = 1,005.17 m); Easting 372374.671, Northing 6632552.924 Zone MGA 56.
Depth of well from top of PVC = 12.85 m. Hydraulic conductivity estimate = 1.3 x 10^{-7} m/sec = 0.011 m/day = 4.0 m/year.

Table 3: Analytes A – Groundwater quality Well TW2

TW2	*Field analytes*							*Ions and metals*																
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
17/09/10	1.26	611	6.62	+143	15.1	110	207	2	41	30	31	49	5	0.012	0.0002	<0.001	0.005	0.005	<0.001	0.050	0.009	<0.05	<0.0001
22/02/11	1.37	583	6.48	+180	16.5	103	223	2	37	28	30	47	4	0.013	<0.0001	0.003	0.007	0.004	<0.001	0.057	0.003	<0.05	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 4: Analytes B & hydraulic parameters – Groundwater quality Well TW2

TW2	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*			*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill /psi**	**Purge volume**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1	0.01	0.004
17/09/10	0.09	<0.1	<0.1	13	ND	ND	ND	4.78	981.802	16.0	20/20/30	5.0		
22/02/11	0.07	<0.1	<0.1	<1	ND	ND	ND	4.43	982.152	16.0	20/20/30	3.0	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); Se = Selenium; Cn = Total Cyanide; ND = Nil detected.
Notes: TW2 top of PVC casing RL = 986.582 m (top of standpipe RL = 986.677 m); Easting 372312.096, Northing 6632252.928 Zone MGA 56.
Depth of well from top of PVC = 17.60 m. Hydraulic conductivity estimate 3.0 x 10^{-6} m/s = 0.258 m/d = 94.2 m/year.

Table 5: Analytes A - Groundwater quality Well TW3

TW3	*Field analytes*							*Ions and metals*																
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
18/09/10	0.99	1510	6.69	+102	14.8	117	317	111	261	112	49	128	7	0.003	0.0002	<0.001	0.004	0.013	<0.001	0.095	0.690	0.32	<0.0001
22/02/11	1.37	583	6.48	+180	16.5	88	320	55	287	101	46	128	10	0.002	<0.0001	0.002	0.016	0.003	<0.001	0.085	0.004	<0.05	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 6: Analytes B & hydraulic parameters – Groundwater quality Well TW3

TW3	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*			*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill/ psi**	**Purge volume**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1	0.01	0.004
18/09/10	0.03	0.2	0.2	15	ND	ND	ND	9.49	983.264	34.5	45/45/55	3.0		
22/02/11	0.21	<0.1	0.2	4	ND	ND	ND	9.33	983.424	31.0	45/45/55	3.0	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); Se = Selenium; Cn = Total Cyanide; ND = Nil detected.
Notes: TW2 top of PVC casing RL = 992.754 m (top of standpipe RL = 992.834 m); Easting 372226.775, Northing 6632434.961 Zone MGA 56.
Depth of well from top of PVC = 35.40 m. Hydraulic conductivity estimate 3.5 x 10^{-8} m/s = 0.003 m/day = 1.095 m/year

Table 7: Analytes A – Surface water quality – Landfill dam TS1

TS1	*Field analytes*							*Ions and metals*																
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
18/09/10	8.61	1215	7.04	+117	11.4	32	179	10	154	10	6	18	2	**0.020**	**0.0002**	**0.001**	**0.005**	**0.008**	**0.001**	**0.071**	**1.23**	**5.24**	**<0.0001**
23/02/11	4.85	2368	7.24	+232	16.5	59	710	87	312	122	78	221	63	0.018	0.0002	0.007	0.005	0.004	<0.001	0.020	1.63	0.94	<0.001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 8: Analytes B & water level – Landfill dam TS1

TS1	*Nutrients and TOC*					VOC	Pesticides		*Water level*	*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**TotP**	**various**	**OC**	**OP**	**D**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.01	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.004
18/09/10	0.06	2.3	2.4	45	0.30	ND	ND	ND	0.20		
23/02/11	0.01	2.1	2.1	54	0.22	NC	ND	ND	0.15	<0.01	0.008

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; TotP = Total Phosphorus; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing; D = Depth of water at sampling point.

Table 9: Analytes A – Surface water quality – Duval Creek 2m upstream from fence TS2

TS2	*Field analytes*							*Ions and metals*															
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.05	0.0001
18/09/10	11.96	186	7.11	+88	15.2	9	51	211	16	78	33	88	60	**0.004**	**<0.0001**	**<0.001**	**0.002**	**0.002**	**<0.001**	**<0.005**	**0.046**	**1.00**	**<0.0001**
23/02/11	8.43	177	6.81	+219	22.0	11	57	4	8	11	6	14	2	0.005	<0.0001	<0.001	0.003	0.002	<0.001	0.006	0.088	0.74	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 10: Analytes B & water level – Duval Creek 2m upstream from fence TS2

TS2	*Nutrients and TOC*					VOC	Pesticides		*Water level*	*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**TotP**	**various**	**OC**	**OP**	**D**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.01	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.004
18/09/10	<0.01	0.7	0.7	12	0.04	ND	ND	ND	0.60		
23/02/11	0.02	0.4	0.4	14	0.06	NC	ND	ND	0.45	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; TotP = Total Phosphorus; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing; D = Depth of water at sampling point.

4.4 Analyte guideline values

Analytes have been chosen for testing to provide evidence on whether or not

- landfill leachate is discharging from the landfill into groundwater and surface water.
- alluvial gold mining has affected surface water quality.

The creek water has previously been used for drinking purposes. It is therefore applicable to review the groundwater and surface water results against Australian drinking water guidelines. Aquatic ecosystem guidelines are also useful for reviewing the water quality of Duval Creek sampled at TS2.

Groundwater usually has greater concentrations of salts and metals than surface water due to groundwater's considerable residence time amongst its surrounding silts, clays and rocks. In addition, groundwater may be affected by Tilbuster Landfill leachate. Natural groundwater analyte concentrations and concentrations indicating landfill leachate intrusion need to be assessed. This review needs to consider attenuation over distance by silts and clays, and the maxim of protecting Duval Creek from contaminated groundwater.

In bygone days, there was gold mining in Duval Creek. Small mullock heaps and the dam on the northern side of Duval Creek resulted from the diggings. There were various gold mining sites in the district. Records indicate that the major initial gold mining area was Rocky River 2 km west of Uralla where gold mining commenced in 1852 (Uralla Visitor Centre). Mining was alluvial, shallow mining alongside rivers and creeks. Panning and cradling were the most common methods of extracting the gold from the wash-dirt. Historical photographs of gold mining

methods were provided in the first report dated October 2010 and will again be provided in the final report.

A summary table of Australian environmental health warning limits relating to landfill and gold mining are provided in Table 11 for comparative purposes.

Table 11: *Environmental health warning limits - some landfill and gold panning analytes*

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Temperature	Biodegradation of waste increases temperature. Temp + EC have successfully defined a leachate plume (Scrudato & Pagano, 1994). An increase in temperature decreases free CO_2 in groundwater and increases pH.	>80%ile <20%ile	NR	NR	NR
pH	varies from acidic to alkaline as waste decomposition progresses (Andreottola & Cannas, 1992:72). But pH levels in groundwater are often naturally low.	6.5 to 8.0 (2000); 6.5 – 9.0 (1992)	6.5 to 8.5 (A)	>6 limits corrosion of pipes	NR
Electric Conductivity (EC)	a general indicator that summarises the general trend of major cation and anion concentrations.	≤30 - 350µS/cm (2000); ≤1500 µS/cm (1992)	≤1500µS/cm (A)	varies, e.g., ≤1,000µS/cm carrots	≥3582 µS/cm analyse for specific ions which may affect
Alkalinity	Measures acid-neutralising capacity, a solution's ability to buffer, that is stop pH changing. Often high in leachate, but some groundwaters can also have high alkalinity.	NR	NR	NR	NR
Ammonia	From decaying plants and animals. May be high in leachate (Hancock & Phillips, 1992:22). Toxic to fish (ANZECC, 1992:2-30).	≤0.18 mg/L as N for pH 9.0; ≤0.9 mg/L as N pH 8.0 ; ≤2.18 mg/L pH 7.0.	≤0.01 mg/L as N (1992) (A) ≤0.05 mg/L as NH_4 (2004) (A)	Nitrogen ≤5 mg/L (long term; 25-125 mg/L (short term – up to 20 years)	NR
Iron and manganese	High iron concentrations affect plant growth and high manganese concentrations clog irrigation equipment and are toxic to plants (ANZECC, 1992:5-15, 5-16).	Fe NR (2000), ≤1 mg/L (1992), Mn≤1.9mg/L	Fe 0.3 mg/L (A) Mn 0.5 mg/L	Fe & Mn 0.2 mg/L long term, 10 mg/L short term	not sufficiently toxic (2000); ≤17 mg/L for dairy cattle (1992)
Nitrate	From final stage of plant and animal decomposition or fertilisers. May be high in leachate (Canter *et. al*, 1997:6). Toxic to infants and livestock (ANZECC, 1992:4-10,5-23).	NO_x ≤0.015 mg/L; TN ≤0.25 mg/L (2000); TN ≤0.1 to 0.75 mg/L (1992)	≤10 mg/L as N (1992) ≤11.3 mg/L as N (1996) ≤50 mg/L as NO_3 (2004)	As for ammonia	≤ 90 mg/L as N; Nitrite ≤9 mg/L as N
Phosphorus	Csuros (1994:228-229) explains that phosphorus occurs in animal, plant and mineral kingdoms. Its discharge to streams may stimulate growth of photosynthetic organisms especially if it is the nutrient whose low values are limiting the primary productivity of the water.	Total P ≤0.02 mg/L	NR	≤0.05 mg/L (long term to prevent clogging equipment; ≤0.8-12 mg/L (short term)	NR
VOCs	Good indicators of man-made pollutants found in landfill leachate (USEPA, 1991:51075). Toxic and carcinogenic to animals and humans.	varies for different compounds	varies for different compounds	NR	NR

Table 11 continued:

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Arsenic	Found in cattle dip soils; toxic, possibly carcinogenic (Manahan, 1990:150), toxic to livestock in high concentrations (ANZECC, 1992:5-25) Various forms of arsenic are common in gold deposits. Upon crushing and weathering such minerals routinely lower the pH of nearby waters, mobilizing arsenic and other metals (Straskraba & Moran 1990:181). Effects of consuming water with arsenic greater than 0.3 mg/L over 5-25 years 'include skin lesions, skin cancer, vascular disease, effects on the nervous system, and possibly cancer of other organs (USEPA 1988 in NHMRC 2004, Arsenic Fact Sheet).	≤0.024 mg/L (III) form; ≤0.05 aquaculture	≤0.007 mg/L	≤0.1 mg/L long term; ≤2 mg/L short term	0.5 to 5 mg/L tolerated
Cadmium	Causes high blood pressure, kidney damage, destroys testicular tissue and red blood cells, toxic to aquatic biota (Manahan, 1990:150), toxic and carcinogenic to livestock (ANZECC, 1992:5-26)	≤0.0002 mg/L	≤0.002 mg/L	≤0.01 mg/L long term; ≤0.05 mg/L short term	≤0.01 mg/L
Chromium	Cr+6 is possibly carcinogenic and is toxic to humans (anaemia, kidney disease, nervous system) (Manahan, 1990:150), reduces crop yield (ANZECC, 1992:5-14).	≤0.001 mg/L for Cr+6	≤0.05 mg/L (Cr+6)	≤0.1 mg/L long term; ≤1 mg/L short term	≤1 mg/L
Copper	Essential in small concentrations for plant growth and animals (ANZECC, 1992:5-15&5-27). Toxic to sensitive plants and animals and bioaccumulated.	0.0014 mg/L	<2 mg/L	≤0.2 mg/L long term; ≤5 mg/L short term	<0.4 mg/L sheep, <1 mg/L cattle; <5 mg/L pigs and poultry
Nickel (mg/L)	In humans, long-term exposure may result in toxic effects to the kidney and skin allergies.	≤0.011	≤0.02	≤0.2 long term; ≤2 short term	≤1
Lead	Wildlife destruction (Manahan, 1990:151). Reduces plant growth (ANZECC, 1992:5-16). Decreases human intelligence, growth (Csuros, 1994:210).	≤0.0034 mg/L	≤0.01 mg/L	≤2 mg/L long term; ≤5 mg/L short term	≤0.1 mg/L
Mercury	Very toxic to humans - numbness, deafness, loss of muscle control (Csuros, 1994:212); toxic to fish (ANZECC, 1992:2-38).	NR (2000); ≤0.0001 mg/L (1992)	≤0.001 mg/L	≤0.002 mg/L	≤0.002mg/L
Selenium	Toxic to cattle, fish & humans (Manahan, 1990:151). Used in electronics, glass, ceramics, pigments, rubber (Csuros, 1994:213). Occurs in igneous rocks, major source - weathering of rocks & soils (Weiner 2008: 402).	≤0.005 mg/L	≤0.01 mg/L	≤0.02 mg/L long term; ≤0.05 mg/L short term	≤0.02 mg/L
Zinc	Found both naturally (weathering & erosion) and from anthropogenic sources (ANZECC, 1992:2-42). Zinc coating used to protect iron, steel and brass; used in dry batteries, construction materials, printing processes (Csuros, 1994:215). One of seven analytes with greatest percentage increase from 71 unlined landfills in North Carolina, USA (Borden and Yanoschak, 1990:269). Also found by CodyHart in landfill ponds and leachate.	≤0.008 mg/L	≤3 mg/L (A)	≤2 mg/L long term; ≤5 mg/L short term	≤20 mg/L

Table 11 continued:

Analyte	*Reason for Inclusion*	*Aquatic* 1	*Human* 2	*Irrigation* 3	*Livestock* 4
Cyanide	Cyanides can be manufactured but they also occur in nature. Cyanide containing chemicals are produced by a wide range of organisms and plants as part of their normal metabolism (MERG 2001).Bacteria, fungi & algae produce it, as well as some species of centipedes, millipedes, insects, beetles, moths etc (MERG 2001). In seeds of apples, apricots, cherries, peaches and plums; in arrowgrass, sorghum, flax, velvet grass and white clover (Manahan, 1990:510). It occurs naturally in a number of plant roots including cassava roots. Used in plastics, electroplating, metallurgy and in synthetic fibres and chemicals (Csuros, 1994:220). Sodium cyanide used for gold extraction. Toxic to fish (ANZECC, 1992:2-36). From gasworks activities – storage areas for gas purifying masses and ammonia purification, 0.7 to 2.7 mg/L (Kunze and Isenbeck-Schroter, 2000:181).	≤0.007 mg/L	≤0.08 mg/L	NR	NR

1. from Tables 3.3.1, 3.3.2, 3.3.3 - Default trigger values for aquatic ecosystems in upland rivers of south-east Australia that are slightly-moderately disturbed; and Table 3.4.1 trigger values for toxicants 95% level aquatic ecosystem protection in *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality',* ANZECC & ARMCANZ 2000.
2. from *'Summary of Australian Drinking Water Guidelines'* NHMRC & ARMCANZ 1996:26-32. Updated 2004.
(A) = aesthetic, no health guideline
3. from Tables 4.2.5, 4.2.10, 4.2.11, 4.2.14 and 4.2.15 *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality',* ANZECC & ARMCANZ 2000.
4. from page 4.3-3 – 4.3-5 *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality',* ANZECC & ARMCANZ 2000.
NR - No recommendation
(A) aesthetic guideline rather than an environmental health guideline
(1992) refers to 1992 edition of the *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality'*.

4.5 Comments on water quality results

This is the second of four rounds of quarterly water monitoring to characterise the groundwater quality of three wells and surface water quality of two sampling points relevant to the Tilbuster Landfill and the gold mining flats between the landfill and Duval Creek.

Cyanide and selenium were added to the analyte list this sampling round: cyanide to see it may be in surface water from gold processing; and selenium due to its occurrence in weathered igneous rocks. No selenium was detected. Cyanide was detected in the upgradient well at 0.019 mg/L and in the landfill dam at 0.008 mg/L. These locations are far from the creek where gold processing occurred. Natural sources such as organisms or plants may be the source. The results are less than the human drinking water guideline of 0.08 mg/L.

Volatile organic compounds will no longer be tested at the surface sampling points TS1 and TS2. One sampling gave an indication and VOCs volatilise quickly in surface water where they are exposed to air.

There is no sign of landfill leachate contamination in all the wells and two surface water sampling points. A review of the analyte concentrations in Tables 1-10 reveals:

- TS1, the landfill sediment dam, again had the greatest total nitrogen concentrations at 2.1 mg/L and was predominantly total kjeldahl nitrogen (TKN) indicating young decomposition of animal and/or vegetable matter. Both surface water sampling points (TS1 and TS2) exceeded the Australian aquatic freshwater 95% protection limit for total

nitrogen of 0.25 mg/L. As there was no flow through the dam, and the creek has cattle regularly on its banks and in its waters, this nitrogen level was likely due to animal faeces and decaying grass and other greenery rather than landfill leachate seepage.

- No volatile organic compounds (VOCs) were detected in the wells. VOCs are from anthropogenic (man-made) causes and therefore found in solid waste and are a strong indicator of likely landfill leachate contamination.
- No pesticides were detected - also possible from landfill deposits.
- Metals were filtered at all sampling points this sampling round. The various guidelines assume that metals are filtered in the field and then tested as dissolved metals. If groundwater is relatively clear, metals are often not filtered because the filter pack around the well screen is filtering the sample. The ANZECC & ARMCANZ (2000) guidelines advise not to filter surface water samples at first, and to filter them next time if the total metals results exceed a guideline of interest. All metal concentrations in well TW1 were less this sampling round except for arsenic which was greater at 0.032 mg/L. There was minimal difference in wells TW2 and TW3, and in surface water sampling points TS1 and TS2; some metal concentrations were lower and some were higher.

Arsenic concentrations are still of note. Even though the metal samples were filtered this sampling round, the TW1 arsenic concentration (0.032 mg/L) was more than double that of the unfiltered arsenic last sampling round. Therefore, the TW1 arsenic and the TW2 arsenic at 0.013 mg/L continue to be greater than the recommended upper limit for human drinking water of 0.007 mg/L, and greater than the upper limit of 0.010 mg/L in most groundwaters (Brunt et al. 2004, p. 3). There has been recent soil disturbance upgradient of the sedimentation dam TS1 whose filtered arsenic concentration was 0.018 mg/L. Therefore, it is a risk for humans to use groundwater in the area for drinking water without it being tested for arsenic and/or having it treated to remove the arsenic.

5. CONCLUSION

This report has detailed the second round of monitoring for the Tilbuster Landfill. :

Like the first round of groundwater monitoring, this second round of monitoring indicates that the landfill is not impacting groundwater or Duval Creek.

Arsenic is of major note. Arsenic occurs naturally in volcanic soil and rock. Its concentrations in wells TW1, TW2 and TS1 are greater than the Australian human drinking water guideline limit of 0.007 mg/L. Crushing of soil and rock occurred along the banks and in Duval Creek during gold mining days. The arsenic concentrations in Duval creek, it sediments and surrounds are likely to have exceeded the current Australian human drinking water guidelines during the gold mining days, and for a considerable time thereafter. It is a health risk for humans to use groundwater in the area for drinking water without it being tested for arsenic and/or having it treated to remove the arsenic.

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CodyHart Environmental
Monitoring & Management

Helping You Protect Your Environment

ROUND 4 WATER MONITORING & FINAL REPORT

TILBUSTER LANDFILL

January 2012

for Armidale Dumaresq Council

CodyHart Consulting Pty Ltd ACN: 076 662 989 ABN: 23 809 060 895
Trading as CodyHart Environmental
Groundwater and Landfill Environmental Monitoring Specialists

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Tilbuster Landfill - Round 4 Water Monitoring & Final Report
January 2012

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Presented by: Barbara Hart
Hydrogeologist & Environmental Scientist
CodyHart Environmental

Date: 15 March 2012
Report: CodyHart 12.2104.1

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1. INTRODUCTION

Three monitoring wells named TW1, TW2 and TW3 were installed at the closed Tilbuster Landfill in July 2010. This report provides information on these wells and two surface water sampling points that have been sampled four times since July 2010. The fourth and final round of sampling was conducted in January 2012.

2. AIM OF MONITORING

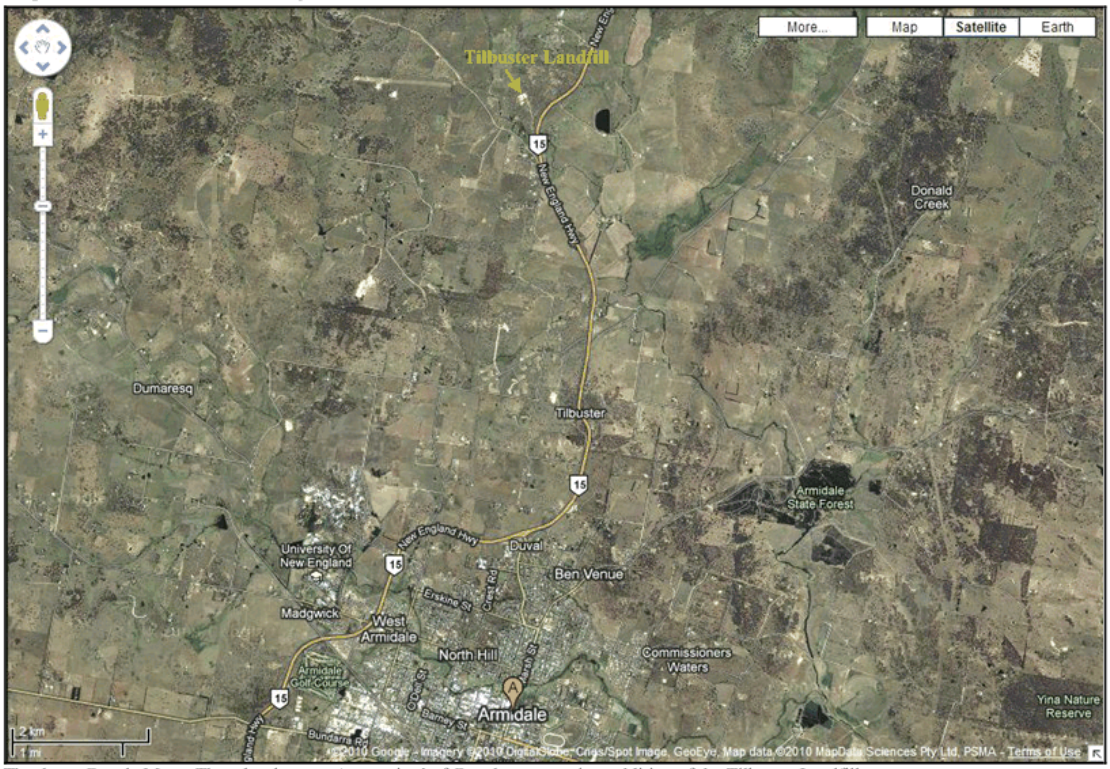
The four round monitoring program was conducted:

- to assess if there is landfill leachate contamination of surface water and groundwater, and
- to review if gold mining in bygone days downgradient of the landfill on the banks of Duval Creek may have affected surface water quality.

3. LOCATIONS

Access to the Tilbuster Landfill is along a short road off the New England Highway just north of Duval Creek. It is approximately 7 km north of the Armidale suburb, Duval (Figures 1 and 2).

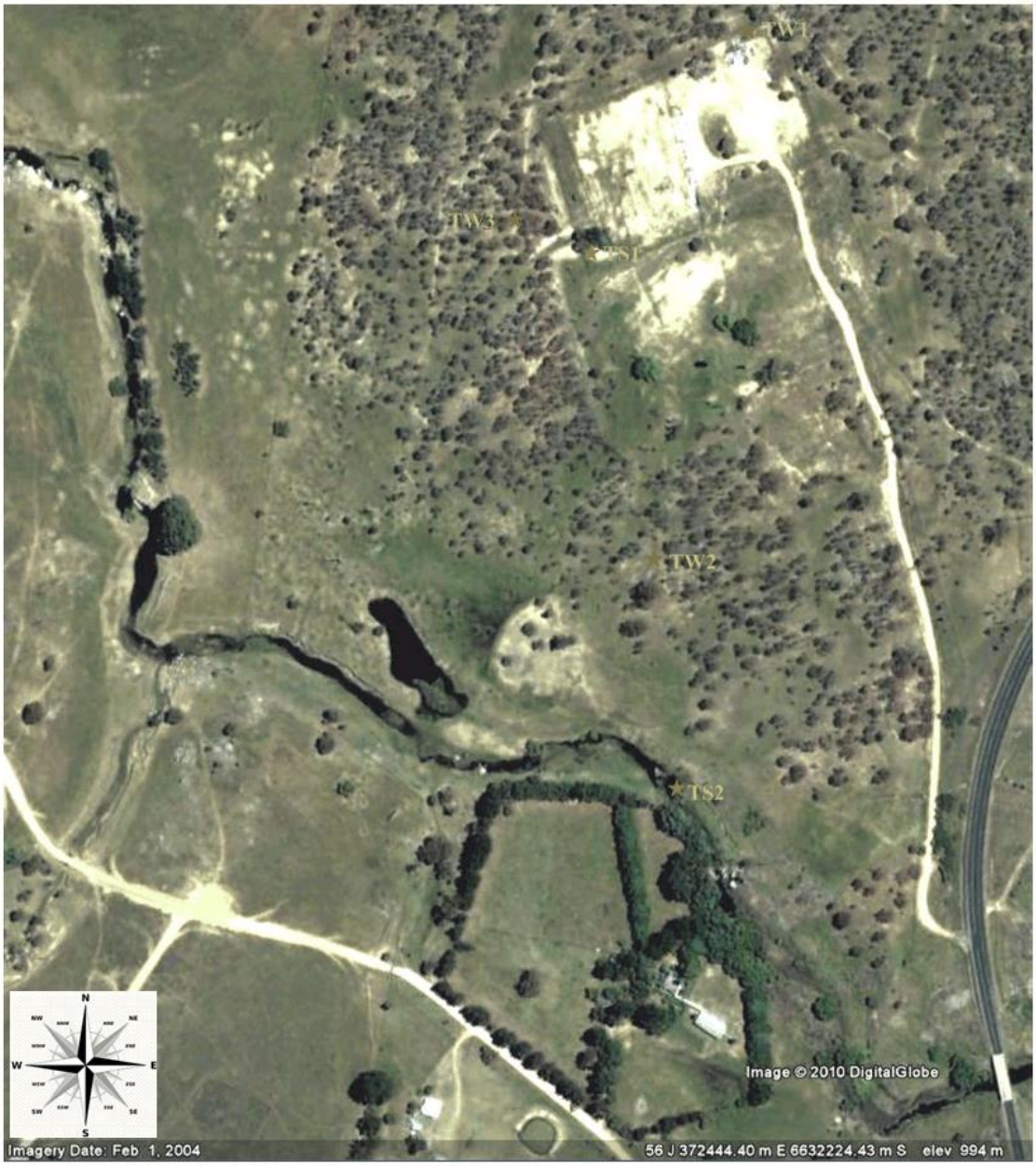
Figure 1: Tilbuster Landfill location



Thanks to Google Maps. There has been no 'extraction' of Google content, just addition of the Tilbuster Landfill name.

Figure 2 shows the locations of the three new monitoring wells (TW1, TW2 and TW3) and the two surface water sampling points: the sedimentation dam TS1, and a sampling point in Duval Creek TS2.

Figure 2: Monitoring well and surface water sampling locations

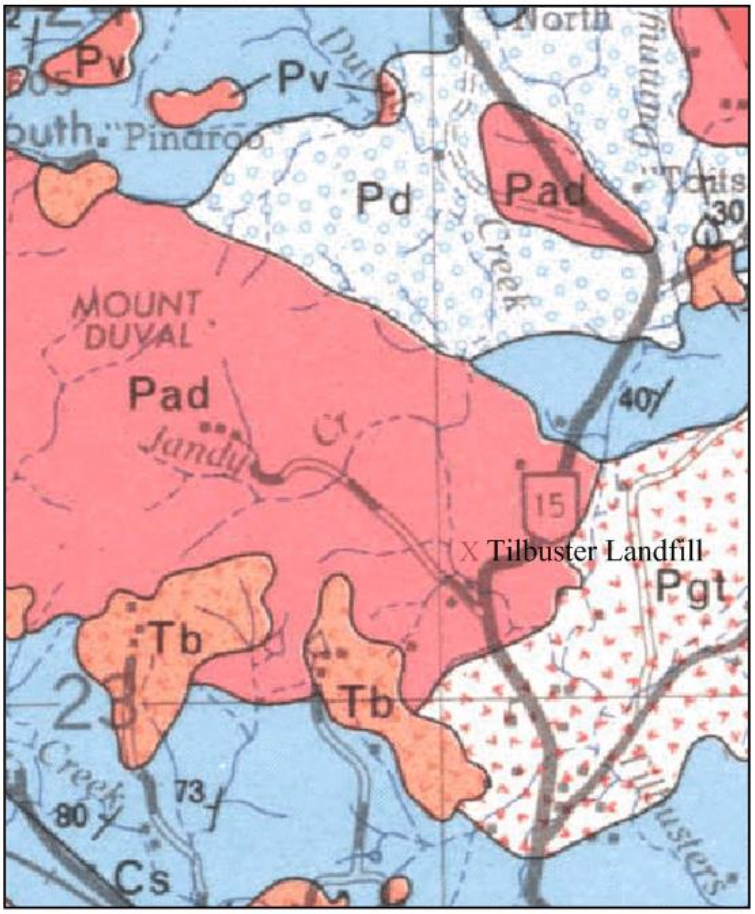


©Google Earth. Downloaded December 2010. Added sampling points.

4. GEOLOGY

The Dorrigo - Coffs Harbour 1:250,000 Geological Series Sheet SH 56-10&11 indicates that the geology underlying the Tilbuster Landfill is Mt Duval Adamellite ('Pad' classification coloured pink, Figure 3).

Figure 3: Site geology



Pad	Mt Duval Adamellite
Pgt	Tilbuster Granodiorite
Tb	Tholeiitic and alkaline basalts, minor trachyte and dolerite

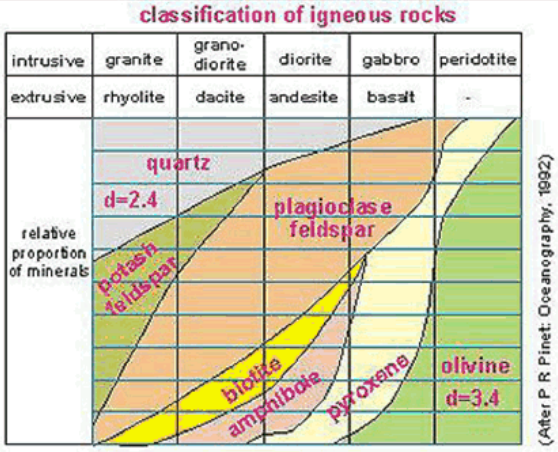
Adamellite and granodiorite are igneous rocks. Adamellite is usually left out of igneous rock field classifications (Table 1 and Figure 4). Granodiorite is included sometimes (Figure 4).

Table 1: Igneous Rock field classification

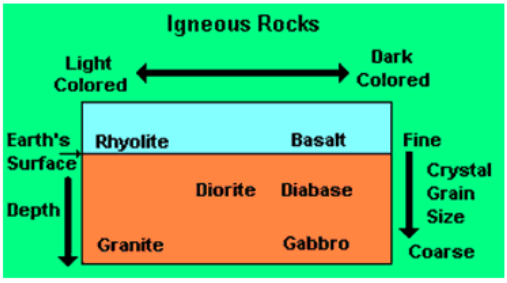
COLOR	LIGHT COLORED	MEDIUM COLOR	DARK COLOR
CHEMISTRY	FELSIC	INTERMEDIATE	MAFIC
COARSE GRAINED	GRANITE	DIORITE	GABBRO
FINE GRAINED	RHYOLITE	ANDESITE	BASALT

(Glendale Community College - < http://www.gc.maricopa.edu/earthsci/imagearchive/igenous.htm>)

Figure 4: Adamellite has more feldspar than granodiorite



http://rst.gsfc.nasa.gov/Sect2/soil50.jp…



http://www.rockhounds.com

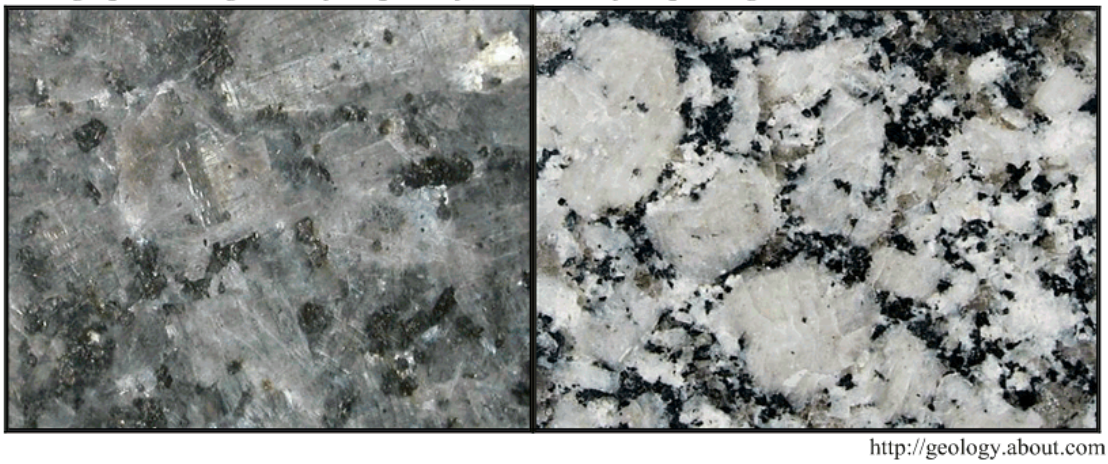
Granodiorite has mixed characteristics of granite and diorite.

> It has a high quartz content, like a granite, but also a high mafic (amphibole/biotite) content (10-25%) more like a diorite. Granodiorite is typically intermediate coloured with a subequal mixture of light coloured sodium plagioclase/quartz, and dark coloured amphibole and biotite.
>
> (http://csmres.jmu.edu/geollab/fichter/IgnRx/GranoDio-1A1.html)

Granodiorite is darker in colour than granite. It usually contains abundant biotite mica and hornblende, giving it a darker appearance than true granite. It contains more plagioclase feldspar than potassium (alkali) feldspar.

Adamellite differs from granodiorite by containing more alkali feldspar, usually more biotite and less hornblende, and oligoclase instead of andesine as the plagioclase mineral (http://www.britannica.com). The feldspars are generally light in colour. They vary in colour from white or grey to pink or red (Roberts 1998, p. 24). Plagioclase feldspar forms a continuous series of solid solutions (Roberts, 1998, p. 25) and tends to be more transparent than alkali feldspar (Photograph 1).

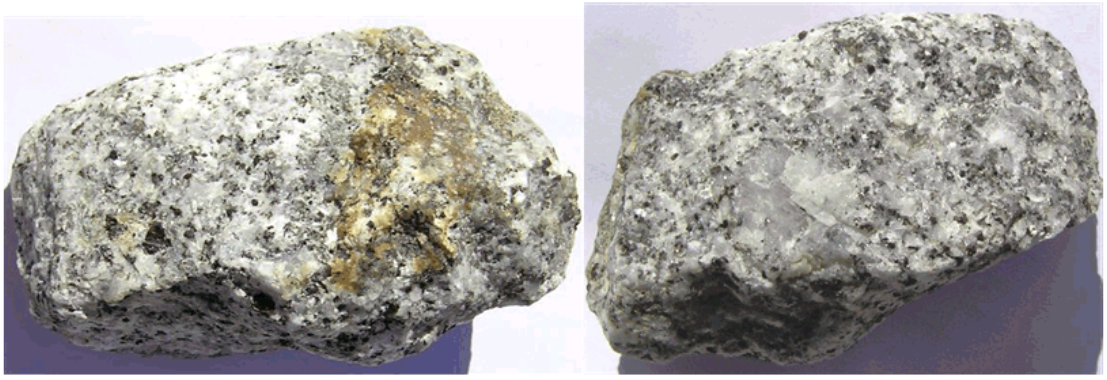
Photograph 1: Plagioclase feldspar (left) and alkali feldspar (right)



http://geology.about.com

It appears that a large rock chip from borehole TW1 is adamellite (Photograph 2). Smaller chips in borehole TW3 are also similar. Therefore the bedrock material matches that mapped on the geological sheet.

Photograph 2: TW1 adamellite x1.3 (both sides)



Note the white alkali feldspar and red feldspar on the left hand photograph, and the cleaved and more transparent plagioclase feldspar on the right hand photograph. Note also the black biotite mica, some as fine flecks and other larger pieces such as that on the left hand side of the left hand photograph.

The adamellite was close to the surface in both borehole TW1 and TW3. In borehole TW1 there was 0.2 m of topsoil, then heavy clay to 2.0 m, before striking the adamellite. In borehole TW3 there was brown sand to 2.0 m, then sandy clay from 2.0 – 3.0 m, before striking the adamellite. A summary of the geological material encountered in the three wells is provided in Appendix A.

In borehole TW2, there was no topsoil, sandy clay from 0.0 to 2.0 m, basalt amongst brown sand from 2.0 to 5.0 m, and then weathered rock with mica from 5 to 18 m. Bedrock was not reached. The basalt suggests that borehole TW2 is in the geological map 'Tb' classification (Tholeiitic and alkaline basalts, minor trachyte and dolerite). Other rocks collected below the basalt may be weathered trachyte due to the specs of biotite mica on alkali feldspar (Photograph 3). Trachyte consists mainly of alkali feldspar (Roberts 1998, p. 94).

Photograph 3: TW2 weathered rock x2

Note the predominance of white alkali feldspar indicative of trachyte. Yellow and black specs on the alkali feldspar are biotite. Some small red feldspar pieces are also present.

5. INSTALLATION OF WELLS

In consultation with James Turnell of Armidale Dumaresq Council, Barbara Hart, hydrogeologist of CodyHart Environmental ascertained the most suitable positions for the monitoring wells (Figure 2) taking into account site topography, hydrogeology, position in relation to the historical landfilled areas, and drilling rig accessibility.

Council obtained Bore Licences No. 90BL255092, 90BL255093, and 90BL255094 to drill the monitoring wells from the Moree Bore Licence Application Section, Office of Water, Department of Environment, Climate Change and Water (DECCW).

From 2 to 5 July 2010 Mannion Drilling of Inverell drilled the boreholes, then screened and cased them for monitoring wells. Daniel Baldwin was one of the drilling team and has NSW Driller's Licence No. 1922, Class 3. A percussion rotary air drilling rig with downhole hammer was used for air drilling without use of water. This meant that soil samples were not wet by drilling water and that if water ejections occurred they would be solely groundwater. A monitoring well screen and casing were installed down the borehole, and the surrounding annulus was filled, in order from the base with sand filter pack, bentonite and grout. Due its depth, well TW3 had some granite backfill inserted below the grout.

The well construction specifications meet the general requirements of the NSW EPA (1996, p.20) Benchmark Techniques and the more detailed specifications of current United States standards*: 'ASTM Standards on Ground Water and Vadose Zone Investigations'*, second edition (ASTM 1994) and *'Monitor Well Design, Installation, and Documentation at Hazardous and/or Toxic Waste Sites'* (ASCE 1996). Summary construction details for the individual wells are provided in Appendix A. Other well installation and commissioning details were provided in the first report.

Heights and locations of screens and filter pack were determined taking a number of factors into account:

1. levels at which the soil or rock was first saturated or moist (only possible with air rather than water as a drilling medium) and/or at which water flow rates were high;
2. geological strata with differing water carrying capacities;
3. whether upper aquifer or lower aquifer groundwater quality or piezometric levels were of interest;
4. water head rise soon after sufficient well depth had been drilled;
5. relative level in relation to the base of the landfill; and
6. the need to have sufficient grout above the rest of the pack material to prevent rainfall ingress into the well.

Barbara Hart and the drillers discussed the screen needs for each well at appropriate times during drilling progress.

All proposed work was carried out successfully.

6. WELL COMMISSIONING

Well commissioning consisted of well development, electrical conductivity (EC) profiling, purge volume testing, and slug testing to estimate hydraulic conductivity (*K*).

6.1 Well development

Well development is a process whereby drilling fines caught between sand pack grains surrounding the screen are cleaned out so that relatively clear water samples will be available.

A number of groundwater monitoring authors stress the importance of well development. Barcelona et al. (1985) explain that well development is essential prior to hydraulic conductivity testing. Puls and Barcelona (1996) explain that a well needs to be left for at least a week after well development before sampling. ASCE (1996) recommends at least 14 days. They explain that if sampling commences too early after well installation and development, water levels and analyte concentrations may not reflect the true nature of the surrounding groundwater regime.

CodyHart developed the wells. Wells TW1 and TW2 were developed by bailing until the groundwater was relatively clear. For well TW1, 80 L was extracted equivalent to 5 wells volumes. In well TW2 110 L was extracted, which was equivalent to 2.5 well volumes. Due to the greater depth of well TW3, a specialised QED brand well development pump was used. The groundwater was relatively clear after 185 L had been extracted.

6.2 Electrical conductivity (EC) profiling

An EC profile test is used to establish the best pump position for following tests and future groundwater quality sampling. An EC probe on a long electrical cord is lowered down the well's water column and EC values noted every ¼ meter. A change is usually noted when the probe enters the screen. The values are reviewed to determine the most representative or practical location to position the sampling pump. Results for each well are given in their individual appendices.

A change in EC values is often noted when the EC probe enters into the screen. Higher value EC within the screen may indicate contaminants or simply salt dissolution from soil and rock, especially clays and mudstones. Lower value EC regions may indicate zones of more permeable rock (not clays) from which groundwater is inflowing more quickly.

There was no indication of contaminants or clays adjacent to the screened levels. Instead, the EC values were relatively low which is indicative of the Adamellite rock (TW1, TW3) and weathered trachyte and biotite (TW2) in which the wells are screened.

6.3 Purge volume testing

Due to mixing and stagnation in the well, the EC values obtained in the EC profile test may not represent the formation water horizontally adjacent. Ensuring that groundwater collected for samples is representative of the formation water is assisted by a 'purge volume test'.

Field analyte values are noted as groundwater passes through a flow through cell. Stabilisation of EC values is used to determine future purge volume (Hart et al. 2000). Water level drawdown is measured to decide on pump rate for future sampling. The psi may also be adjusted to maintain a 100 mL sample volume.

Purge volume tests were conducted with a bladder pump in each well in conjunction with the first round of sampling. Pumping was continued after samples had been collected and field analyte values noted. The results confirmed that stabilisation was complete when sampling commenced. Results were presented and discussed in the first report for each well. A future purge volume was recommended for all three wells.

6.4 Slug tests

Slug tests are used to estimate the hydraulic conductivity (*K*) (in-situ permeability) of the well strata. They are a popular method for estimating *K* in low permeable material such as clay and silt where wells have a slow recovery, and provide a more realistic estimate than laboratory tests for *K* (Campbell et al. 1990, p. 86). The *K* value is needed in the estimation of seepage rates (Watson & Burnett 1995, pp. 94-100), that is, groundwater flow rate, and for prediction of contaminant concentrations in fate and transport models. *K* information is also useful for determining an appropriate sampling frequency.

From well development it was noted that recovery in these wells was relatively slow, the slowest being well TW3. Therefore manual noting of water level change using a dip meter after insertion ('slug-in' test) and later removal ('slug-out' test) of a closed bar 'slug' was possible in all wells.

The time and water level results were input into a computer program called *Super Slug*. Site and well parameters were also inputted. The most appropriate *K* estimation method for the well's regime was used. Full data and results are given in each well's appendix (A-C). Summary *K* results are provided in Table 2. The greatest *K* was 94.2 metres per year in well TW2, the southern downgradient well.

Table 2: Hydraulic conductivity (K) estimates from slug tests

	Hydraulic conductivity Slug in (falling-head test)	Hydraulic conductivity (*K*) Slug out (rising-head test)	Average (geometric mean) hydraulic conductivity $*K = (K_{RH} \cdot K_{FH})^{1/2}$	Most appropriate method
TW1	0.003 m/day = 1.095 m/year = 3.5 x 10^{-8} m/sec	0.043 m/day = 15.695 m/year = 5.0 x 10^{-7} m/sec	0.011 m/day = 4.0 m/year = 1.3 x 10^{-7} m/sec	Bouwer & Rice
TW2	0.1659 m/d = 60.6 m/year = 1.9 x 10^{-6} m/s	0.4013 m/d = 146.47 m/year = 4.6 x 10^{-6} m/s	0.258 m/d = 94.2 m/year = 3.0 x 10^{-6} m/s	Bouwer & Rice
TW3	0.003 m/d = 1.095 m/year = 3.5 x 10^{-8} m/s	0.0026 m/d = 0.949 m/year = 3.0 x 10^{-8} m/s	0.003 m/day = 1.095 m/year = 3.5 x 10^{-8} m/s	Bouwer & Rice

* Sevee (2006, p. 933) explains that the difference in rising and falling head tests in the one well can vary by up to a factor of 100, with typically the falling-head result being greater than the rising-head result. 'The errors in measurement are believed to be associated with well-installation effects, which cause a disturbance of the aquifer material around the borehole'. He recommends Milligan's (1975) method for the 'best' *K* estimate: $K = (K_{RH} \cdot K_{FH})^{1/2}$, that is, the geometric mean. Bouwer (1978, pp. 132-133) also recommends using the geometric mean when averaging *K*.

It is important to be cautious about the predictive accuracy of slug test results. Theoretical perfection about hidden hydrogeology is impossible. Groundwater flow direction may be anisotropic (flow in different directions from the one point); groundwater flow rate is often not homogeneous due to different confining influences; well diameters vary vertically due to varying diameters of the pack's gravel envelope; and, as explained by Butler (1997, p. 4, 16), well development is often quite minimal resulting in partially or unevenly removed low hydraulic

skins not representative of the formation on the bore walls. [Note: No drilling mud was introduced into Tilbuster Landfill wells, and the thorough well development before conducting the slug test, makes the above criticism inappropriate for the Tilbuster Landfill wells.] Bouwer (1989) explains slug test result inaccuracies in terms of vulnerability to aquifer heterogeneities and to inaccuracies in estimating effective well diameters. Hyder and Butler (1995, p. 21) give examples of over-prediction of hydraulic conductivity by 100% and under-prediction by 50%.

6.5 Summary data

Findings of the EC profile tests, purge volume tests, and slug tests are summarised in Table 3.

Table 3: Major parameters from well commissioning tests

	EC profile range (µS/cm)	**Hydraulic conductivity (*K*)**	**Sampling pump position** (from top PVC casing)	**Purge volume**	**Discharge/refill** (secs/secs)	**psi**
TW1	937 - 1300	0.011 m/day	12.0 m	3.0 L	20/20	30
TW2	577 - 586	0.258 m/day	16.0 m	3.0 L	20/20	30
TW3	1226 - 1511	0.003 m/day	34.5 m	3.0 L	45/45	55

The EC values are relatively low for groundwater which is indicative of the Adamellite rock (TW1, TW3) and weathered trachyte and biotite (TW2) in which the wells are screened.

Pump positions, purge volumes and discharge/refill rates were recommended for all three wells and followed in the four rounds of monitoring. Sampling pump rates are slow in comparison to those used in productive aquifers.

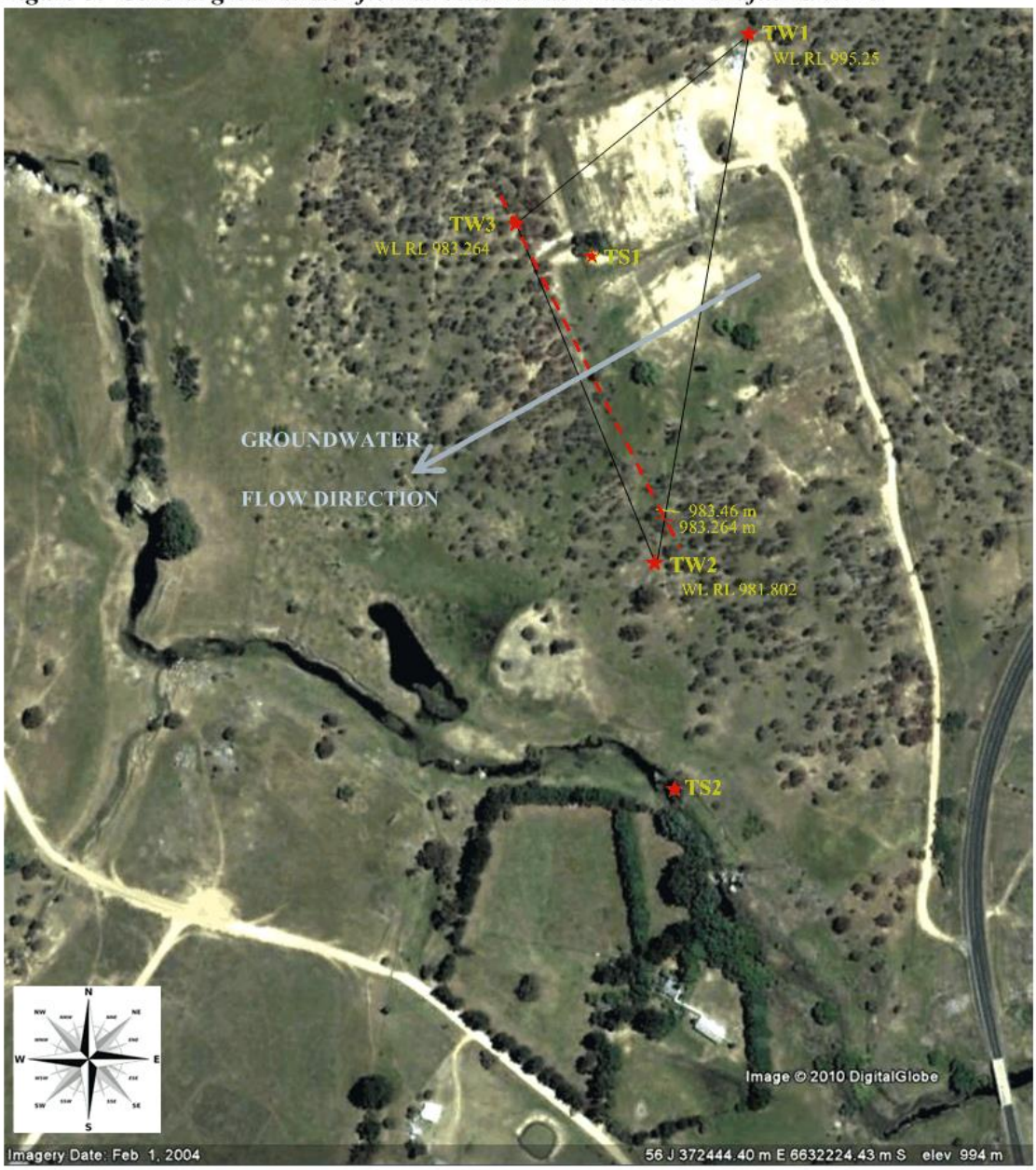
Hydraulic conductivities are slow in the upper wells (TW1, TW3) which are cased and screened within Adamellite rock. However, well TW2 has a moderate flow at 94.2 m/year for a monitoring well.

7. GROUNDWATER FLOW DIRECTION

The general groundwater flow direction is estimated from groundwater levels (WL) measured on 18 and 19 September 2010 converted to the relative levels (RLs) which Council surveyed (Figure 5).

The water levels in each well (TW1, TW2, and TW3) were measured with an electronic dip meter from the top of the PVC casing which is inside the locked standpipe. They were converted to Reduced Levels (RL) relative to Australian Height Datum (AHD) adjusted for height difference from the AHD surveyed by Council at the top of the standpipe. The computed water level relative levels (WLRLs) for each well are noted on Figure 5.

Figure 5: General groundwater flow direction under Tilbuster Landfill 18/09/10



The general groundwater flow direction was estimated using a method recommended by the United States Environmental Protection Agency (US EPA) in *Ground Water Handbook*, 2nd edn (US EPA, 1992, Vol. 1: 85). This method sets up and joins equipotential WLRL points to form an equipotential line (red dashed line on Figure 5). Groundwater is then estimated to flow at a right angle to the equipotential line. The general groundwater flow direction under the site is to the southwest towards Duval Creek. This is in keeping with the common tendency of groundwater flow direction to be in sympathy with topographical fall.

Although general groundwater flow commonly follows topographical fall due to water fall with gravity, groundwater flow rate and direction are complex. Devinny & Lu (1990, p. 2) describe the common groundwater environment:

> *The soil and rock which make up the system are commonly non-uniform. Sand permits the easy passage of large volumes of water, while irregular layers and lenses of clay retard it. Layers of easily permeated material separated by an impermeable layer may split the flow into separate currents of different velocities (Sutton and Barker, 1985). Adjacent layers of differing permeabilities exchange contaminants, causing the contaminants to move slower than the water in one layer and faster than the water in the other. Holes left by the decay of tree roots or the burrows of small animals allow the water to flow rapidly away from the source. Breaks and fissures may penetrate the bedrock. Fractured rock or even fractured clay beds produce a groundwater flow system which diverts water into pathways difficult to understand from the data available at the surface. Horizontal fractures can be closed by the weight of the strata while vertical fractures remain open. Further, the vertical fractures will not have random orientation, but may all trend in one direction (Spayd, 1985). Such a system will divert water from paths predicted by the unsuspecting investigator.*
>
> *The pollutants may not move passively with water. They are often retarded by adsorption on the soils or degraded by micro-organisms. Contaminants evaporate into the atmosphere of the vadose zone and redissolve in groundwater some distance away. Pollutants which do not dissolve in water will float in layers on top of the saturated zone or sink into its bottom, and travel in different directions and at different speeds than the water. The result is a complex dynamic system for which descriptive data are very difficult to obtain.*

8. GROUNDWATER VELOCITY

Three parameters are used in a simple advection formula to estimate groundwater velocity: (1) saturated hydraulic conductivity (*K*) which measures the relative ability of groundwater to move through a geological material in distance/time; (2) hydraulic gradient (*i*) which is the rate of change in head per length of flow in a given direction; and (3) effective porosity (*Ne*) which is the amount of interconnected pore space in the geological material that is available for fluid flow (Weight & Sonderegger 2000, Glossary). The advection formula is:

$V = (K \times i) / Ne$ (Sara, 1994, p.7-41)

This advection formula is a simple estimate because it only takes general groundwater movement into account, and does not factor in other physical, chemical or biological processes that may change the velocity.

For the Tilbuster Landfill site, the following values will be used in the advection formula:
$K = 0.258$ m/day at TW2 (the fastest K value of the three wells); $i = 0.04$ (a 13.45 m fall in Water Level Relative Level (WLRL) between TW1 and TW3 on 18/09/10 over a distance of 336 m); and Ne = 0.45 [Bedient *et al.* (1999:20) estimate for Ne weathered granite 45%].

$V = (0.258 \text{ metres/day} \times 0.04) / 0.45$
$= 0.023$ metres /day or 8.3 m/year

This estimated groundwater velocity of 8.3 m /year indicates that the lower areas downgradient from the landfill would have been affected by the landfill by now, given that the landfill has been operating for decades. (Measured K in monitoring wells is predominately in a horizontal direction because the length of the screen is far greater than the diameter of the screen.)

9. FOURTH ROUND GROUNDWATER MONITORING

The fourth and final round of groundwater sampling was conducted on 21 January 2012. Spreading the sampling program over time allows for water quality variations due to groundwater flow, rain and drought conditions to be included in the results. Three wells (TW1-TW3), the sedimentation dam (TS1) and Duval Creek downstream from the landfill were sampled. Details are provided in the following sections. Field parameter forms are provided in Appendix B; chain of custody form and laboratory sample receipt notifications in Appendix C; and certificate of analysis and quality assurance reviews in Appendix D.

9.1 Field work

A TPS field lab is used by CodyHart Environmental to take field temperature, pH, electrical conductivity (EC), redox potential (Eh), and dissolved oxygen (DO) readings. Sampling is undertaken within 24 hours of the last calibration of the field lab at or near the site.

The water level was measured at each well: TW1, TW2, and TW3 (Figure 2). Into each well, a decontaminated, stainless steel, bladder pump attached to ¼ inch OD LDPE tubing for compressed air and ¼ inch OD LDPE tubing for water, was lowered to pump groundwater to the surface. A set pump position, discharge/refill rate and psi, and purge volume as chosen in the first monitoring round to suit each well's hydraulic characteristics (Hart et al. 2000) were used again. The aim is to minimise water level drawdown in a method called 'low-flow' groundwater sampling. Minimal drawdown means that the groundwater is less disturbed and samples are more likely to be representative of true groundwater quality. Repetition of these purge characteristics in following sampling rounds reduces variation in analytical results. A flow-through cell is used to house field probes for measuring field analytes (EC/Temp, pH, Eh and DO) values which are noted are on each well's field parameter form (Appendix B). When purging was complete, sample containers were filled generally from the most volatile analyte to be sampled to the least. Metal samples from all wells were filtered to assess filtering effects and for predominantly dissolved metals to be obtained in the analytical results.

Surface water samples were collected in a decontaminated beaker. Sampling points were at TS1, the sedimentation dam, and TS2, in the creek that is downgradient from the landfill (Figure 2). Sample containers were filled as per groundwater samples. Metal samples were filtered and analysed for dissolved metals to compare with the unfiltered and total metals analysis results from the first sampling round.

Samples were put in the CodyHart mobile refrigerator after sample collection. Transport was arranged in iced eskies so as to reach the ALS laboratory well within holding times. An anemometer, thermometer and compass were used to determine air temperature, wind speed and wind direction. Their values were noted on each field parameter form (Appendix B).

9.2 Quality assurance (QA)

A number of techniques assure a high quality of sampling and analyses.

- Sampling procedures documented by CodyHart Environmental were followed. These included tests of deionised water and field blanks to assure proper decontamination of equipment.

- Relative percentage differences (RPDs) of field analytes on the field parameter forms (Appendix A) were reviewed. The general RPD of 20% was exceeded for redox potential (Eh) in well TW1. Dissolved oxygen (DO) and redox potential (Eh) have the potential to vary more than other field analytes when water is extracted from its normal environment.
- Chain of custody forms were completed to document the lack of tampering with sample containers and for the ALS laboratory to advice of sample receipt (Appendix C).
- Australian Laboratory Services (ALS), Stafford, Brisbane, conducted the majority of laboratory analyses. They are a global, Australian company who analyses a broad range of analytes and provides good service. In addition to the certificate of analysis and analytical results, ALS provide quality control reports for laboratory duplicates, method blank and laboratory control samples, matrix spikes, and an interpretive quality control report that summarises the quality assurance findings (Appendix D). The lab was three days overdue in extracting the ultra trace organochlorine pesticides. There were no other untoward quality control issues.
- CodyHart conducted laboratory analyses (yellow sheet, Appendix D) that are best conducted on fresh samples – for alkalinity using the EPA approved method, and for free CO_2 using the APHA 4500-CO_2 C titration method.
- The CodyHart sampling team took duplicate samples (TWD) as replicate samples (one after the other as the groundwater came out of the hose) for all inorganic analytes tested at well TW2. The laboratory was not given the time of sampling or the duplicate sampling point name. This assists impartial analysis because laboratory personnel do not know the duplicate's sampling point origin. The analyte values were within the ALS quality control duplicate criteria which are dependent on the magnitude of the results.

9.3 Water quality results

Results are summarised on the following portrait tables to enable a quick comparison of each analyte's historical results by looking down each analyte's column. Appendix D has a copy of the detailed laboratory results for Round 4 monitoring followed by the laboratory QC reports. CodyHart laboratory results follow the QC reports.

Table 4: Analytes A – Groundwater quality Well TW1

TW1	*Field analytes*							*Ions and metals*															
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	Mv	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
17/09/10	0.27	1065	6.28	+118	15.4	198	270	83	127	39	45	108	10	**0.014**	**<0.0001**	**0.002**	**0.018**	**0.025**	**0.003**	**0.199**	**1.07**	**0.69**	**<0.0001**
22/02/11	0.15	1004	8.00	-176	16.3	15	303	44	87	54	22	101	28	0.032	<0.0001	0.002	0.001	0.003	<0.001	<0.005	0.055	<0.05	<0.0001
18/08/11	0.57	1146	6.79	-57	14.4	117	367	53	96	69	44	94	16	0.023	<0.0001	<0.001	<0.001	0.003	<0.001	0.008	0.353	0.34	<0.0001
21/01/12	0.47	997	8.16	-32	16.6	78	350	47	88	60	36	96	28	<0.001	<0.0001	<0.001	<0.001	<0.001	<0.001	<0.005	0.013	0.42	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 5: Analytes B & hydraulic parameters – Groundwater quality Well TW1

TW1	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*			*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill/ psi**	**Purge volume**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1	0.01	0.004
17/09/10	<0.01	0.2	0.2	21	ND	ND	ND	9.85	995.25	12.0	20/20/30	3.5		
22/02/11	0.05	0.3	0.4	**4**	ND	ND	ND	9.67	995.43	12.0	20/20/30	8.0	<0.01	0.019
18/08/11	0.04	0.4	0.4	10	NC	Ultra trace ND	NC	9.36	995.74	12.0	20/20/30	3.0	<0.01	<0.004
21/01/12	0.04	0.2	0.2	3	NC	Ultra trace ND		9.08	996.02	12.0	20/20/30	9.0	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing.
Notes: TW1 top of PVC casing RL = 1,005.10 m (top of standpipe RL = 1,005.17 m); Easting 372374.671, Northing 6632552.924 Zone MGA 56.
Depth of well from top of PVC = 12.85 m. Hydraulic conductivity estimate = 1.3 x 10^{-7} m/sec = 0.011 m/day = 4.0 m/year.

Table 6: Analytes A – Groundwater quality Well TW2

TW2	*Field analytes*							*Ions and metals*																
	DO	**EC**	**mV**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
17/09/10	1.26	611	6.62	+143	15.1	110	207	2	41	30	31	49	5	0.012	0.0002	<0.001	0.005	0.005	<0.001	0.050	0.009	<0.05	<0.0001
22/02/11	1.37	583	6.48	+180	16.5	103	223	2	37	28	30	47	4	0.013	<0.0001	0.003	0.007	0.004	<0.001	0.057	0.003	<0.05	<0.0001
18/08/11	1.29	585	6.47	+159	13.6	95	220	2	37	27	29	47	4	0.013	<0.0001	0.002	0.008	0.002	<0.001	0.016	0.002	<0.05	<0.0001
21/01/12	1.48	561	6.65	+153	16.4	94	220	2	32	25	27	45	4	0.014	<0.0001	<0.001	0.006	0.005	<0.001	0.060	0.002	<0.05	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 7: Analytes B & hydraulic parameters – Groundwater quality Well TW2

TW2	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*			*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill /psi**	**Purge volume**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1	0.01	0.004
17/09/10	0.09	<0.1	<0.1	13	ND	ND	ND	4.78	981.802	16.0	20/20/30	5.0		
22/02/11	0.07	<0.1	<0.1	**<1**	ND	ND	ND	4.43	982.152	16.0	20/20/30	3.0	<0.01	<0.004
18/08/11	0.05	<0.1	<0.1	7	NC	Ultra trace ND	NC	4.46	982.122	16.0	20/20/30	3.0	<0.01	<0.004
21/01/12	0.05	<0.1	<0.1	3		Ultra trace ND		4.12	982.462	16.0	20/20/30	3.0	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing.
Notes: TW2 top of PVC casing RL = 986.582 m (top of standpipe RL = 986.677 m); Easting 372312.096, Northing 6632252.928 Zone MGA 56.
Depth of well from top of PVC = 17.60 m. Hydraulic conductivity estimate 3.0 x 10^{-6} m/s = 0.258 m/d = 94.2 m/year.

Table 8: Analytes A - Groundwater quality Well TW3

TW3	*Field analytes*							*Ions and metals*																
	DO	**EC**	**pH**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
18/09/10	0.99	1510	6.69	+102	14.8	117	317	111	261	112	49	128	7	0.003	0.0002	<0.001	0.004	0.013	<0.001	0.095	0.690	0.32	<0.0001
22/02/11	1.37	583	6.48	+180	16.5	88	320	55	287	101	46	128	10	0.002	<0.0001	0.002	0.016	0.003	<0.001	0.085	0.004	<0.05	<0.0001
18/08/11	1.88	1487	6.55	+105	16.7	88	333	47	260	109	49	123	10	0.002	<0.0001	<0.001	0.005	0.006	<0.001	0.110	0.377	<0.05	<0.0001
21/01/12	4.13	1453	6.93	+114	21.1	88	347	38	262	97	47	116	9	<0.001	<0.0001	0.006	0.008	0.004	0.001	<0.005	0.282	3.68	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 9: Analytes B & hydraulic parameters – Groundwater quality Well TW3

TW3	*Nutrients and TOC*				VOC	Pesticides		*Water levels*		*Operational*			*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**various**	**OC**	**OP**	**D**	**RL**	**Pump position**	**Discharge/Refill/ psi**	**Purge volume**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	m	m	m	secs/secs/psi	L	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.01	1	0.1	0.01	0.004
18/09/10	0.03	0.2	0.2	15	ND	ND	ND	9.49	983.264	34.5	45/45/55	3.0		
22/02/11	0.21	<0.1	0.2	4	ND	ND	ND	9.33	983.424	31.0	45/45/55	3.0	<0.01	<0.004
18/08/11	0.13	<0.1	0.1	12	NC	Ultra trace ND	NC	9.27	983.484	31.0	30/30/60	3.0	<0.01	<0.004
21/01/12	0.17	0.2	0.4	1		Ultra trace ND		8.97	983.784	31.0	30/30/60	3.0	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; D = Depth to water from top of internal well casing; RL = water level converted to Reduced Level relative to Australian Height Datum (AHD); Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing.
Notes: TW2 top of PVC casing RL = 992.754 m (top of standpipe RL = 992.834 m); Easting 372226.775, Northing 6632434.961 Zone MGA 56.
Depth of well from top of PVC = 35.40 m. Hydraulic conductivity estimate 3.5 x 10^{-8} m/s = 0.003 m/day = 1.095 m/year

Table 10: Analytes A – Surface water quality – Landfill dam TS1

TS1	*Field analytes*							*Ions and metals*																
	DO	**EC**	**mV**	**Eh**	**Temp**	**Free CO_2**	**Alk**	**SO_4**	**Cl**	**Ca**	**Mg**	**Na**	**K**	**As**	**Cd**	**Cr**	**Cu**	**Ni**	**Pb**	**Zn**	**Mn**	**Fe**	**Hg**
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.005	0.001	0.05	0.0001
18/09/10	8.61	1215	7.04	+117	11.4	32	179	10	154	10	6	18	2	**0.020**	**0.0002**	**0.001**	**0.005**	**0.008**	**0.001**	**0.071**	**1.23**	**5.24**	**<0.0001**
23/02/11	4.85	2368	7.24	+232	16.5	59	710	87	312	122	78	221	63	0.018	0.0002	0.007	0.005	0.004	<0.001	0.020	1.63	0.94	<0.0001
18/08/11	3.15	2201	7.21	-79	7.4	132	867	34	191	158	77	165	55	0.016	<0.0001	<0.001	<0.001	0.004	<0.001	0.009	2.81	2.31	<0.0001
21/01/12	5.02	2136	7.27	-166	19.8	147	680	310	134	215	77	130	40	<0.001	<0.0001	<0.001	0.002	<0.001	<0.001	<0.005	0.042	1.04	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 11: Analytes B & water level – Landfill dam TS1

TS1	*Nutrients and TOC*					VOC	Pesticides		*Water level*	*Extra analytes*	
	NO_x	**TKN**	**TotN**	**TOC**	**TotP**	**various**	**OC**	**OP**	**D**	**Se**	**Cn**
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.01	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.004
18/09/10	0.06	2.3	2.4	45	0.30	ND	ND	ND	0.20		
23/02/11	0.01	2.1	2.1	54	0.22	NC	ND	ND	0.15	<0.01	0.008
18/08/11	<0.01	3.0	3.0	35	0.19		Ultra trace ND	NC	0.20	<0.01	<0.004
21/01/12	<0.01	4.7	4.7	59	0.86		Ultra trace ND		0.12	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; TotP = Total Phosphorus; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing; D = Depth of water at sampling point.

Table 12: Analytes A – Surface water quality – Duval Creek 2m upstream from fence TS2

TS2	*Field analytes*							*Ions and metals*															
	DO	EC	pH	Eh	Temp	Free CO_2	Alk	SO_4	Cl	Ca	Mg	Na	K	As	Cd	Cr	Cu	Ni	Pb	Zn	Mn	Fe	Hg
Measure	mg/L	µS/cm	1-14	mV	°C	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Reporting Limit	0.01	1	0.01	1	0.1	1	1	1	1	1	1	1	1	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.05	0.0001
18/09/10	11.96	186	7.11	+88	15.2	9	51	211	16	78	33	88	60	**0.004**	**<0.0001**	**<0.001**	**0.002**	**0.002**	**<0.001**	**<0.005**	**0.046**	**1.00**	**<0.0001**
23/02/11	8.43	177	6.81	+219	22.0	11	57	4	8	11	6	14	2	0.005	<0.0001	<0.001	0.003	0.002	<0.001	0.006	0.088	0.74	<0.0001
18/08/11	11.87	293	7.60	+150	10.6	9	83	15	21	16	10	24	2	0.002	<0.0001	0.001	0.003	0.001	<0.001	0.014	0.112	0.11	<0.0001
21/01/12	5.32	217	6.99	+101	22.3	18	77	<1	12	13	8	17	2	0.002	<0.0001	0.016	0.066	0.011	0.012	0.035	0.723	26.1	<0.0001

Abbreviations: DO = Dissolved Oxygen; EC = Electrical Conductivity also called specific conductance; pH = pH; Eh = redox potential; Temp = Temperature; Free CO_2 = Free carbon dioxide; Alk = Alkalinity measured as mg/L $CaCO_3$ equivalent; SO_4 = Sulfate; Cl = Chloride; Ca = Calcium; Mg = Magnesium; Na = Sodium; K = Potassium; As = Arsenic; Cd = Cadmium; Cr = Chromium; Cu = Copper; Ni = Nickel; Pb = Lead; Zn = Zinc; Mn = Manganese; Fe = Iron; Hg = Mercury; Bold = unfiltered metal.

Table 13: Analytes B & water level – Duval Creek 2m upstream from fence TS2

TS2	*Nutrients and TOC*					VOC	Pesticides		*Water level*	*Extra analytes*	
	NO_x	TKN	TotN	TOC	TotP	various	OC	OP	D	Se	Cn
Measure	mg/L as N	mg/L as N	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	m	mg/L	mg/L
Reporting Limit	0.01	0.1	0.01	1	0.01	0.002-0.050	0.5-2	0.5-2	0.01	0.01	0.004
18/09/10	<0.01	0.7	0.7	12	0.04	ND	ND	ND	0.60		
23/02/11	0.02	0.4	0.4	14	0.06	NC	ND	ND	0.45	<0.01	<0.004
18/08/11	0.59	0.4	1.0	6	0.02		Ultra trace ND	NC	0.30	<0.01	<0.004
21/01/12	0.01	0.9	0.9	20	0.10		Ultra trace ND		0.65	<0.01	<0.004

Abbreviations: NO_x = Nitrate + nitrite; TKN = Total kjeldahl nitrogen; Tot N = Total nitrogen; TOC = Total organic carbon; TotP = Total Phosphorus; VOC = Volatile organic hydrocarbons; OC = Organochlorine; OP = Organophosphorus; Se = Selenium; Cn = Total Cyanide; ND = Nil detected; NC = Not continuing; D = Depth of water at sampling point.

9.4 Analyte guideline values

Analytes have been chosen for testing to provide evidence on whether or not

- landfill leachate is discharging from the landfill into groundwater and surface water.
- alluvial gold mining has affected surface water quality.

The creek water has previously been used for drinking purposes. It is therefore applicable to review the groundwater and surface water results against Australian drinking water guidelines. Aquatic ecosystem guidelines are also useful for reviewing the water quality of Duval Creek sampled at TS2.

Groundwater usually has greater concentrations of salts and metals than surface water due to groundwater's considerable residence time amongst its surrounding silts, clays and rocks. In addition, groundwater may be affected by Tilbuster Landfill leachate. Natural groundwater analyte concentrations and concentrations indicating landfill leachate intrusion need to be assessed. This review needs to consider attenuation over distance by silts and clays, and the maxim of protecting Duval Creek from contaminated groundwater.

In bygone days, there was gold mining in Duval Creek. Small mullock heaps and the dam on the northern side of Duval Creek resulted from the diggings. There were various gold mining sites in the district. Records indicate that the major initial gold mining area was Rocky River 2 km west

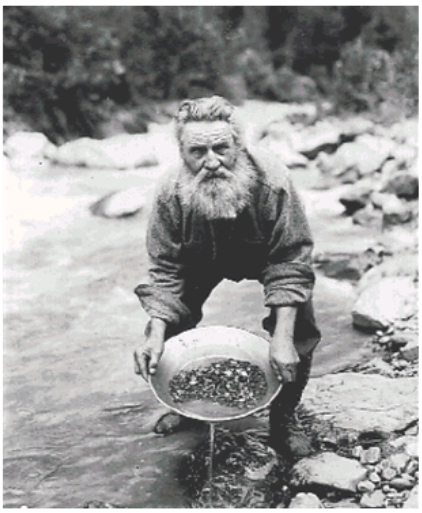
of Uralla where gold mining commenced in 1852 (Uralla Visitor Centre). Mining was alluvial, that is, mining was shallow alongside rivers and creeks. Panning and cradling were the most common methods of extracting the gold from the wash-dirt. Some historical photographs of gold mining methods follow.

Photograph 4: Cradling for gold at Box Ridge, near Sofala, NSW. Circa 1870.

www.landlearnnsw.org.au

Alluvial ore was shovelled into the top of the cradle and water poured over it to disperse silt, clay and light rocks. Gold is heavier and remains. Gold pans were used for the final separation. The ore was sifted and re-sifted with water until hopefully some gold remained (Photograph 5).

Photograph 5: Alluvial gold mining equipment



Gold panning
http://selfinterestandsympathy.wordpress.com/2007/09/

Rocker cradle & wheelbarrow
http://www.oldmogotown.com.au/panning.html

Photograph 6: Australian alluvial gold mining scene

Tyrrell Photographic Collection, Powerhouse Museum

The banks of a creek have been dug up and the alluvial ore sorted. Perhaps the miners were adding some cyanide to the finely crushed ore and maybe some mercury to the pans to separate out the gold more efficiently.

Mercury has been used for centuries to extract gold. It has a chemical affinity to gold. When mercury is added to gold-bearing material, the two metals form an amalgam. Mercury is toxic to humans and bioaccumulates in animals. However, the gold miners reused mercury which limits the possibility that it is still in Duval Creek water today.

Logsdon et al. (1999) states that cyanide began to be used for more effective metal separation in Year 1887. However, cyanide is unlikely to still be present in Duval Creek - if it was used. Very dilute solutions of sodium cyanide are used and cyanide is noted for biodegrading in 100 days.

The major contaminant of concern at disused gold mining sites is arsenic.

A Government of Nova Scotia reference on old alluvial gold panning area explains

> *Gold bearing rock that also contained arsenic was crushed and spread over liquid mercury to remove the gold. The mercury was then evaporated, leaving the gold. The remaining sand-like substance, known as tailings, was typically dumped into low-lying areas or lakes and streams near the mine. The arsenic is still present in the tailings.*
>
> *Ingestion of arsenic, usually through drinking water, in high concentrations over a short period of time can cause sickness. Over a lifetime, exposure to moderate levels of arsenic may cause certain types of cancer.*
>
> < http://www.gov.ns.ca/nse/contaminatedsites/docs/faq-goldminearsenic.pdf>

Alluvial gold was most often found in clay soil, clay-laden gravel or between layers of thin rock that had to be pried apart. Naturally occurring arsenic compounds are likely to be in higher concentration in volcanic derived soil and rock (Weiner 2007, p.374) – which is the case at Tilbuster. The breaking up of the soil for gold mining exposed and desorbed arsenic compounds, and the water used for revealing the gold, dissolved the arsenic.

Arsenate [pentavalent arsenic (As^{+5})] and arsenite [trivalent arsenic (As^{+3})] are the two typical forms of arsenic found in water because they are relatively water soluble. Arsenate is generally the most common in oxygenated surface waters with positive redox, but under reducing conditions (negative redox), such as those found in deep lake sediments and some groundwaters, arsenite predominates (NHMRC 2004, Arsenic Fact Sheet). Arsenite is more toxic than arsenate.

The Department of Health, Victoria (2010) provided the following guidance to prevent exposure to arsenic in mine tailings:

> *Children and adults who live near mine tailings are at risk of exposure to arsenic. The risk can be reduced if you:*
> - *Reduce your exposure to mine tailing soil and dust.*
> - *Do not allow young children to play in or eat mine tailings.*
> - *Wash young children's hands and their toys frequently.*
> - *Bring in clean soil for vegetable garden beds and ensure all fruit and vegetables are washed before eating.*
> - *Do not swim in or eat fish or yabbies from dams with walls made from mine tailings.*

They should have added – don't drink the water from water bodies in mine tailing areas.

A summary table of Australian environmental health warning limits relating to landfill and gold mining are provided in Table 14 for comparative purposes.

Table 14: *Environmental health warning limits - some landfill and gold panning analytes*

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Temperature	Biodegradation of waste increases temperature. Temp + EC have successfully defined a leachate plume (Scrudato & Pagano, 1994). An increase in temperature decreases free CO_2 in groundwater and increases pH.	>80%ile <20%ile	NR	NR	NR
pH	varies from acidic to alkaline as waste decomposition progresses (Andreottola & Cannas, 1992:72). But pH levels in groundwater are often naturally low.	6.5 to 8.0 (2000); 6.5 – 9.0 (1992)	6.5 to 8.5 (A)	>6 limits corrosion of pipes	NR
Electric Conductivity (EC)	a general indicator that summarises the general trend of major cation and anion concentrations.	≤30 - 350µS/cm (2000); ≤1500 µS/cm (1992)	≤1500µS/cm (A)	varies, e.g., ≤1,000µS/cm carrots	≥3582 µS/cm analyse for specific ions which may affect
Alkalinity	Measures acid-neutralising capacity, a solution's ability to buffer, that is stop pH changing. Often high in leachate, but some groundwaters can also have high alkalinity.	NR	NR	NR	NR
Ammonia	From decaying plants and animals. May be high in leachate (Hancock & Phillips, 1992:22). Toxic to fish (ANZECC, 1992:2-30).	≤0.18 mg/L as N for pH 9.0; ≤0.9 mg/L as N pH 8.0 ; ≤2.18 mg/L pH 7.0.	≤0.01 mg/L as N (1992) (A) ≤0.05 mg/L as NH_4 (2004) (A)	Nitrogen ≤5 mg/L (long term; 25-125 mg/L (short term – up to 20 years)	NR
Iron and manganese	High iron concentrations affect plant growth and high manganese concentrations clog irrigation equipment and are toxic to plants (ANZECC, 1992:5-15, 5-16).	Fe NR (2000), ≤1 mg/L (1992), Mn≤1.9mg/L	Fe 0.3 mg/L (A) Mn 0.5 mg/L	Fe & Mn 0.2 mg/L long term, 10 mg/L short term	not sufficiently toxic (2000); ≤17 mg/L for dairy cattle (1992)

Table 14 continued:

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Nitrate	From final stage of plant and animal decomposition or fertilisers. May be high in leachate (Canter *et. al*, 1997:6). Toxic to infants and livestock (ANZECC, 1992:4-10,5-23).	NO_x ≤0.015 mg/L; TN ≤0.25 mg/L (2000); TN ≤0.1 to 0.75 mg/L (1992)	≤10 mg/L as N (1992) ≤11.3 mg/L as N (1996) ≤50 mg/L as NO_3 (2004)	As for ammonia	≤ 90 mg/L as N; Nitrite ≤9 mg/L as N
Phosphorus	Csuros (1994:228-229) explains that phosphorus occurs in animal, plant and mineral kingdoms. Its discharge to streams may stimulate growth of photosynthetic organisms especially if it is the nutrient whose low values are limiting the primary productivity of the water.	Total P ≤0.02 mg/L	NR	≤0.05 mg/L (long term to prevent clogging equipment; ≤0.8-12 mg/L (short term)	NR
VOCs	Good indicators of man-made pollutants found in landfill leachate (USEPA, 1991:51075). Toxic and carcinogenic to animals and humans.	varies for different compounds	varies for different compounds	NR	NR
Arsenic	Found in cattle dip soils; toxic, possibly carcinogenic (Manahan, 1990:150), toxic to livestock in high concentrations (ANZECC, 1992:5-25) Various forms of arsenic are common in gold deposits. Upon crushing and weathering such minerals routinely lower the pH of nearby waters, mobilizing arsenic and other metals (Straskraba & Moran 1990:181). Effects of consuming water with arsenic greater than 0.3 mg/L over 5-25 years 'include skin lesions, skin cancer, vascular disease, effects on the nervous system, and possibly cancer of other organs (USEPA 1988 in NHMRC 2004, Arsenic Fact Sheet).	≤0.024 mg/L (III) form; ≤0.05 aquaculture	≤0.007 mg/L	≤0.1 mg/L long term; ≤2 mg/L short term	0.5 to 5 mg/L tolerated
Cadmium	Causes high blood pressure, kidney damage, destroys testicular tissue and red blood cells, toxic to aquatic biota (Manahan, 1990:150), toxic and carcinogenic to livestock (ANZECC, 1992:5-26)	≤0.0002 mg/L	≤0.002 mg/L	≤0.01 mg/L long term; ≤0.05 mg/L short term	≤0.01 mg/L
Chromium	Cr+6 is possibly carcinogenic and is toxic to humans (anaemia, kidney disease, nervous system) (Manahan, 1990:150), reduces crop yield (ANZECC, 1992:5-14).	≤0.001 mg/L for Cr+6	≤0.05 mg/L (Cr+6)	≤0.1 mg/L long term; ≤1 mg/L short term	≤1 mg/L
Copper	Essential in small concentrations for plant growth and animals (ANZECC, 1992:5-15&5-27). Toxic to sensitive plants and animals and bioaccumulated.	0.0014 mg/L	<2 mg/L	≤0.2 mg/L long term; ≤5 mg/L short term	<0.4 mg/L sheep, <1 mg/L cattle; <5 mg/L pigs and poultry
Nickel (mg/L)	In humans, long-term exposure may result in toxic effects to the kidney and skin allergies.	≤0.011	≤0.02	≤0.2 long term; ≤2 short term	≤1
Lead	Wildlife destruction (Manahan, 1990:151). Reduces plant growth (ANZECC, 1992:5-16). Decreases human intelligence, growth (Csuros, 1994:210).	≤0.0034 mg/L	≤0.01 mg/L	≤2 mg/L long term; ≤5 mg/L short term	≤0.1 mg/L
Mercury	Very toxic to humans - numbness, deafness, loss of muscle control (Csuros, 1994:212); toxic to fish (ANZECC, 1992:2-38).	NR (2000); ≤0.0001 mg/L (1992)	≤0.001 mg/L	≤0.002 mg/L	≤0.002mg/L
Selenium	Toxic to cattle, fish & humans (Manahan, 1990:151). Used in electronics, glass, ceramics, pigments, rubber (Csuros, 1994:213). Occurs in igneous rocks, major source - weathering of rocks & soils (Weiner 2008: 402).	≤0.005 mg/L	≤0.01 mg/L	≤0.02 mg/L long term; ≤0.05 mg/L short term	≤0.02 mg/L
Zinc	Found both naturally (weathering & erosion) and from anthropogenic sources (ANZECC, 1992:2-42). Zinc coating used to protect iron, steel and brass; used in dry batteries, construction materials, printing processes (Csuros, 1994:215). One of seven analytes with greatest percentage increase from 71 unlined landfills in North Carolina, USA (Borden and Yanoschak, 1990:269). Also found by CodyHart in landfill ponds and leachate.	≤0.008 mg/L	≤3 mg/L (A)	≤2 mg/L long term; ≤5 mg/L short term	≤20 mg/L

Table 14 continued:

Analyte	***Reason for Inclusion***	***Aquatic*** 1	***Human*** 2	***Irrigation*** 3	***Livestock*** 4
Cyanide	Cyanides can be manufactured but they also occur in nature. Cyanide containing chemicals are produced by a wide range of organisms and plants as part of their normal metabolism (MERG 2001).Bacteria, fungi & algae produce it, as well as some species of centipedes, millipedes, insects, beetles, moths etc (MERG 2001). In seeds of apples, apricots, cherries, peaches and plums; in arrowgrass, sorghum, flax, velvet grass and white clover (Manahan, 1990:510). It occurs naturally in a number of plant roots including cassava roots. Used in plastics, electroplating, metallurgy and in synthetic fibres and chemicals (Csuros, 1994:220). Sodium cyanide used for gold extraction. Toxic to fish (ANZECC, 1992:2-36). From gasworks activities – storage areas for gas purifying masses and ammonia purification, 0.7 to 2.7 mg/L (Kunze and Isenbeck-Schroter, 2000:181).	≤0.007 mg/L	≤0.08 mg/L	NR	NR

1. from Tables 3.3.1, 3.3.2, 3.3.3 - Default trigger values for aquatic ecosystems in upland rivers of south-east Australia that are slightly-moderately disturbed; and Table 3.4.1 trigger values for toxicants 95% level aquatic ecosystem protection in *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality',* ANZECC & ARMCANZ 2000.
2. from *'Summary of Australian Drinking Water Guidelines'* NHMRC & ARMCANZ 1996:26-32. Updated 2004.
   (A) = aesthetic, no health guideline
3. from Tables 4.2.5, 4.2.10, 4.2.11, 4.2.14 and 4.2.15 *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality',* ANZECC & ARMCANZ 2000.
4. from page 4.3-3 – 4.3-5 *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality',* ANZECC & ARMCANZ 2000.

NR - No recommendation
(A) aesthetic guideline rather than an environmental health guideline
(1992) refers to 1992 edition of the *'Australian and New Zealand Guidelines for Fresh and Marine Water Quality'*.

9.5 Comments on water quality results

This is the fourth and final round of water monitoring to characterise the groundwater quality of three wells and surface water quality at two sampling points relevant to the Tilbuster Landfill and the gold mining flats between the landfill and Duval Creek.

Cyanide and selenium were added to the analyte list in the second sampling round: cyanide to see if it may be in surface water from gold processing; and selenium due to its occurrence in weathered igneous rocks. No selenium was detected in the last three sampling rounds. Cyanide was detected in the upgradient well at 0.019 mg/L and in the landfill dam at 0.008 mg/L in the second sampling round; but not in the third and fourth sampling rounds. These locations are far from the creek where gold processing occurred. Natural sources such as organisms or plants may be the source. The results were less than the human drinking water guideline of 0.08 mg/L.

Volatile organic compounds (VOCs) were only tested in the surface sampling points TS1 and TS2 in the first sampling round. One sampling event gave an indication, and VOCs volatilise quickly in surface water where they are exposed to air. No volatile organic compounds were detected in first two rounds of groundwater testing. VOC testing was then discontinued. [VOCs are from anthropogenic (man-made) causes and therefore found in solid waste and are a strong indicator of likely landfill leachate contamination.]

There is no sign of landfill leachate contamination in all the wells and two surface water sampling points. A review of the analyte concentrations in Tables 4-13 reveals:

- TS1, the landfill sediment dam, had the greatest total nitrogen concentrations of all sampling points each sampling round. Its greatest total nitrogen concentration was 4.7 mg/L in January 2012. This consisted entirely of total kjeldahl nitrogen (TKN), which indicates young decomposition of animal and/or vegetable matter. The TS1 water had a dead animal odour for both Rounds 3 and 4, but not in Rounds 1 and 2. The dam was almost completely reed covered by Round 4, sufficient to hide a dead kangaroo which may have gone to water after being shot. On all sampling occasions, both surface water sampling points (TS1 and TS2 – Duval Creek) exceeded the Australian aquatic freshwater 95% protection limit for total nitrogen of 0.25 mg/L (Table 14 under Nitrate). As there was no flow through the dam, and the creek has cattle regularly on its banks and in its waters, this nitrogen level was likely due to decaying animal and plant matter rather than landfill leachate seepage.
- Neither organochlorine nor organophosphorus pesticides were detected at standard levels in the first two sampling rounds. Ultra trace organochlorine pesticides were tested in Rounds 3 and 4 to more thoroughly test pesticides of greatest concern. Historically organochlorine pesticides are the most troublesome. Examples are DDT and endosulfan. Testing at ultra trace concentrations is precautionary. None were detected.
- The metalloid of note from a human drinking water and health perspective is arsenic. Its concentrations were greatest when the sample was not filtered (TW1 0.014 mg/L Sept 2010), or when the surrounding soil and rock was weathered material as in the downgradient well TW2 (0.012 – 0.014 mg/L), or when there had been recent upgradient soil disturbance as for the sedimentation dam TS1 (0.020 mg/L unfiltered, 0.018 mg/L filtered). All these concentrations were greater than the recommended upper limit for human drinking water of 0.007 mg/L, and greater than the upper limit of 0.010 mg/L in most groundwaters (Brunt et al. 2004, p. 3). Hence the extra attention paid to arsenic in the review of analytes in Section 9.4 of this report. The arsenic results show that:
    1. There is arsenic greater than the drinking water guideline in the groundwater of igneous soil and rock surrounding and under the landfill.
    2. It cannot be said that the arsenic is from the landfill. Well TW1 has considerable arsenic, but it is upgradient from the landfill and generally speaking, groundwater does not flow uphill.
    3. The major form of dissolved arsenic present is likely to be arsenate (As^{+5}) because the majority of redox potential results were positive. Arsenate is less toxic than arsenite, the other major form of arsenic dissolved in water.
    4. The arsenic in the Duval Creek samples (TS2) for the four rounds of monitoring had an acceptable concentration of arsenic (maximum 0.005 mg/L). However, this probably would not have been the case at the time of gold mining and probably for a long time thereafter.
    5. It is a risk for humans to use groundwater in the area for drinking water without it being tested for arsenic and/or having it treated to remove the arsenic.
    6. However, the arsenic results in groundwater and surface water at or near the former Tilbuster Landfill are <0.3 mg/L. The effects of consuming water with arsenic greater than 0.3 mg/L over 5-25 years 'include skin lesions, skin cancer, vascular disease, effects on the nervous system, and possibly cancer of other organs (USEPA 1988 in NHMRC 2004, Arsenic Fact Sheet).
- The metal of note from an aquatic ecosystem perspective is copper. Its maximum concentrations at all sampling points were greater than the 0.0014 mg/L given as a guideline upper limit for 90% protection of Australian freshwater aquatic ecosystems (ANZECC & ARMCANZ 2000). It is likely that the copper is being entrained from the soil and rock, not landfill leachate.

10. CONCLUSION

Three monitoring wells (TW1-TW3) were installed at the closed and rehabilitated Tilbuster Landfill in July 2010 to ascertain if landfill leachate is impacting groundwater quality downgradient of the landfill and Duval Creek.

From the groundwater data gathered, it is estimated that the general groundwater flow direction under the site is to the southwest towards Duval Creek. The estimated average linear velocity of groundwater is slow at 8.3 m/year. As the landfill is quite old, this groundwater velocity means that if underlying groundwater is to be impacted, there would have been signs of landfill leachate contamination in the monitoring well groundwater.

Since September 2010, four rounds of groundwater and surface water monitoring were conducted, finishing in January 2012. The surface water tested was a sedimentation dam at TS1 in the southern section of the former landfill area; and in Duval Creek at TS2 - to the south of the landfill where creek water quality testing was most likely to detect any landfill leachate impacting the creek water quality.

Inspection of the site to the south of the former landfill adjacent to Duval Creek revealed small mullock heaps and a dam on the northern side of Duval Creek that were part of former gold diggings. Records indicate that gold mining in the New England area began as early as 1852. Due to finding the old gold works, closer attention was paid to contaminants known to result from gold mining: arsenic, mercury and cyanide.

The major findings of this study are as follows:

1. Leachate from the former Tilbuster Landfill is not impacting groundwater quality or Duval Creek.
2. Arsenic may be a health risk if groundwater in the vicinity is used for human drinking purposes.
    - Arsenic occurs naturally in volcanic soil and rock. Its concentrations in wells TW1 and TW2, and the landfill sediment dam TS1, were greater than the Australian human drinking water guideline limit of 0.007 mg/L. As TW1 is upgradient of the landfill, this indicates that the arsenic is not derived from landfill leachate.
    - However, all the arsenic results in groundwater and surface water at or near the former Tilbuster Landfill are <0.3 mg/L. The effects of consuming water with arsenic greater than 0.3 mg/L over 5-25 years 'include skin lesions, skin cancer, vascular disease, effects on the nervous system, and possibly cancer of other organs (USEPA 1988 in NHMRC 2004, Arsenic Fact Sheet).
    - Due to the crushing of soil and rock along the banks and in Duval Creek during gold mining days, arsenic concentrations in Duval Creek sediments and surrounds are likely to have exceeded the current Australian human drinking water guidelines, and for a considerable time thereafter. Currently the arsenic concentrations in Duval Creek meet Australian human drinking water standards.
    - **Groundwater in the area used for drinking water should be tested for arsenic and/or be treated to remove arsenic.** The Department of Health, Victoria (2010) provides the following guidance to prevent exposure to arsenic in mine tailings:
      Children and adults who live near mine tailings are at risk of exposure to arsenic. The risk can be reduced if you:

- *Reduce your exposure to mine tailing soil and dust.*
- *Do not allow young children to play in or eat mine tailings.*
- *Wash young children's hands and their toys frequently.*
- *Bring in clean soil for vegetable garden beds and ensure all fruit and vegetables are washed before eating.*
- *Do not swim in or eat fish or yabbies from dams with walls made from mine tailings.*

Another precautionary note needs to be added: Test drinking water derived from creek or groundwater in mine tailing areas. It may be contaminated with arsenic, mercury or cyanide.

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Hon **Barnaby Joyce** MP
FEDERAL MEMBER FOR NEW ENGLAND

MEDIA RELEASE

6 October 2020

Extra $12.1 million for New England councils

Local councils in the New England will receive an additional $12.1 million to build shovel-ready projects under the Australian Government's $1 billion boost for the Local Roads and Community Infrastructure Program Extension.

Member for New England, Barnaby Joyce, said the extension builds on the government's $11.8 million announced for councils in the New England earlier this year, supporting jobs and the resilience of local economies to help communities bounce back from the COVID-19 pandemic.

"In this one funding program alone, we are now delivering almost $24 million in combined grants to local councils in the New England for immediate infrastructure projects in the electorate," Mr Joyce said.

"Of course the Federal Government has a responsibility to balance expenditure with the cost to the economy but it also has a responsibility to local communities and the people within.

"That's why infrastructure spending like this is so important because it means more money in our towns, more local people in work and a better standard of living for you and your family here in the New England."

Funding allocations for the LRCI Program are determined by a formula which take into account road length and population. The Initial funding of $11.8 million was made available from 1 July 2020 to 30 June 2021. The additional funding is available until 30 December 2021. Councils will be able to access funding under the extension to the LRCI Program from 1 January 2021.

Additional allocations under LRCI extension - construction by 31 Dec 2021:

Armidale Regional Council - $1,762,217 (Total $3,191,918)

Glen Innes Severn Council - $814,810 (Total $1,687,239)

Inverell Shire Council - $1,378,688 (Total $2,780,743)

Liverpool Plains Shire Council - $785,593 (Total $1,652,365)

Tamworth Regional Council - $3,412,360 (Total $6,064,893)

Tenterfield Shire Council - $869,559 (Total $1,913,894)

Upper Hunter Shire Council - $1,193,037 (Total $2,423,471

Uralla Shire Council - $555,440 (Total $1,151,546)

Walcha Council - $476,914 ($1,068,710)

Gwydir Shire Council - $928,863 (Total $2,111,087)

(ENDS)

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Applies to:	Development/ Application Assessment
Responsible Stream:	Service Delivery
Responsible Officer:	Manager Development and Regulation
Adoption Date/History:	*Version I – September 2020*
Council Approval Date	
TRIM File Number:	AINT/2020/30683
Review Date:	September 2022

1. Policy Statement

To facilitate the efficient assessment of applications for development under the Environmental Planning and Assessment Act 1979 (EP&A Act), by communicating how Council will manage applications. The handling of incomplete or deficient applications, and proposals that require amendments, requires significant resources to manage, and this creates a flow on effect of increased processing times for all applications before Council. This impacts on the assessment times for all other applications. Amendments to applications can also cause uncertainty within the community as to what is being proposed.

This Policy is designed to outline the principles of dealing with unclear, illegible, grossly non-compliant, deficient and amended applications and to encourage the lodgement of good quality applications. Council is committed to an efficient, consistent and effective application service which benefits the majority of applicants that submit good quality and complete applications.

2. Principles Heading

Delivery of a consistent, equitable and efficient development assessment service, which is only possible when applications are submitted with the required information so an informed, proper and timely assessment can be made of the application.

3. Scope and application

This Policy is to apply to all development applications, modifications and reviews of determinations submitted to Armidale Regional Council. To ensure a consistent, equitable and efficient service, the following actions will be applied:

- Applicants are encouraged to discuss proposals with Council prior to lodgement to ensure the application is complete and can be assessed.
- Council commits to providing clear and consistent pre-lodgement advice.
- Council commits to addressing issues with applicants in a timely and efficient manner.
- Council will assess and determine what is submitted in the original application.
- Council will reject unclear, illegible, incomplete applications. If rejected a refund of fees will be provided.
- Council will request further information, providing a reasonable timeframe, if required to assist in the assessment of the application.
- Council will place an application on hold waiting for information or amendments, except where in the opinion of the Manager Development, the matters are minor issues and can be resolved in a short timeframe.
- Council will only request further information once providing the Applicant sufficient time to provide the information to Council. After this timeframe has expired the Applicant will be provided with the option to withdraw the application and Council will refund any unspent fees.
- Failure to withdraw applications will result in a determination based on the proposal as originally submitted.

- Applicants have the opportunity to submit a review of determination under Section 8.2 of the EP&A Act if they are not satisfied with the outcome of their application.

To facilitate the lodgement and assessment of good quality and complete applications, Council will provide the following services:

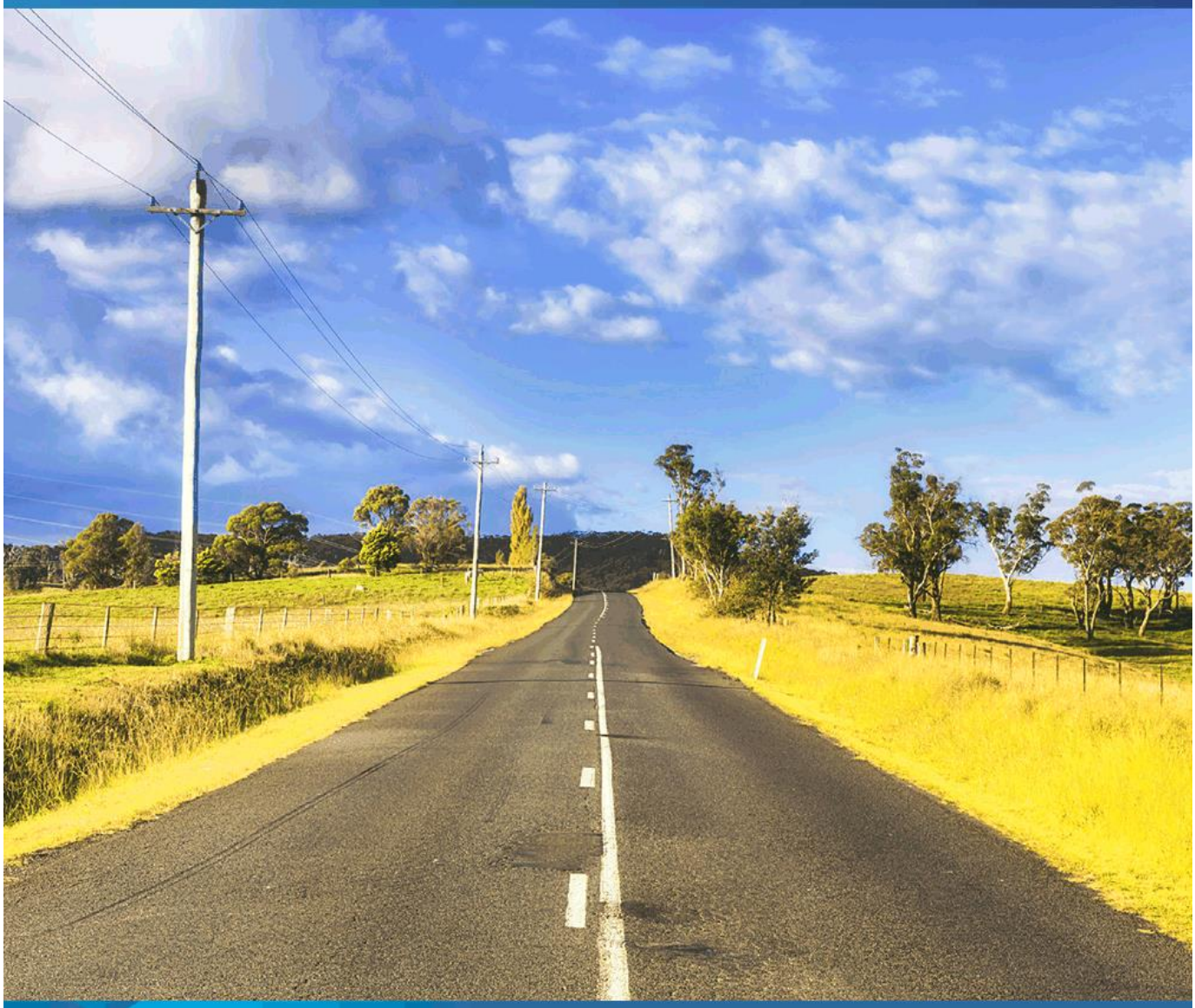
- Availability of staff at Customer Service Centres to provide expert advice and discuss the proposal between 9 and 11 each day.
- Checklists to complete before lodging applications (provides details on what information is required for Council to undertake an assessment). Your application may be rejected if it has inadequate information or fees.
- A pre-lodgement meeting (fees apply) with relevant expert staff to give written advice regarding how the proposed development fits within development standards etc. and advice on specific issues such as site constraints, setbacks, design issues, landscaping, stormwater, ecology, parking etc.
- All Application lodgements will be via the Planning Portal. Council customer service officers can assist with your lodgement
- Availability of all Local Environmental Plans, Development Control Plans and site constraint information (e.g. flooding, bushfire etc.) on Council's website.
- Information on Council's website regarding the development assessment process.
- Once an application is lodged, public access through Council's webpage to the application including tracking of the progress and relevant documents/information/submissions to that application.

NSW GOVERNMENT

Transport for NSW | November 2020

Fixing Local Roads

Program Guidelines



Transport for NSW

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PO Box K659, Haymarket NSW 1240

Message from the Minister

The NSW Government understands that many rural and regional councils in NSW are struggling to cope with the financial burden of maintaining local roads. We recognise that this task is even tougher during economic challenges and times of drought.

Fixing Local Roads is a game-changer for regional and rural councils in NSW. This five-year $500 million program is specifically designed to help regional and rural councils carry out vital maintenance and repair work on local roads. It is an investment in the road network that our families use every day that underpin our regional economies and that drive growth.

Delivering better roads mean safer, faster and more reliable trips enabling our communities to grow, businesses can thrive and local motorists can get home sooner and safer.

Paul Toole
Minister for Regional Transport and Roads

The Fixing Local Roads Program will be delivered in multiple rounds and is available to 93 regional councils, Unincorporated Far West and Lord Howe Island which will be able to apply for grants to repair priority local roads.

In 2020, the Australian Government committed an additional $191 million to the Fixing Local Roads program to support economic activity in regional NSW. This increased the total funding for the Fixing Local Roads program to $691 million.

Round 1 of the Fixing Local Roads Program has seen funding of over $243 million provided to 84 councils to deliver 253 projects.

Through Fixing Locals Roads, the NSW Government is supporting regional and rural NSW to be a great place to live and work.

I look forward to seeing the impact this program has in our communities.

Contents

Introduction

The NSW Government has committed $500 million to a Fixing Local Roads program to improve council roads across rural and regional NSW. This investment will help reduce the maintenance backlog for councils, targeting roads that do not meet the freight significance or benefit to cost ratio (BCR) requirements of the current Fixing Country Roads (FCR) program. Fixing Local Roads aims to fund improvements to local roads that will deliver smoother, safer and more reliable journeys.

Councils are now invited to submit applications for the next round of the program to further support investment in road improvements.

These guidelines provide an overview of the Fixing Local Roads Program, the eligibility criteria, and details about the application and assessment process which have been refined for Fixing Local Roads Round 2.

Overview

Fixing Local Roads will provide funding to councils to repair, maintain or seal priority or important local roads.

In recognition of the changing economic environment and need to stimulate regional economies, we have refined the outcomes for the Fixing Local Roads program to ensure applications for the best-suited projects are submitted.

Projects will be selected for funding based on the ability to deliver against the following:

- Promotes regional economic activity
- Enhances regional connectivity and sustainability
- Enables a safer regional road network.

Accordingly, it is important for applications to include relevant evidence and information which demonstrates how the projects can deliver the outcomes of the program.

These Guidelines will support councils in preparing applications by having a strong understanding of the types of projects which will deliver the best community and value for money outcomes and the way in which the applications are evaluated.

To inform project selection, Transport for NSW will be considering the following attributes specific to the road, or the project outcomes:

- Projects which are able to commence in 20/21 financial year
- Projects which create jobs and economic growth
- Current road condition
- Local road function and importance
- The infrastructure risk rating of the road
- Frequency of lane/road closures due to weather or heavy haulage.

We will also give consideration to councils which may be experiencing hardship or choose to nominate projects which connect indigenous communities.

Demonstration of co-contribution, or leveraging other grant programs to optimise outcomes, will also be considered in the evaluation process.

Alignment with Future Transport Strategy 2056

Transport for NSW's Future Transport Strategy 2056, through its Regional Services and Infrastructure Plan, identified the need to continue to build and improve local infrastructure such as roads, rail and bridges in regional and rural NSW. This is being done through a combination of initiatives including Fixing Country Roads, Bridges for the Bush, Fixing Country Bridges ,Walking and Cycling programs, Targeted Road Safety Works as well as Fixing Local Roads.

Future Transport Strategy 2056 also recognises the need for a more integrated local and state road network to provide seamless and safe journeys for all customers. Fixing Local Roads will support councils to repair and maintain those important local roads that will improve road safety and support freight, regional travel and connectivity.

Program objectives

Well-maintained roads play a vital role in our regions, supporting growth and development, as well as providing safe and reliable access to critical services, such as hospitals and schools. The objectives of the Fixing Local Roads Program are aligned with the Regional NSW transport customer outcomes of the Future Transport Strategy 2056 Regional NSW Services and Infrastructure Plan including:

- Safely, efficiently and reliably moving people and goods
- Sustaining and enhancing the liveability of our places
- Accessible for all customers
- Makes the best use of available resources and assets.

Table 1 Fixing Local Roads Program outcomes and objectives

Future Transport 2056 Regional NSW Services and Infrastructure Plan Customer Outcomes	Fixing Local Roads Program Outcomes	Fixing Local Roads Program Objectives
Safely, efficiently and reliably moving people and goods Sustaining and enhancing the liveability of our places Accessible for all customers Makes the best use of available resources and assets	The program promotes regional economic activity	Promotes regional development in rural communities
		Supports families in rural and remote communities
	The program enhances regional connectivity and sustainability	Improves the reliability of the local road network
		Assists councils to sustainably manage their assets
		Improves the resilience of the local road network
	The program enables a safer regional road network	Improves local road safety

Eligibility

Who can apply?

The Fixing Local Roads Program is available to the 93 regional councils listed in Appendix 1, as well as the Unincorporated Far West and Lord Howe Island.

Councils are encouraged to work with their neighbouring councils to put forward nominations that address regional priorities. Councils are also encouraged to work with their Joint Organisation of Councils (JOs) to identify these regional priorities.

Councils and Joint Organisations should contact Transport for NSW via **fixinglocalroads@transport.nsw.gov.au** to seek advice on potential projects and for information on preparing applications.

Eligible projects

Councils will be able to apply for grants to repair priority local roads. Projects should meet the following requirements to be eligible for consideration. The project must be:

- located on a Local Road managed by council (note: Regional and Crown roads are not eligible)
- identifiable as a priority or important local road for the local government area or region
- deliverable within 24 months of notification from Transport for NSW
- maintenance-driven such as repairing, patching, maintaining or sealing existing roads.

Examples of eligible projects are:

- repairing potholes on a key local road
- sealing an unsealed road that will improve safety or improve access to services or industry
- patching or repairing cracking on a key local road.

Examples of ineligible projects are:

- widening shoulders or building new roads
- any project on private roads
- any project on the State or Regional road network.

Funding is specific to projects and not transferable.

Application and evaluation process

Multi-criteria analysis

Transport for NSW has refined the application, evaluation and prioritisation process since Round 1 was launched in 2019.

A multi-criteria assessment process will be used to assess council applications and is consistent with the Transport for NSW Principles and Guidelines for Economic Appraisal of Transport Investments and Initiatives.

Each project will be subject to a comparative assessment of both merit and prioritisation attributes to enable selection of projects which meet the program objectives (refer page 8), and contain particular attributes which may warrant higher consideration (refer page 9).

For all proposals, applications will be lodged via the SmartyGrants system and respond to all questions included on the **application form.**

Merit assessment

The application will seek detailed responses from council to questions which will enable the evaluation panel to make a determination of the following:

- Does the project meet the objectives of the program?
- Has the application provided measurable justification and/or evidence to demonstrate alignment to the program objectives?
- Are the cost, schedule, risk and assumptions of the project delivery well documented?
- Are there special considerations e.g. drought hardship, connecting Indigenous Communities?
- Is there a co-contribution funding source to optimise community outcomes?

Some documentation may be required in support of the applications, including photographic evidence, detailed project development information and asset management plans.

Merit-based questions will be assessed on a score of 1 (poor) to 3 (very good). The scores will be combined into a single multi-criteria score based on a weighting for each criteria.

The criteria and weighting is shown in Table 2.

Prioritisation assessment

To support Transport for NSW to distinguish and prioritise the applications, the application form includes a number of questions to enable a better understanding of which projects may warrant higher consideration.

Application questions require applicants to provide specific information and/or select from a range of attributes specific to the road and/or the project.

Attributes informing prioritisation include:

- Job creation and local investment
- Road condition and function
- Road Infrastructure Risk Rating
- Frequency of closures due to weather/ heavy haulage damage.

Responses to prioritisation questions will generate a score between 1-3 and will contribute to the overall evaluation score.

Councils may choose to resubmit unsuccessful projects from round one if they are able to start projects in the 2020/21 financial year.

Table 2 Merit assessment evaluation criteria and weightings

Program Outcomes	Program Objectives	Criteria Weighting	Evaluation Criteria
Outcome 1: The program promotes regional economic activity	Promotes regional development in rural communities	15%	The project is shovel ready commencing in FY20/21 The project will generate local jobs for regional and rural communities and supports community connections which further enable job generation and economic growth, eg freight, tourism, industry.
	Supports families in rural and remote areas	15%	The project enables improved access to one or more of the following: • health care • education • access to social and community benefits
Outcome 2: The program enhances regional connectivity and sustainability	Improves the reliability of the local road network.	15%	The project will significantly improve the current local road condition
	Assists councils to sustainably manage their assets	10%	The project forms part of an existing strategic asset management strategy and will directly minimises ongoing reactive maintenance costs The project supports maintenance of roads impacted by harvesting of State Forests.
	Improves the resilience of the local road network	15%	The project will improve the productivity of the local road network by reducing frequency of road closures, speed restrictions building resilience to natural disasters / weather events / heavy vehicle damage.
Outcome 3: The program enables a safer regional road network	Improves local road safety	15%	The project / proposed solution contributes to a safer road network
Reasonableness & Deliverability	Credibility and integrity of the project application.	5%	Application has sufficient detail to support the credibility and integrity of the project costs, schedule, risks and assumptions.
Special Considerations	Hardship Connects indigenous communities	5%	Yes / No
Co-contribution / other funding source	Contribution from Council or other party	5%	The amount of co-contribution council or a party other than council make to the project

Benefit to Cost Ratio (BCR)

Fixing Local Roads will not require projects to meet a threshold BCR for applications to be considered. This is consistent with the program objectives of delivering funding support to councils for projects that may have an economic, social or safety benefit and to enable rapid mobilisation of regional economic activity. Projects will still be assessed on a value-for-money basis.

Other supporting information

Applicants are encouraged to provide documentation in support of their application. This documentation may include photographs, engineering reports, road priority hierarchy and reports, maintenance reports, recent weather events not previously captured by a Natural Disaster Declaration.

Assessment panel

An assessment panel will be established by Transport for NSW and consist of relevant technical and policy subject matter experts. Members of the assessment panel will review and conduct scoring for each application and make a recommendation to government on those projects that best meet the program objectives.

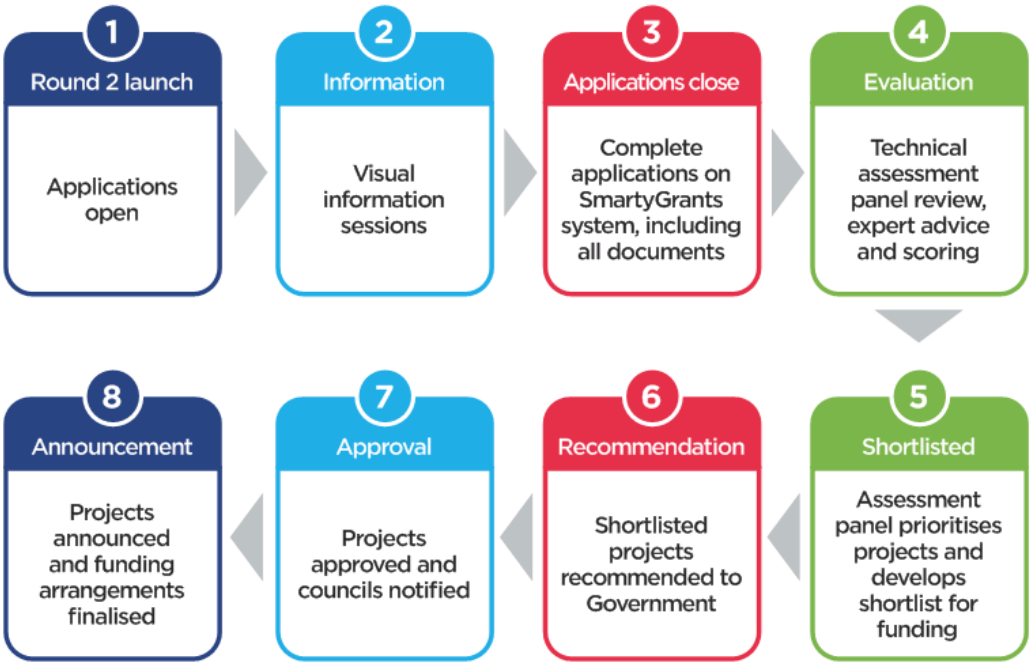
The government will then announce those projects that have been deemed successful and are to receive the funding.

The decision of government will be final. The government may also, in its absolute discretion, choose not to award funding to projects that may have met the criteria.

How to apply

Application and assessment process

An overview of the stages of the application and assessment process is shown below.



Key dates

Round	Applications open	Applications close	Successful projects Announced	Project complete
Round 2 – 2020	2 November 2020	11 December 2020	January 2021	24 months from notification

Information related to potential future rounds may be advised at a later date.

Funding limits and co-contributions

There is a maximum funding limit of $5 million of state contribution per council per application. Applicants can apply for up to 100 per cent of the value of the project, but co-contributions from council are strongly encouraged and will be considered relevant to council's funding position. A general rule of thumb is a minimum co-contribution of 25 per cent. Non-compliant proposals may be considered.

Councils are strongly encouraged to source additional investment to support their applications and enhance their local road maintenance projects. This might include, for example, working with mining and forestry industries to gain co-contributions or applying for Australian Government funding. Councils are also encouraged to leverage funding from other NSW Government programs to maximise community benefits from the project.

There is no limit to how many applications each applicant can submit; however applicants are advised to prioritise and put forward their most strategically important projects.

Forestry roads

The NSW Government is aware of the concerns of a number of councils regarding the unique challenges maintaining roads in LGAs with large areas of State Forest. In response to these concerns, a proportion of funding from the total allocation will be allocated specifically for roads in forestry areas.

Payment and reporting milestones

Payments will be made to councils at the start and end of the project to support councils to deliver the project, on time and within budget. Councils will be required to report on the planning, progress and completion of projects and provide supporting information.

Final payment will be made upon satisfactory project completion and receipt by Transport for NSW of a final project report. Unless otherwise agreed, payments to councils will be in accordance with the two milestones below:

- reach agreement with Transport for NSW regarding the funding arrangements (start of project) – 70 per cent
- certification and final report that the project has been completed and an audit by Transport for NSW (end of project) – balance of project costs (up to 30 per cent).

Final payment will be made upon satisfactory project completion and receipt by Transport for NSW of a final project report which requires actual expenditure information.

How to apply

The Fixing Local Roads online form can be accessed by logging into SmartyGrants via the **Fixing Local Roads website nswroads.work/fixinglocalroads**

Applicants must provide all of the information required in the application form including the mandatory fields and are encouraged to provide additional materials to support their case in relation to the assessment criteria.

Supporting documents will be required to assist in the evaluation process and must be submitted with the application form via the SmartyGrants system.

Councils located in areas which have been drought declared and/or provide drought hardship relief provisions to their communities, should detail this to support their application and provide examples of those provisions.

Only completed applications received by midnight on the closing day will be accepted and assessed. Late submissions will not be accepted, unless Transport for NSW considers exceptional circumstances beyond the applicants' control.

Applicants may withdraw an application at any time, with written advice of the withdrawal to be provided to Transport for NSW via email to **fixinglocalroads@transport.nsw.gov.au**

Requirements of the application form are outlined on the program website.

Confidentiality and disclosure

All information submitted by the applicant may be provided to other organisations for the purposes of eligibility, project proposal appraisal or deed preparation.

Applicants should notify Transport for NSW when including any information of a confidential nature in their application. Summary information about the project will be posted on Transport for NSW's website unless the applicant advises that they do not agree to its publication.

Information provided may be subject to future project audits and must be correct, including factual information about the road particulars (e.g. road traffic volume),

Further information

Transport for NSW will conduct virtual information sessions with interested applicants early in the application period.

Invitations will be distributed directly to local governments via a local Transport for NSW representative.

If you do not receive an invitation and believe you should attend please contact **fixinglocalroads@transport.nsw.gov.au**

There will be multiple sessions held to accommodate availability.

A program fact sheet is available on the program website **nswroads.work/fixinglocalroads**

Contact details

Questions about Fixing Local Roads, including eligibility and the application process, can be emailed to **fixinglocalroads@transport.nsw.gov.au**

Appendix 1 - Eligible local government bodies

Albury City Council
Armidale Regional Council
Ballina Shire Council
Balranald Shire Council
Bathurst Regional Council
Bega Valley Shire Council
Bellingen Shire Council
Berrigan Shire Council
Bland Shire Council
Blayney Shire Council
Bogan Shire Council
Bourke Shire Council
Brewarrina Shire Council
Broken Hill City Council
Byron Shire Council
Cabonne Council
Carrathool Shire Council
Central Coast Council
Central Darling Shire Council
Cessnock City Council
Clarence Valley Council
Cobar Shire Council
Coffs Harbour City Council
Coolamon Shire Council
Coonamble Shire Council
Cootamundra-Gundagai Regional Council
Cowra Council
Dubbo Regional Council
Dungog Shire Council
Edward River Council
Eurobodalla Shire Council
Federation Council
Forbes Shire Council
Gilgandra Shire Council
Glen Innes Severn Council
Goulburn Mulwaree Greater Hume Shire
Griffith City Council
Gunnedah Shire Council
Gwydir Shire Council
Hay Shire Council Hilltops Council
Inverell Shire Council Junee Shire Council
Kempsey Shire Council
Kiama Municipal Council
Kyogle Council
Lachlan Shire Council
Lake Macquarie City Council
Leeton Shire Council
Lismore City Council
Lithgow City Council
Liverpool Plains Shire Council
Lockhart Shire Council
Maitland City Council
MidCoast Council
Mid-Western Regional Moree Plains Shire
Murray River Council
Murrumbidgee Council
Muswellbrook Shire Council
Nambucca Shire Council
Narrabri Shire Council
Narrandera Shire Council
Narromine Shire Council
Oberon Council
Orange City Council
Parkes Shire Council
Port Macquarie-Hastings Council
Port Stephens Council
Queanbeyan-Palerang Regional Council
Richmond Valley Council
Shellharbour City Council
Shoalhaven City Council
Singleton Council
Snowy Monaro Regional Council
Snowy Valleys Council
Tamworth Regional Council
Temora Shire Council
Tenterfield Shire Council
Tweed Shire Council
Upper Hunter Shire
Upper Lachlan Shire
Uralla Shire Council
Wagga Wagga City Council
Walcha Council
Walgett Shire Council
Warren Shire Council
Warrumbungle Shire
Council Weddin Shire Council
Wentworth Shire Council
Wingecarribee Shire Council
Yass Valley Council
Unincorporated Far West

Appendix 2 - IPWEA (NSW) Local Government Functional Road Classification

Functional Category	Sealed Network	Unsealed Network	Typical Daily Traffic AADT	Heavy vehicles	Bus Route (including school)	Linked comm-unities population	Connec-tivity
Arterial	Carry traffic to, from and across council areas. They carry traffic between industrial, commercial and residential areas and carry the highest volumes of traffic. Provide for traffic movements between regions. Provide access to major industrial activities and may provide for public transport.	Carry traffic to, from and across council areas. They carry traffic between industrial, commercial and residential areas and carry the highest volumes of traffic May include heavy vehicle access routes between regional centres.	U: > 15,000 R: > 2,000	> 300	Public Transport Bus Route & School Bus Route	> 10,000	Critical connectivity (there may be no alternative routes)
Primary Collector	Provide the connections between arterial parts of the network and the Local Collector network. May also service industrial areas and local facilities such as shopping centres and freight terminals.	Provide the connections between the arterial network and the Local Collector network. May also service industrial facilities and grain / freight terminals. May also provide school bus routes in many areas.	U: > 5,000 R: > 1,000	> 150	Public Transport Bus Route & School Bus Route	> 5,000	Provides connection between local population and the State road network
Local Collector	Provides access to the Primary Collector network from local access roads. May provide access to individual industrial facilities and links to local shopping centres.	Provides access to the Primary Collector network from local access roads. May provide access to individual larger facilities such as feedlots and local grain silos. May also provide some school bus links.	U: > 1,000 R: > 200	> 25	Local Bus Route & School Bus Route	> 2,000	Provides connectivity within the local community
Local Access	Major function is to provide access to individual properties. May also provide access to local tourist sites.	Major function is to provide access to individual farms and properties. May also provide access to local tourist sites and recreation facilities.	U: < 1,000 R: < 200	< 25	May include local bus routes	< 250	Provides the link for properties and businesses and the local community

Notes:

1. State Roads are not included in this classification as the trafficked lanes are under the care control and management of RMS. Associated facilities (e.g. kerb & gutter, footpath, street furniture etc. which are owned and managed by councils will be included in other asset classes).
2. Classification of a road is based on its function. Absolute assessment against any one of the above criteria alone is to be avoided.
3. The assessment parameters in the above table are to provide guidance only. Assessment of a road should take a holistic view of its function and importance to the local community.
4. Levels of service are not intrinsically linked to the road hierarchy. Levels of service are determined by council following consultation with the local community and may vary across categories.

DA NUMBER:	DA-77-2020
LOCATION:	1075 Tenterden Road TENTERDEN NSW 2365 Lot 51 DP 753669
DEVELOPMENT DESCRIPTION:	Intensive Livestock Agriculture
COUNCIL:	Armidale Regional Council : Kate Blackwood

PLEASE REFER TO REFERENCE DOCUMENT FOR ADDITIONAL INFORMATION

PROPERTY DETAILS / HISTORY	
FILE HISTORY	A search of Councils electronic records did not find any recent development applications that apply to the subject land.
TITLE PLAN	There are no easements or title restrictions that would impact the proposed development.
CHECK OWNERSHIP	Title Search on file. The authorised persons have signed owners consent on behalf of Miramar Land Pty Ltd.

Background

Development Application (DA) 77/2020 seeks development consent for the construction and operation of a 999 head cattle or 3999 head sheep feedlot at Tenterden Station, land also known as 1075 Tenterden Road, Tenterden (the Site).

The DA was lodged on 2 July 2020 by Neill Trading Pty Ltd (the applicant) with an estimated total cost of works equating to $34,000.

The application is for DA only.

General Site Characteristics

Tenterden Station is located at the western slopes of the New England tableland area approximately 25 kilometres to the west of Guyra. The Site comprises several allotments formally described as 1075 Tenterden Road, Tenterden and is zoned RU1 Primary Production under the provisions of the Guyra Local Environmental Plan 2012 (GLEP 2012). The property has a combined area of approximately 1,501 Hectares of which approximately 20 Hectares will be utilised for the purposes of the proposed development.

The majority of the land comprises improved pastures for livestock grazing and some broad acre cropping when soil moisture is available. Surrounding land uses are primarily extensive agriculture and rural workers dwellings and homesteads. Kangaroo Creek traverses the northern part of the property in an east to west direction. Tenterden Station extends to the south of Tenterden Road. The southern paddocks are traversed by Brushy and Georges Creeks.

The nearest non-associated residential receptor is located approximately 1970m west of the development site and there are up to four (4) non-associated dwellings within a 3000m radius of the Site. It is also noted there is a workers cottage approximately 1400m from the Site, however this is currently held in the same ownership (Miramar Land Pty Ltd).

The SIte is accessible via Moredun Dams Road, which is an unsealed Council road with two-lanes and is gravelled up to the entrance of Tenterden Station stock yards. Moredun Dams Road is accessible via Tenterden Road, which is a sealed B-double route. It is expected that traffic generated from the feedlot will primarily travel east along Tenterden Road towards Guyra Road and then north west to abattoir facilities located in Inverell.

Tenterden Station has a total of 570 ML of water entitlements available for irrigation purposes and potentially feed-lotting if required. The entitlements consist of 250 ML of groundwater from the local fractured rock aquifers (currently being finalised), a 200 ML entitlement from Georges Creek and a total property harvestable right of approximately 120 ML.

The Site is identified as being part bushfire prone, being the land upon the hills which contains some remnant native woodlands. No other natural hazards are known to affect the Site and the land is not identified as containing any contaminated land or other sensitive land uses.

Land where the proposed feedlot is to be located does not contain any heritage items listed under Schedule 5 of the GLEP 2012 or the NSW State Heritage register. There are three (3) locally heritage listed sites within 1400m radius including St

Thomas Church (I106), Tenterden Homestead (I108) which is occupied by the proponent and Tenterden Hall (I107).

The Statement of Environmental Effects (SoEE) advises that there are no recorded Aboriginal sites, places, objects or artefacts on the subject lands and, due to previous disturbance and clearing associated with agricultural practices, considers that the subject lands are unlikely to contain items of Aboriginal cultural significance.

The Proposal

Council approval is sought to develop a feedlot for sheep and/or cattle at the Site. The general aim is to operate the site as an opportune feedlot to finish sheep or cattle to a range of specifications and utilise fodder and grain produced on-farm at Tenterden Station. At maximum capacity, the proposed feedlot will be able to accommodate up to 999 head of cattle or 3999 head of sheep. It is proposed to utilise the existing livestock handling and feeding facilities at the Site to operate and maintain the feedlot, including existing stock yards, internal roads, machinery and feed storage.

The proposed development will comprise the following: -

- Use of four (4) pens to be stocked at a rate of 20m^2 per head if the site reaches a total capacity of 999 head of cattle or 3,999 head of sheep.
- Construction of additional internal roads to service the proposed cattle and sheep pens, effluent capture drains, as well as a sediment and effluent holding pond system to capture and store runoff from the feedlot pens;
- Ancillary structures and uses include the use of an existing feedmill, machinery and machinery sheds, on-site water storage, cattle yards for processing of incoming and outgoing cattle and the existing cropping areas on the property for the sustainable disposal of effluent runoff and manure recycling.

The SoEE provides that the proposed feedlot will be designed, constructed and managed in accordance with the standards described in The National Guidelines for Beef Cattle Feedlots (3rd Edition, 2012).

The natural slope of the land allows for minimal earthworks to create the required slope for the pens. Some minor earthworks within the pens will be undertaken as routine maintenance and management of the manure pad.

The majority of operational activities at the feedlot will be undertaken from 7am to 5pm, 7 days a week. Some heavy vehicle movements are likely to occur outside normal operating hours (e.g. in summer, it is desirable to transport cattle either at night or in the early hours of the morning for animal welfare reasons). The feedlot will therefore require the flexibility to allow heavy vehicle movements outside of the normal operating hours. Grain and feed deliveries would generally be restricted between the hours of 7 am and 5 pm, Monday to Friday with occasional exceptions for weekends during the harvest season.

Traffic will enter and exit the Site via Moredun Dams Road. An existing access is already constructed to a high standard and which is the main access to the northern part of Tenterden Station and is classified for B-double access. Anticipated additional traffic generated by the Feedlot will include heavy-vehicle traffic carrying stock and stockfeed in, stock out, and light vehicles transporting employees, visitors and service personnel. The SoEE advises, if the proposed feedlot is operated at maximum capacity an additional 3.5 total truck movements will be generated per week. During grain harvest periods there would be a short-term increase in heavy vehicle movements for grain trucks.

Referrals

Environmental Health

Previous request for information has been satisfied with amended site plan outlining adequate buffer distances from sensitive environmental areas. The plan clearly identifies the cattle holding pens, and related effluent management infrastructure and treatment / application methods. The amended site plan is considered satisfactory in accordance with best practise guidelines and conditions of consent can be applied to ensure compliance with this design.

In addition to the above the sediment basin, holding pond and effluent application area have been amended in response to the concerns outlined in the initial request for additional information, it is considered that the amended design is satisfactory.

Development Engineering

Both Tenterden Road and Moredun Dams Road pavements will be able to cater for this minor increase in B-double movements. No conditions will apply for upgrades or developer contributions.

Revisions

Formal correspondence was issued to the proponent on 11 August 2020. The correspondence included a request for additional information and redacted copies of submissions received by Council after the application was neighbour notified.

Upon consideration of the information provided in the submissions and discussion with Council staff, the proposal was

amended in terms of operational details and layout. The proposed feedlot will now consist of 8-pens capable of carrying up to 999-head of cattle **or** 3,999 head of sheep. Furthermore, the feedlot sedimentation system provided in the initial application involved a sediment terrace system. The proposal has since been revised to adopt a standard sediment basis design in accordance with current best practice guidelines.

Other specific matters as requested by Council's request for additional information include: -

- A diversion bank, following the southern edge of the proposed feedlot, to redirect clean run-off away from the feedlot. The diverted clean run-off will be directed to the existing waterways.
- Catch drains on the downstream edges of the feedlot pen rows, and around the edge of the manure pad to ensure that any effluent is contained within the feedlot catchment and directed to the proposed sedimentation system,
- Sedimentation basin to settle manure solids out of the feedlot run-off,
- A culvert running under the farm access track, into the proposed effluent pond,
- Effluent reuse area where effluent collected in the effluent pond is to be applied via a portable spray irrigation system (Travelling irrigator or pod system over 4 Ha),
- 200 m buffer zone from watercourses to the east and north of Tenterden Station feedlot,
- Cadastral boundaries of the Lots subjected to potential feedlot development, and
- Scale bar to allow measurements from the plan

REFERRALS

if yes to any question refer to Section 4.15 reference document

Public Authority	
Is the application by/on behalf of Public Authority (this includes UNE)?	**NO**
Power	
Is the development located wholly or partially within a Transgrid easement?	**NO**
Roads	
Does the development gain access from or is adjacent to a classified road?	**NO**

BIODIVERSITY CONSERVATION ACT 2016

Section 1.7 of the EP&A Act identifies that Part 7 of the Biodiversity Conservation Act 2016 (BC Act) and Part 7A of the Fisheries Management Act 1994 have effect in connection with terrestrial and aquatic environments.
There are four triggers known to insert a development into the Biodiversity Offset Scheme (i.e. the need for a BDAR to be submitted with a DA)

Clause 7.2	The clause states the following: - *For the purposes of this Part, development or an activity is likely to significantly affect threatened species if—* *(a) it is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in section 7.3, or* *(b) the development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values, or* *(c) it is carried out in a declared area of outstanding biodiversity value.* The site is not mapped on the Biodiversity Values Map.

Clause 7.3 (Test of Significance)	The area to be subject to development contains one Eucalyptus melliodora (Yellow Box). At the time of survey the remained of the footprint contained little or no ground cover or grass due to drought conditions. The history of the paddock indicates that it is sown to a range of improved pastures and fodder crops. A Test of Significance was undertaken to assess if the proposed development would be likely to result in a significant impact on the vegetation observed within the footprint. The test for determining whether proposed development is otherwise likely to significantly affect threatened species is listed in the BC Act 2016, under s7.3: *(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,* The area to be disturbed is non-native vegetation and provides no permanent habitat for threatened species. The potential exists that some local birds, bats or other mobile species may utilise the cattle yard area for foraging. The feedlot represents an extension of this foraging area and therefore may provide some local benefits to species that are present. *(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,* No endangered populations are present. *(c) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:* *(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or* *(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,* The area to be disturbed is classified as non-native vegetation and is therefore not an endangered or critically endangered ecological community. There are no listed communities within a 10km radius of this site according to the Bionet search. *(d) in relation to the habitat of a threatened species or ecological community:* *(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and* The habitat available on this site is already highly modified and classified as non-native. *(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and* The proposed feedlot is not considered to present a local barrier to species that may move between remnants of local woodland or open pasture areas. *(iii) the importance of the habitat to be removed, modified, fragmented*

	or isolated to the long-term survival of the species or ecological community in the locality, No native/natural habitat is to be removed or modified as a result of the development of the feedlot. *(e) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),* The subject area does not contain nor lie within the locality of any area that has been identified and declared as critical habitat under the TSC or FM Acts. *(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan:* A range of draft recovery plans have been prepared for flora and fauna in the region. One of the key components in these recovery plans is to limit or avoid any further disturbance of native vegetation or remnants of native vegetation. The feedlot has been located to avoid any further impact on local remnants of woodland or native grassland. *(g) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.* The action as proposed is not considered a key threatening process as the development is occurring on cropping land.
Clause 7.4 (Area Threshold)	The application does not seek vegetation removal. The feedlot footprint and effluent absorption areas comprise highly modified broad acre cropping land.
Having regard to the above provisions, the development is not likely to significantly affect threatened species or their habitats, nor is it likely to adversely impact upon any endangered or ecological communities. The land is not identified, nor declared as an area of outstanding biodiversity value. There are minimal observable habitat links/vegetation corridors to or from the land. The land is more or less surrounded by highly disturbed rural/urban environments with limited habitat potential. Given the characteristics of the site and the minimal level of habitat provided on the land, the proposed development does not involve key threatening processes that could threaten the survival or evolutionary development of a species. In this regard, the development is considered to be satisfactory with respect to Section 7.3 of the Biodiversity Conservation Act 2016.	

ENVIRONMENTAL PLANNING INSTRUMENTS

SECTION 4.15(1)(a)(i)

STATE ENVIRONMENTAL PLANNING POLICIES (SEPPs)

State Environmental Planning Policy No. 33 – *Hazardous & Offensive Development*

This Policy contains planning provisions for hazardous and offensive development, and aims to ensure that adequate consideration is given to the likely impacts of such development. This Policy also aims to identify industries or activities which may be potentially hazardous or offensive via the production of a Preliminary Hazard Analysis (PHA).

The submitted SoEE demonstrates that the proposed feedlot is suitably sited. The main waste products from the feedlot are manure and effluent which can be sustainably reused on-site as a valuable alternative to inorganic fertilizers. It is proposed to transport manure offsite, either for use on other properties managed by the Proponent, or for sale to other agricultural

enterprises in the district. Effluent will be disposed of primarily by irrigation at sustainable rates on existing cropland at Tenterden Station, with the remaining effluent to be disposed of by evaporation from the surface of the proposed holding pond.

The feedlot will not produce hazardous waste products. While all feedlots produce some odour, this will be minimised through good design and on-going effluent management of the pens and holding pond. Additional protection is provided through separation distances between the site, the closest residences and other areas with sensitive land uses. Hence, nuisance odours are not expected to cause unreasonable impact to nearby residences or other surrounding areas with sensitive land uses. A Level One (1) odour assessment has been undertaken to validate the minimum setback requirement to non-associated residential receptors.

State Environmental Planning Policy – (*Koala Habitat Protection)*

This Policy aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to support a permanent free-living population over their present range and reverse the current trend of koala population decline.

There is one (1) koala feed species within the development footprint (Yellow Box - Eucalyptus melliodora) and the land is mapped on the *Koala Development Application Map*. There is not a Koala PoM that applies to the subject land. Despite this, Council may still grant consent to a development if there is no Koala PoM and providing Council is satisfied the land is not core koala habitat.

In response to this, the Site has been mostly cleared of native vegetation and comprises primarily of cropland, existing livestock handling facilities, and fodder storage. The Site is therefore not considered to constitute core koala habitat. The proposed development will not result in the removal, or degradation, of core koala habitat which may be present within the wider region. Council is satisfied the development is consistent with the objectives of the Koala Habitat Protection SEPP and a Koala PoM is not required in this instance.

State Environmental Planning Policy 55 – *Remediation of Land*

The objective of SEPP No. 55 is to provide a state-wide planning approach to the remediation of contaminated land. The SEPP requires consideration of previous land uses and promotes the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

The subject land has been historically utilised for agricultural purposes, being primarily grazing, broad acre cropping and other related agricultural activities. A preliminary assessment was undertaken by the applicant's consultant, which concludes that the historical use of the site is unlikely to have resulted in contamination and that an inspection of the property did not produce any visual evidence of contamination. There are no known previous investigations regarding contamination on the subject land or land use restrictions issued by the Environmental Protection Authority (EPA). A site inspection by Council Officers did not reveal any visual indications of contamination. In this regard, it is considered that the proposed site is suitable for the proposed development and no further investigation is required.

State Environmental Planning Policy – (Primary Production and Rural Development)

Intensive livestock industries are addressed within Part 3 of Schedule 4 of the Primary Production and Rural Development SEPP. The proposed development meets the definition of intensive agriculture, as a feedlot with capacity to accommodate greater than 50 head of cattle or 200 sheep. The proponent has addressed the policy aims of the SEPP. In particular, the proponent assesses the the potential for odour, water pollution and soil degradation; and measures to mitigate any potential adverse impacts. The site is considered suitable for the proposed development and is adequately separated and shielded from neighbouring residents. The Proponent may seek accreditation under the National Feedlot Accreditation Scheme which requires the implementation of appropriate mitigation measures and management practices for maintaining a high level of environmental protection and animal welfare in accordance with the National Guidelines.

State Environmental Planning Policy *(State and Regional Development)* 2011

This Policy aims to identity development that is State Significant Development, State Significant Infrastructure, Critical State Significant Infrastructure, and Regionally Significant Development. As such, the proposed development does not trigger any of the prescribed thresholds under Schedule 1 and Schedule 7 of this Policy as the proposal has an estimated cost of $34,000 and is only for 999 head of cattle or 3999 head of sheep. Schedule 1 and Schedule 7 state:

Schedule 1

1 Intensive livestock agriculture

Development for the purpose of intensive livestock agriculture that has a capital investment value of more than $30 million. **Schedule 7** **2 General development over $30 million** Development that has a capital investment value of more than $30 million.	
GUYRA LOCAL ENVIRONMENTAL PLAN (GLEP 2012)	
PART 1 PRELIMINARY	
1.2 Aims of Plan	The assessment of this application has been carried out having regard to the aims of the Plan.
1.9A Suspension of covenants, agreements and instruments	This clause provided that covenants, agreements or other similar instruments that restrict the carrying out of development upon the subject land do not apply unless such are: - • Covenants imposed or required by council • Prescribed instruments under s183A of Crown Lands Act 1989 • Any conservation agreement under National Parks and Wildlife Act 1974 • Any trust agreement under the Nature Conservation Trust Act 2003 • Any property vegetation plan under the Native Vegetation Act 2003 • Any biobanking agreement under Part 7A of the Threatened Species Conservation Act 1995
PART 2 PERMITTED OR PROHIBITED DEVELOPMENT	
2.2 Zoning of land to which Plan applies	**RU1 Primary Production** Development for the purposes of *intensive livestock agriculture* is consistent with the RU1 Primary Production zone objectives. It will enable the diversification and intensification of the existing agricultural enterprise in a suitable location and is not expected to cause unreasonable conflict with adjoining land uses or environmental impacts.

2.3 Zone objectives and Land Use Table	The proposed development is defined as '*intensive livestock agriculture'* and '*feedlot*', as follows: - **intensive livestock agriculture** means the keeping or breeding, for commercial purposes, of cattle, poultry, pigs, goats, horses or other livestock that are fed wholly or substantially on externally-sourced feed, and includes any of the following: - (a) dairies (restricted), (b) feedlots, (c) piggeries, (d) poultry farms, but does not include extensive agriculture, aquaculture or the operation of facilities for drought or similar emergency relief. **Note**. Intensive livestock agriculture is a type of *agriculture*—as defined under the Guyra LEP 2012. **Feedlot** means a confined or restricted area that is operated on a commercial basis to rear and fatten cattle, sheep or other animals, fed (wholly or substantially) on prepared and manufactured feed, for the purpose of meat production or fibre products, but does not include a poultry farm, dairy or piggery. **Note.** Feedlots are a type of *intensive livestock agriculture*—see the definition of that term above. '*Intensive livestock agriculture'* is permitted within the RU1 zone with development consent.
2.4 Unzoned land	N/A
2.5 Additional permitted uses for particular land	N/A
2.6 Subdivision—consent requirements	N/A
2.7 Demolition requires development consent	N/A
2.8 Temporary use of land	N/A
PART 4 PRINCIPAL DEVELOPMENT STANDARDS	
There are no principal development standards that apply to the proposed development.	
PART 5 MISCELLANEOUS PROVISIONS	
5.18 Intensive Livestock Agriculture	(1) The objectives of this clause are— a. to ensure appropriate environmental assessment of development for the purpose of intensive livestock agriculture that is permitted with consent under this Plan, and b. to provide for certain capacity thresholds below which development consent is not required for that development subject to certain restrictions as to location. (2) This clause applies if development for the purpose of intensive livestock agriculture is permitted with consent under this Plan. (3) In determining whether or not to grant development consent under this

	Plan to development for the purpose of intensive livestock agriculture, the consent authority must take the following into consideration— a. the adequacy of the information provided in the statement of environmental effects or (if the development is designated development) the environmental impact statement accompanying the development application. *It is considered that the quality of the information contained in the SoEE will enable a full and thorough assessment to be undertaken.* b. the potential for odours to adversely impact on the amenity of residences or other land uses within the vicinity of the site. *This matter has been addressed later in this report.* c. the potential for the pollution of surface water and ground water. *This matter has been addressed later in this report.* d. the potential for the degradation of soils. *This matter has been addressed later in this report.* e. the measures proposed to mitigate any potential adverse impacts, *Mitigation measures are described in detail throughout the SoEE. A range of conditions of consent will apply to ensure the development proceeds in accordance with the relevant industry standards.* f. the suitability of the site in the circumstances. *Refer to SECTION 4.15(1)(a)(iii)* under the *Guyra Development Control Plan 2012.* g. whether the applicant has indicated an intention to comply with relevant industry codes of practice for the health and welfare of animals. *This matter is capable of being managed via a condition as follows: The National Guidelines for Beef Cattle Feedlots in Australia is to be complied with at all times during the operation of the feedlot to ensure animal health and welfare.* h. the consistency of the proposal with, and any reasons for departing from, the environmental planning and assessment aspects of any guidelines for the establishment and operation of relevant types of intensive livestock agriculture published, and made available to the consent authority, by the Department of Primary Industries (within the Department of Industry) and approved by the Planning Secretary. *The subject feedlot does not propose any variation from the environmental planning and assessment aspects of any guidelines for the establishment and operation of cattle feedlots.*

Part 6 ADDITIONAL LOCAL PROVISIONS	
6.1 Earthworks	Earthworks will be required to facilitate the construction of drainage infrastructure required to manage water/ soil quality within the controlled drainage area associated with the feedlot operation. The drainage design requires construction of catch drains/ diversion drains, sedimentation system and holding ponds. The main plant likely to be used for the construction of the drainage design would include: - ■ Excavators; ■ Bulldozers; ■ Dump trucks; and ■ Bob cats. This level of earthworks will not have a detrimental impact on environmental functions and processes subject to the implantation of standard sedimentation and erosion control conditions. Before granting development consent for earthworks (or for development involving ancillary earthworks), the consent authority must consider the following matters: *(a) the likely disruption of, or any detrimental effect on, drainage patterns and soil stability in the locality of the development,* The development will not adversely impact drainage patterns as the feedlot design incorporates a controlled drainage area to ensure all runoff is captured in to the sedimentation basin and holding pond. There is no evidence to suggest that soil stability, landslip, etc. is an issue on Tenterden Station. *(b) the effect of the development on the likely future use or redevelopment of the land,* The suitability of the site is discussed through this report and the development is not considered to significantly impact the future/continuing agricultural use or redevelopment of Tenterden Station. *(c) the quality of the fill or the soil to be excavated, or both,* The footprint of the feedlot has historically been used for agriculture, e.g. grazing. There is no evidence to suggest that the quality of the soil is comprised. (d) *the effect of the development on the existing and likely amenity of adjoining properties*, The earthworks are not in close proximity to any adjoining properties. Other impacts affecting amenity (odour, etc.) have been considered elsewhere in the report.

	(e) the source of any fill material and the destination of any excavated material, Excavated material will be utilised on-site and any fill material will meet the definition of 'virgin excavated natural material' under the Protection of the Environment Operations Act 1997. *(f) the likelihood of disturbing relics,* As assessed against Clause 5.10 of the LEP, the development is unlikely to disturb any relics. *(g) the proximity to, and potential for adverse impacts on, any waterway, drinking water catchment or environmentally sensitive area,* Impacts on surface water have been considered in the report following. *(h) any appropriate measures proposed to avoid, minimise or mitigate the impacts of the development.* Sediment and erosion control measures will be in place for the duration of the construction phase and are considered satisfactory.

GUYRA DEVELOPMENT CONTROL PLAN 2012

SECTION 4.15(1)(a)(iii)

Chapter 4 Rural Development

This Chapter addresses various aspects of rural development including biodiversity, bushfire management, and access to rural properties and dwelling development. It applies to land zoned RU1 Primary Production under the GLEP 2012.

Access to Rural Properties – General

This chapter requires that access to rural properties is from a dedicated public road and an access point be constructed at the time of creation of an allotment with such access consisting of a gate recessed 20m from the property boundary, together with a Table drain crossing in accordance with Council's engineering standards.

It is proposed to access the Site via Moredun Dams Road. Upon inspection of the access it was deemed to comply with the minimum construction requirements and there are no requirements for upgrades.

Chapter 12 Notification Procedures

This Chapter of the DCP complements the provisions of the Guyra LEP 2012 and outlines Council's policy for community notification in the assessment of development applications and the formulation of development guidelines and policies. The Chapter also outlines the necessary procedures involved in carrying out such notification.

Written notice of a Development Application will be sent to those persons who appear to the Council to own or occupy adjoining land and neighbouring land if, in the Council's opinion, the enjoyment of the land may be detrimentally affected by the development proposal. This could include land opposite or otherwise distanced from the application site.

The proposed development was neighbour notified as per Chapter 12 of the Guyra DCP and in accordance with the Armidale Regional Council Community Participation Plan. Eight (8) submissions were received during the notification period regarding the proposed development.

ANY CURRENT OR DRAFT PLANNING AGREEMENT SECTION 4.15(1)(a)(iiia)	
Are there any planning agreements or draft agreements in place?	No

REGULATIONS SECTION 4.15(1)(a)(iv)	
Does the proposal include any demolition?	No
Does the proposal involve the relocation of a building to/from the site?	No
Are there any fire considerations (i.e. fire separation)	No
Should the building be brought up to current BCA standards? (Refer Building Surveyor assessment)	No

LIKELY IMPACTS OF THE DEVELOPMENT SECTION 4.15(1)(b)
Potential impacts on the natural environment?
<u>Impact on air quality?</u> Air quality has the potential to be impacted by dust which also results in odour impacts. Emissions of dust resulting from the pads or manure stockpiles and access tracks will be comparable to those generated from other agricultural activities in the region. Earthworks activities that generate dust will occur over a short period of time and will not be undertaken unless weather permits. The proponent states that odour and dust generated during operation of the Feedlot will be mitigated by: - • Setting a low speed limit on Tenterden Station to minimise the generation of dust on internal roads; • Frequent, scheduled pen cleaning will ensure the depth of (dry) manure is maintained at 50mm or less; • Pen cleaning to occur, at minimum, every 13 weeks; • Management of pen stocking densities to minimise odour and dust generation (the cattle urine and manure add moisture to the pen floors); and • Manure will only be loaded for transport when wind conditions are favourable. Furthermore, watering of the Site during earthworks and construction may occur as required to ensure that dust generation is minimised during both construction and operational phases. The proponent has allowed for water for dust suppression in the calculation for total daily water use per head (cattle). There will be no unreasonable impacts upon air quality as a result of the proposed feedlot should the above mitigation measures be implemented.

Impact on water quality?

Water quality has the potential to be impacted by release of cattle and/or sheep effluent containing high levels of nutrients into local surface water systems. No impacts to groundwater are considered likely as there will be very limited interface with the water table and given the nature of soils at the Site.

All feedlot infrastructure including feed pens, effluent holding pond, stock handling areas and death pit will be located within a controlled drainage area which will capture surface water runoff from the feedlot footprint and divert clean surface water from the surrounding area away from the feedlot. This will help manage surface water run-off at the site and negate the risk of nutrients entering the nearby waterways and catchment areas.

The feedlot is situated on brown red clay and some grey brown clay that extends to a depth of approximately 3m but has some isolated rock present. The clay can be described as having an "infiltration rate of zero once wet". This material is considered as ideal for sealing beneath the feedlot site and the effluent management system. A permeability of less than 1 x 10-9 is advised for pen surfaces and sedimentation systems by the National Guidelines for Beef Cattle Feedlots in Australia (MLA 2012). This clay is considered to meet this requirement once compacted under moist conditions to a level of 96% or higher.

In addition, it is noted that the Tenterden area has extensive and relatively permanent springs. These were identified as part of the local fractured rock aquifers. These aquifers are relied upon for potable water for both human and stock consumption. There are also a series of farm dams across Tenterden Station. The proponent has access to surface water licenses which provide a combined water rights of approximately 150 ML to be captured from these various above ground water storages on site.

Subject to the appropriate mitigation measures are in place at the commencement of livestock entering the pens there will be minimal chance of adverse impacts water quality as a result of the development proceeding.

Land degradation, tree loss or impact on flora, fauna or ecosystems?

The area to be disturbed is non-native vegetation and provides no permanent habitat for threatened species. The proposed feedlot will be located upon land that has been previously cleared for the purposes of agriculture. It is noted all native vegetation has been removed from the development footprint for present broadacre cropping activities aside from two (2) Eucalyptus melliodora (Yellow Box) which are paddock trees but do not constitute significant native habitat. There will be no adverse impacts to native species or significant native habitats as result of the development proceeding.

Potential impacts on the built environments?

Impact of noise generation?

Noise impacts as a result of heavy vehicle use would occur during the construction phase as the proponent undertakes earthworks and construction of the pens. Machinery use would occur during approved works hours as per the conditions of consent. The machinery items to be used may including excavators, loaders, tractors and feed mill machinery. These would operate at maximum power for short periods of time and due to the generous setbacks, will not impact the closest surrounding receptors. There will be no unreasonable impacts from noise during the construction phase of the development.

Noise impacts may occur during the operational phase of the development from stressed livestock, mostly during livestock handling operations, as well as vehicle movements too and from the site. As above, these noise sources are not likely to cause any adverse impacts to surrounding receptors due to the generous setbacks and undulating nature of the landscape between the feedlot site and surrounding rural dwellings.

Impact on any places of aboriginal heritage significance?

An AHIMs search of the subject land did not find any aboriginal artefacts or places of significance within the development footprint or surrounding area. Despite this, it is possible that aboriginal artefacts could be discovered during excavation works for the proposed development. An advisory condition will apply that in these circumstances works should cease immediately and an Aboriginal cultural heritage assessment be undertaken for the site.

Impact on any places of European heritage significance?

Under Schedule 5 of the GLEP 2012 there are three (3) listed heritage items within the vicinity of the site including St Thomas Church, Tenterden Hall and Tenterden Homestead. These heritage items are >1.4kms away from the proposed feedlot site

and as such the potential impact of the feedlot on these items is considered minimal based on the setbacks and that the feedlot will not be visible at any stage from these heritage sites.

Amenity (i.e. hours of operation)?

The hours of operation of the feedlot will not be conditioned as a degree of flexibility is required due to the nature of the activities. For example, during summer livestock needs to be transported in the evening or early morning to avoid heat stress. Livestock handling activities and feeding also need to be undertaken during the early hours of the day or in the evening, this is not unlike other extensive agricultural activities that are routinely undertaken at the site and on surrounding properties.

Privacy, overshadowing and visual impact?

There will be limited visibility of the pens from Moredum Dams Road and from the existing dwelling to the north of the site. The proposed feedlot is not visually prominent due to the topography of the land and screening from native trees. There will be no adverse impacts to visual amenity as a result of the development and the proposal is consistent with the rural amenity of the landscape comprising mostly livestock managing facilities.

There will be no adverse impact from the development in terms of privacy or overshadowing.

Potential social impacts?

Likely social impacts, benefits or precedents?

The Site is removed from any community facilities or public places, and is therefor not considered to have any social impacts and there are no incompatible surrounding landuses. The proposed feedlot is in an area designated for agricultural purposes that has historically been used for primary production. The feedlot is designed and sited such that odour, dust and noise generated by the development will have no unreasonable impact to the community and therefore no bearing socially.

Impact on surrounding public places?

Due to the nature of the development operational and reliance on heavy vehicle transport for livestock and feed handling, impacts may arise to Council roads and access ways as a result of the development. See assessment of transport and traffic impacts.

Potential economic impacts?

Likely economic impacts or benefits?

The proposed feedlot will have a positive contribution to local primary producers through sourcing locally raised livestock and feed where possible. The nature of a feedlot is that livestock are on a supplementary ration all year thereby stabilising primary producers markets as in most circumstances it is cost effective to source feed and replacement livestock locally. The development will also generate some local employment through various ways, including livestock health and wellbeing, feeding and administration.

SUITABILITY OF THE SITE FOR THE DEVELOPMENT SECTION 4.15(1)(c)	
Risks and hazards?	
Flood prone?	The subject land is not identified as floodprone as per Council's flood mapping.

Bush fire prone?	Bush Fire: Land at 1075 Tenterden Road, Tenterden is partially mapped as bushfire prone as per the NSW RFS mapping. Despite this, the subject site (Lot 51 DP 753669) is not mapped bushfire prone. The proposed development is not identified as a Special Fire Protection Purpose (SFPP) Development under Planning for Bushfire Protection 2019. As such, provisions pertaining to building or construction works in bushfire prone areas do not apply to the proposed development.
Contaminated land?	The subject site is not identified in Council's Information System for Potentially Contaminated Land as having been previously used for a purpose that may have resulted in contamination.
Adjoining / nearby land uses and activities?	
Rail?	No
Classified road?	No
Other incompatible land uses?	No
Access to and within the site?	
Traffic generated by the development will include on average one B-Double movement every two days. This is considered a very minor increase in traffic movements. The existing road network will be able to cater for the development. Submissions have identified that the new Tenterden Bridge can not cater for B-Double movements. This is not an issue when considering the low number of traffic movements generated by the development. Other objections have identified Moredun Dams Road and Tenterden Road not being a standard of road to cater for additional B-Double movements. Both Tenterden Road and Moredun Dams Road pavements will be able to cater for this minor increase in B-double movements.	
Servicing?	
The property has access to electricity and the feedmill will be powered by an on-site generator. Water for the development will be sourced by harvestable rights water captured in on-site dams and, if more water is needed, the Proponent has indicated that they will obtain the relevant approvals from WaterNSW in order to use groundwater resources. Landline and mobile telephone facilities are available on the site. All staff at the feedlot will utilise the existing amenities within the machinery shed and office which currently services staff at Tenterden Station. Wastewater is managed by an OSSMS and there is ample room for appropriate disposal.	

SUBMISSIONS SECTION 4.15(1)(d)
Any submissions from:
The development application was neighbour notified and submission open until 23rd July 2020 and subsequently extended to 1st August 2020. During the notification period up to eight (8) submissions, seven (7) in objection and one (1) in support of the feedlot were received by Council. It is noted one submission is a petition style submission containing six (6) individual

signatures. The issues raised in the submissions are addressed by the proponent below: -	
Odour/air quality - Predominant prevailing winds during the summer months are from the north east. This will affect landholders on the western side of the feedlot causing odour, dust and airborne organisms. - Odour generated from feedlots is a combination of concentrated animal excrement (wet faecal matter) and dead animals is offensive. - A level 1 Odour assessment is not sufficient to assess the odour impacts of the development. - Wind rose calculations provided in the SoEE do not accurately depict the site-specific conditions as they are based on Guyra climatic data. - The impact of local climate can not be extrapolated from weather stations located over 40kms from the site.	Odour calculations were undertaken using a Level 1 Odour Assessment. The assessment determines whether the proposed management practices, in combination with the distance to the nearest sensitive receptor (and likely future sensitive receptors), the topography and meteorology of the site, will result in offensive odour impacts. This is based on extensive research undertaken by the Feedlot Industry and has been accepted by Authorities, including NSW EPA. The calculations are based on the feedlot operation, receptor type, topography, landscape features and weather. The calculations presented indicate that within a buffer zone of *531m*, the potential odour impact is considered to have the potential to impact the amenity of a farm residence. The closest neighbouring residence is 1.97 km from the feedlot site. The model indicated a clear "pass" and therefore the location of the feedlot in relation to potential odour generation is considered acceptable in accordance with NSW Odour Emission Guidelines. In relation to odour, it should be clarified that the feedlot will need to operate at a Class 1 or Class A standard. This will involve management of the manure pad by cleaning at regular intervals, management of any stockpiled manure, limiting the irrigation of effluent to periods where wind will not carry odour toward receptors, and general maintenance of the drains and pond system to avoid excessive odour.
Traffic - Increased traffic, including heavy vehicles, is going to increase the risk of motor vehicle accidents occurring. - The school bus accesses this road 4 times a day, 5 days per week. - Safety concerns for the new Tenterden Bridge – a car must pull right off the road to allow heavy vehicles to access the bridge. - A detailed assessment of traffic and road impacts should be undertaken. - Tenterden Road and Moredun Dams Road are not suitable for B-Double movements. - The pressure of B-Double trucks on these roads in wet weather will cause damage to the road surface. The effect on the road infrastructure, particularly Moredun Dams Road would be	The Statement of Environmental Effects (SoEE) submitted with the development application uses a B-double as the standard truck for delivery and despatch of materials from the feedlot. This was deemed as the standard truck using the local road network for movement of stock and crops within the local district. The SoEE provides a prediction of B-double movements to and from Tenterden feedlot. A truck movement is listed as a one-way movement and therefore a truck moving to and from the feedlot is calculated as two truck movements. This is based on a worst-case scenario with cattle on-feed for 70-days, pens being cleaned while cattle are present (No vacant period in pens), and no feed ration being produced on Tenterden Station. The SoEE indicates one, one-way movement of a truck every day or one truck moving to and from the feedlot every second day. This is considered a minor amount of truck traffic that can easily be managed in relation to arrival/departure times, selection of the truck contractor based on his/her local knowledge of road conditions, and potential ability to delay travel as a result of weather. The SoEE included the statement: "The Tenterden Road is relatively narrow in sections but subject to some minor upgrades by Council at present. A driver code of conduct may be considered necessary during certain times of the day. This would include avoidance of truck movements to and from the feedlot during school bus hours and speed limitations on narrow sections of road as a precautionary measure." Guyra Road is an approved B-Double route. Moredun Dams Road and

significant. - Upgrades to the roads may need to be undertaken to cater for the increased traffic movements - Internal roads should be investigated for suitability for proposed truck movements -	Tenterden Road are within a designated B-Double Area. Operators are to contact Council for conditions of travel and any route restrictions. Temporary restrictions may apply when routes become impassable for heavy vehicles. No more then one heavy vechicle on any bridge at one time. Extreme care on narrow bitumen & gravel roads especially during school hours & wet weather. Temporary road closures must be checked with Council. Councils Development Engineer has assessed the application and advises that the existing road network will be able to cater for the development including the anticipated number of B-Double movements generated by the development. Both Tenterden Road and Moredun Dams Road pavements will be able to cater for the minor increase in B-double movements.
Water quality (surface water) - Potential contamination of surface water as a direct result of effluent from the facility - Large amounts of organic matter and nutrients could enter Kangaroo Creek and contaminate and deoxygenate the water. - Water contamination will affect aquatic organisms, vertebrate and invertebrate in Kangaroo Creek. - Will reduce water quality down stream for those that use water for stock and domestic purposes.	As a result of the change in layout for the feedlot, revised effluent calculations have been prepared. The sediment basin and holding pond capacities have been revised to suit the current layout. The layout includes a manure pad located within the controlled drainage area. The controlled drainage area is approximately 1.924 Ha in area. The holding pond covers a separated area of approximately 0.38 Ha. The holding pond will be separately bunded to prevent local drainage from entering the pond. The feedlot sedimentation system presented in the original application involved a variation from standard design and used a sediment terrace system. This was an original design acceptable to the feedlot industry prior to development of feedlot guidelines and Australian standards. The system is now referred to as sedimentation terraces which aim to settle manure in the drain but not hold water. The intent is to minimise ponding and potential odour generation from the sludge material. Following a review of the application and further discussion with the applicant, the proposal will now adopt a standard sediment basis design in accordance with current feedlot guidelines. A basin is defined as a wide, shorter, relatively shallow free-draining structure. The maximum depth of design flow should be 1m. Settled solids should deposit in a thin layer and this layer should dry quickly, therefore allowing the settled layer to be removed within days if required. The purpose of an effluent holding pond is to hold the effluent which has settled through the sediment basin. For Tenterden, the effluent is to be held until it can be irrigated on an adjoining 4 Ha spray irrigation area. In accordance with Guidelines, the pond must have sufficient storage capacity to avoid spillage no more frequently than once in 10-years. (Notionally able to retain runoff in a 90th percentile wet year). The design involves identifying a real rainfall year that is close to the statistical 90th Percent wet year and ensuring that the pond will not spill in this year. Local rainfall data from station 056057 (Balook located approximately 8km from Tenterden) has been used following the identification of this data availability from the local community. This rainfall data set extends between 1956 and 2020 and is therefore representative of recent conditions. Feedlot guidelines recommend an average runoff coefficient of 0.4 for calculation of an effluent holding pond. For Tenterden, a monthly balance has been prepared using actual rainfall data from 1959 and irrigation of 4 Ha with irrigation based on a moisture deficit. It should be noted that the footprint of the feedlot has been revised. This will therefore alter the total area that is draining into the effluent holding pond. The design area of catchment is approximately 1.9 Ha. The additional area of

	effluent holding pond is added to this to make a total area of approximately 2.2 Ha. Input include both rainfall runoff from the feedlot pen area and rainfall falling directly into ponds. The effluent pond capacity calculations are presented in Appendix 1 of the additional information as provided by the proponent. The data suggests a minimum pond size of 3.46 ML. The proposed development will include a pond with a minimum holding capacity of approximately 3.5 ML to ensure that spills from this pond will be less that the guideline accepted frequency. This is proposed as it is clearly noted that adjoining landowner are relatively sensitive to any potential pollution of the local waterway system. This sensitivity appears to be based on historical issues with stock manure washing into the creek. It is also noted that some of the permanent local water supplies are based on springs which drain into the local creek system. Operation of the feedlot should therefore avoid spills of effluent by maintaining the design capacity of the effluent pond system. This will ensure that current pollution levels in the local watercourse areas resulting from existing stock operations are not exacerbated by the feedlot development. Effluent will be applied to the irrigation area to maintain soil moisture. The catchment into the effluent pond is minimal and therefore it is not deemed to be capable of providing a regular supply of water for irrigation of the 4 Ha. Irrigation will therefore be opportunistic on the 4 Ha which will be cropped every year and may include permanent pasture. Using the USDA rainfall runoff model, a catchment area of 2 Ha and daily rainfall data, the 90th percentile runoff year would generate 2.1 ML from this catchment. The model indicates that calculated runoff would be between 4 ML per year and 5 ML per year for two (2) out of the past 50-years of rainfall. This is equivalent to a potential overflow from the effluent pond of once in 25-years. This frequency meets the recommendations within NSW EPA Guidelines and National Feedlot Guidelines. In such an event, the potential dilution ratio is deemed to be sufficient for the effluent to create little or no issues with water quality in a watercourse as the volume of effluent would be minimal compared to the total catchment generated flow in the watercourse system.
Water Quality (ground water) - There are many springs in the area, including those at Kangaroo Creek (ephemeral stream). - Contamination of groundwater is a major concern. -	It is noted that the Tenterden area has extensive and relatively permanent springs. These were identified as part of the local fractured rock aquifers. These aquifers are relied upon for potable water for both human and stock consumption. The Tenterden feedlot site is not located over an area of exposed fractured rock. The clay material available at Tenterden Station is considered to meet or exceed the impermeability requirements to prevent groundwater pollution below the cattle pens and ponds. This clay is proven in existing water storages that do not leak. The feedlot will operate within a controlled drainage area and therefore effluent generated from within the feedlot will be captured and it will not runoff into the local creek system. This is different to the majority of local stock yards which drain freely into the local water way system.

	Neighbouring properties have historically checked water quality in the local watercourse system. One incident of high levels of Escherichia coli (E.coli) is noted from submissions received by Council. This was anecdotally a result of intensive stocking of paddocks. This is considered a common issue with open grazing where runoff is uncontrolled. The proposed feedlot will be located within a controlled drainage area and therefore effluent runoff within the site will be contained to avoid such pollution of local creeks.
Water use - The feedlot will take water that would otherwise end up in the catchment area for Kangaroo Creek and utilised by primary producers downstream. - Unable to confirm if an irrigation approval has been obtained from Water NSW for the lawful irrigation from dams and other water sources. - The groundwater allocation associated with the feedlot will lower the water table hence reducing water availability to neighbouring properties.	The feedlot proposal intends to utilise existing water entitlements. These entitlements have been issued and are controlled by the relevant authority, Water NSW. The use of these entitlements is subject to assessment by Water NSW in relation to sustainable extractions and capture of this water. Water NSW utilise the principle that such water entitlements can be transferred to a location only when they will not impact on existing users. The standard industry guidelines recommend a supply of 65 litres per head of cattle per day in NSW. For 100-percent occupancy with cattle, the annual demand for water would be 21.9 megalitres of water. This volume includes 55 litres per head per day for cattle consumption and the industry has adopted a figure of 10 litres per day for dust suppression, feed processing, and general cleaning of equipment. These figures are supported by Guidelines and Industry standards. It is noted that Tenterden Station has water entitlements that exceed the required 21.9 ML for the 999-head cattle feedlot that is subject to this application. During an extended period of drought, water supply to the feedlot will be critical and if shortages occur, the feedlot will reduce its numbers. Such a management decision may be subject to instruction or directives for reduction in water use from Water NSW.
Biodiversity - It is understood that the site contains White Box – Yellow Box – Blakeleys Red Gum Grassy Woodland and Derived Native Grassland which is listed as Critically Endangered Ecological Community.	As described by the proponent and confirmed by inspection of the Site by Council staff, the proposed feedlot will primarily be located on land which has already been cleared for the purposes of opportunity feeding cattle and improved pasture production. All native vegetation has been removed from the cattle pens and cropland other than two yellow box trees. In its current state, the subject site does not constitute important habitat for remnant woodland or a range of fauna that may inhabit the local woodland remnants. The region surrounding the proposed development site is disturbed by agricultural activities.
Noise - Trucks arrive at feedlots at all times during the night. - Specific consideration would need to be made in relation to time of deliveries and how this would be managed - The noise impact assessment does not identify impacts during the operational phase.	The proposed works are situated within an established agricultural area with rural noise impacts including heavy vehicles and machinery occurring periodically. There are no additional sensitive land uses such as schools, churches or hospitals within the vicinity of the Project site. The main source of noise at the Project site during the construction phase would be from earthmoving equipment. Construction activities would be limited to 7am to 5pm Monday to Friday and 7am to 1pm on Saturday. Once works are complete, conditions similar to those which existed prior to the works commencing will persist, with no noise generating activities resulting from the activity other than occasional machinery noise. During the operational phase the majority of activities, including livestock handling, feeding, milling, feed deliveries, earthworks and maintenance of the manure stockpiles would be limited to specific hours (Monday to Friday

	between 7am and 5pm) as nominated by the proponent. It is noted some heavy vehicle movements for carting livestock may be undertaken outside these nominated hours for animal welfare reasons. For example, during hot weather livestock may be transported in the late evening to reduce stress and heat loading on the animal.
Visual amenity - The feedlot and manure stockpile will be in clear line of sight from Moredun Dams Road. - The proposal will be seen from both 'Newenden' and 'Wilford' residences which is unacceptable. - Vegetation screening cannot be relied upon to lessen the effects of a visually intrusive development. - The area to be used for storing manure is not nominated on the site plan.	During the construction phase, the proposed works have the potential to result in a minor, temporary decline in visual amenity of the feedlot site due to the presence of the construction site itself. However, due to the topography of the site it is considered unlikely that the decline in visual amenity at this scale would extend to a decline in the broader landscape. Furthermore, during the construction phase, any impacts to visual amenity during construction would be temporary only. Once the feedlot is operational, the proposed infrastructure including pens and feed storage areas, would not be unlike typical features of sheep and cattle farms in the area. All other infrastructure, including effluent drains, sedimentation ponds, death pit and manure stockpiles would not be visible from surrounding dwellings and/or Moredun Dams Road. No screening or landscaping will be required for the proposed development; however the proponent can opt to use native species plantings as a visual screen on the western side of the site.
Biosecurity - The proposal poses a biosecurity risk bringing stock from other regions without quarantine methods in place. - Intensive livestock keeping has risks to biosecurity as animals in close proximity will harbour and spread disease. - A disease outbreak affecting stock at the feedlot could have severe ramifications to the local farming district. - The proposal could affect surrounding agricultural enterprises through water contamination, salinity, spread of weeds, resistant parasites and diseases. - Neighbours would be put at risk of	There are national biosecurity measures for ensuring livestock health and to limit the spread of diseases within livestock and human populations. Under the National Feedlot Accreditation Scheme, these biosecurity measures are required to be adhered to a minimum standard in feedlots. Routine biosecurity procedures would be implemented and followed on a daily basis. Best practice measures give a high degree of reassurance that diseases and pathogens will not be carried into the feedlot and will reduce the risk of transmission between production areas. Incoming/outgoing livestock would also be subject to a properly completed Cattle Health Declaration which is mandatory when purchasing stock, offering cattle for sale, and inter-state stock movements. It should be noted Q-fever is able to be contracted from extensive agricultural operations, as currently exists in the area, and there would be no substantial increased risk of contracting the disease as a result of the establishment of a feedlot. No existing priority weeds have been identified within the Site. Dispersal of weeds may occur through the use of machinery, vehicle movements and stock movements. Weed management activities should be undertaken routinely to reduce the risk of spread. It is noted that control of weeds on rural properties in NSW is administrated under the Biosecurity Act 2015.

contracting Q fever.	
Animal Welfare - The area specified for stock holding pens may not be large enough to meet guidelines. - The nominated death rate of five (5) animals per year is inaccurate. - Consideration should be given to shade and shelter for both sheep and cattle to mitigate heat stress.	Once the feedlot is constructed the Proponent intends to seek accreditation under the National Feedlot Accreditation Scheme (NFAS). This system incorporates extensive animal welfare documentation and procedural activities. AUS-MEAT perform annual audits on accredited feedlots to ensure managements standards are maintained. The Proponent has an economic incentive to maintain a high standard of animal welfare because high standards of animal welfare result in improved productivity and better meat quality. The proponent identifies the following best practice animal welfare standards will be implemented during the operational phase: - - Suitable quantity and quality of water. This is provided according to age, bodyweight, - production level, air temperature, humidity and feed; - Access to air free from dust or noxious chemicals; - Suitable quantity and quality of food. Variations to these standards will result in the reduction - of stocking rate, and animal monitoring to ensure satisfactory body condition; - Protection from climatic extremes. These can be shade/cooling systems, wind breaks. However, given the generally cool climate of the Site, shade systems will not be a conditional requirement for the proposed feedlot.

THE PUBLIC INTEREST SECTION 4.15(1)(e)	
Construction or safety issues?	No
Public Health issues (food safety, skin penetration etc)?	No
Management plans, agreements or bonds? (inc. Fire safety measures)	No
Principles of Ecologically Sustainable Development?	Under the EP & A Regulation it is necessary to justify the proposal having regard to the biophysical, economic and social considerations and the principals of ESD. The application has appropriately identified the objectives of the proposal with consideration to the alternatives available to the proponent. The application also lists any potential environmental impacts during the construction and operation phases of the development and details appropriate mitigation measures to be implemented throughout the life of the facility. The proposed development is considered to be satisfactory having regard to ESD principles.
Planning Circulars?	No

Applicable Strategic Plans?	No
Other public interests (i.e. precedents)?	No

CONCLUSIONS / RECOMMENDATIONS

The proposed development of a sheep and cattle feedlot is permissible with the consent of Council. The development complies with the relevant aims, objectives and provisions of the Guyra Local Environmental Plan 2012. A section 4.15 assessment of the development indicates that the development is acceptable in this instance. Attached is a draft Notice of Approval outlining a range of conditions considered appropriate to ensure that the development proceeds in an acceptable manner.

I confirm that I am familiar with the relevant heads of consideration under the Environmental Planning and Assessment Act and Local Government Act (if applicable) and have considered them in the assessment of this application.

I certify that have no pecuniary or non-pecuniary interest in this application.

ADDITIONAL NOTES ATTACHED: YES

DA No: DA-77-2020 **Signed:**

Date: 18 September 2020 **Time:**

The following addendum to Council Report for DA-77-2020, which was to be considered at Council's meeting of 28 October 2020, has been prepared to address matters raised in a late submission to Council received 26 October 2020. Following receipt of this late submission and matters raised during the 'have your say' at Council's meeting of 28 October 2020, Council resolved to defer determination of the application.

In this regard, whilst this late submission on the DA was received after the statutory notification/submission period had closed, and as such does not need to be taken into consideration during the assessment of DA-77-2020, the matters raised have nonetheless been addressed both within the Section 4.15 assessment of the application and this addendum.

Tenterden Station is proposing to construct and operate a sheep and cattle feedlot (Intensive Livestock Agriculture) on Lot 51 DP 753669, 1075 Tenterden Road, Tenterden (the Site) within the Armidale Regional LGA. The Site has a long history of agricultural use and already contains livestock feed and processing facilities. The proposed feedlot would accommodate up to 999 head of cattle or 3999 head of sheep at any one time. Based on these capacities, the proposed feedlot is considered to be comparatively small in scale and is not subject to an Environmental Impact Statement (EIS) under part 4 of the *Environmental Planning and Assessment Act 1979* or Environmental Protection License (EPL) from the Environment Protection Authority (EPA).

On 2 July 2020 the Proponent lodged a Development Application (DA) for *Intensive Livestock Agriculture* to Council. During the exhibition period eight (8) submissions were received from surrounding land holders. Each of the eight (8) submissions either objected or raised concerns with the proposal. These matters have been addressed by the proponent and summarised in the assessment report attached. Council have also addressed any potential impacts of the proposal and recommends a range of conditions of consent to negate and/or mitigate any potential environmental impacts that may arise as a result of the development.

On 26 October 2020 Council received a late submission in objection to the Project and raising concerns for the proposed activities. Key issues raised in the late submission include: -

- Notification;
- Odour impacts;
- Potential impact of diseases and methods to minimise these;
- Management of effluent;
- Amenity impact and quality of country living;
- Traffic impact, including noise and safety associated with increased truck movements; and
- Insufficient information in SoEE, including incorrect BOM data (including rainfall)

Council has assessed each of the issues raised in the late submission as a supplementary report and concludes that the residual impacts of the project, including odour, waste management, biosecurity, noise and traffic impacts, can be mitigated and/or managed to ensure an acceptable level of environmental performance. Furthermore, that notification of the development to adjoining

landholders was fulfilled in the assessment process and the commitments under Council's Community Participation Plan have been fulfilled. Consequently, Council considers the Project meets the relevant development standards and legislative requirements and is recommended for approval, subject to conditions of consent. An additional summary of the abovementioned issues are provided below: -

Community Participation Plan

Neighbour notification procedures under Council's Community Participation Plan (CPP), adopted February 2020, supersedes the former notification commitments under the Guyra Development Control Plan.

In this regard, it is advised that at its meeting of 11 December 2019, Council considered and adopted Report 12.2 'Draft Community Participation on the draft Armidale Regional Council Community Participation Plan (CPP) and amendments to the Armidale Dumaresq Development Control Plan 2012.

At that meeting Council resolved (minute 279/19):

a) That the Armidale Regional Council Community Participation Plan be placed on public exhibition for a minimum period of 28 days beginning 8 January until Monday 11 February 2020;
b) That the amended Armidale Dumaresq Development Control Plan 2012, as outlined in the report be placed on public exhibition for a minimum period of 28 days beginning 8 January until Monday 11 February 2020;
c) That further report be provided to Council for consideration of any submissions received, however if no submissions are received within the submission period, both the Armidale Regional Council Community Participation Plan and amended Armidale Dumaresq Development Control Plan 2012 be adopted.

The CPP and amended Armidale Dumaresq Development Control Plan 2012 (ADDCP 12) were placed on public exhibition from the 8 January to 11 February 2020 in accordance with the resolution.

No submissions were received on either document and therefore the Armidale Regional Council Community Participation Plan and amended Armidale Dumaresq Development Control Plan 2012 were adopted.

At the time of the adoption of the CPP and amended Armidale Dumaresq Development Control Plan 2012, the Guyra Development Control Plan 2015 was not included in that review.

In this regard, Item 12.3 'Exhibition of the amended Guyra Development Control Plan 2015' was considered and adopted at Council's meeting of 22 April 2020. At that meeting Council resolved:

a) That the amended Guyra Development Control Plan 2015, as outlined in the report be placed on public exhibition for a minimum of 28 days beginning 29 April 2020 until 27 May 2020.

b) That a further report be provided to Council for consideration of any submissions received, however if no submissions are received within the submission period, the amended Guyra Development Control Plan 2015 be adopted.

Following the public exhibition period for the amended Guyra Development Control Plan (GDCP) 2015, no submissions were received and therefore the Plan was adopted, deleting Chapter 12 'Notification Procedures' from the GDCP 2015.

That being the case, the adopted CPP sets out the current requirements for notification within the Armidale Regional Local Government Area.

Upon review of Councils records, the DA was initially notified from 8 July 2020 to 23 July 2020 and then more widely from 21 July 2020 to 4 August 2020. That being the case the notification period met and exceeded both the requirements under Schedule 1 of the *Environmental Planning and Assessment Act 1979* and Council's adopted CPP and as such, it is considered that due process was followed.

Furthermore, whilst some of the submissions received state that they were not directly notified as they were not directly adjoining Lot 51 DP 753669, they were still provided with the opportunity to provide comment as those that were notified alerted the proposed development to landowners more widely and the information was freely available for anyone to review on Council's website during the notification period.

Odour & Amenity

The Tenterden Feedlot proposes to operate at a maximum of 999 head of cattle or 3999 head of sheep, which would be comparatively small to other feedlots within the LGA. Subsequently, due to the proposed size of the feedlot and the nature in which feedlots operate, it is considered that the project has limited potential to generate any significantly adverse odour impacts during its operation. Odour sources likely to contribute to odour emissions include feedlot pen surfaces, effluent holding pond, sediment pond, manure stockpile area and burial pits. Within a 3km radius of the proposed feedlot, there are approximately 4 non-associated dwellings. The odour assessment provided with the application has predicted that none of these properties are likely to experience odour levels greater than the relevant DEC odour criteria.

Furthermore, to ensure that if any odour and amenity concerns arise from the development during its operation, Council has included a condition of consent that the Proponent should implement all odour control measures as outlined in the National Guidelines for Beef Cattle Feedlots in Australia. Council is satisfied these guidelines will ensure the proposal is initially constructed and operated in accordance with national best practice guidelines. Furthermore, under the POEO Act, a system is in place that provides for a complaints register to ensure odour and amenity is adequately managed and a record of complaints is kept by the proponent at all times for the life of the development.

Effluent Management

The issue of effluent management related to solid and liquid waste management, as well as surface and groundwater hydrology at the Site.

Monitoring of the drainage channels and sediment pond will be undertaken by the proponent. Councils Authorised Officers under the *Protection of the Operations Act 1997* can conduct

inspections to ensure that the development is operating per conditions of consent and not causing a pollution incident as defined under the *Protection of the Environment Operations Act 1997*.

One (1) sedimentation dam is proposed and an additional holding dam (irrigation dam). It is not expected that the sedimentation dam would be cleaned out during a rainfall event or wet weather event.

The catchment area of the sedimentation dam and holding pond are relatively small, it is not expected from the calculations provided in the report that the sediment dam and holding dam are considered inadequate for the vast majority of weather events.

It should be noted since the intensity, frequency and duration of rainfall events are probabilistic variables, it is not possible to design a controlled drainage area that will never discharge into the external environment, but rather, it should only discharge under exceptional circumstances at what has been determined to be an acceptable design frequency (e.g. average recurrence intervals of 10, 20 or 50 years). In this proposed development the probability has been based on a 25 year average recurrence interval (ARI) of 25 years.

It is not expected that the holding dam will have a volume of water throughout the year that would be capable of providing continual irrigation to the 4 hectare irrigation area. It should also be noted that a significant buffer distance of 200metres is proposed from the irrigation area to the nearest watercourse.

A ribbon test was conducted by Council's Environmental Health Officer within 2 locations on the premises. This ribbon test identified that medium to heavy clays were present below 300mm. A inspection was conducted of the dams located on the premises, of which the walls had been constructed of this 3rd soil horizon, no leaking of these dam walls was identified.Council is satisfied the Project is designed and appropriate mitigation measures will be adopted to ensure potential surface water quality impacts are managed to a high standard during both the construction and operation of the proposal.

Flora & Fauna

Part 7 of the BC Act provides the environmental assessment requirements for activities being assessed under the EP&A Act. If a significant impact is likely, the environmental assessment is to be accompanied by a Species Impact Statement.

Threatened species and communities listed under this Act were identified as potentially occurring at the Site and is provided in Appendix A within the development application. A Test of Significance was undertaken for these matters and concluded that a significant impact is not likely to result and therefore neither a Species Impact Statement nor Biodiversity Development Assessment Report is required. The Test of Significance undertaken by the Proponent included database searches, literature reviews and site inspection to assess the potential ecological impacts of the Project. Through completion of the assessments of significance in accordance with section 7.2 of the Biodiversity Conservation Act 2016, it is considered there would be no impact to threatened species, populations or ecological communities as a result of the development proceeding.

Upon inspection of the Site by Council, it was confirmed the land to be developed has been extensively cleared and modified for agricultural purposes, specifically grazing and broad acre cropping. No threatened flora or fauna species were detected at the Site and they are considered unlikely to occur within the feedlot footprint due to the disturbed nature of the land and unsuitable habitats.

During the construction phase, disturbance from earthworks associated with the construction of the feedlot is expected to be minimal and no trees or remnant vegetation will be removed or impacted as a result of the proposed works. During the operational phase, all activities associated with the feedlot will be undertaken within a controlled drainage area with purposely designed erosion and sedimentation control earthworks, to ensure there will be no release of sediment or effluent outside the feedlot footprint. Council is satisfied there would be no residual impacts of the Project to threatened species or ecological communities. Potential impacts to biodiversity can be managed through appropriate mitigation measures as outlined above. Further assessment of the potential impacts to flora and fauna can be found within the body of the 4.15 assessment report.

Biosecurity

The submission includes matters relating to animal biosecurity for adjoining properties as well as zoonotic diseases, which are diseases that can be passed from animal to humans. Matters pertaining to farm biosecurity and restrictions on livestock movements within NSW are regulated and reported through the NSW Department of Primary Industries. The activities of bringing in livestock from other farms are not unlike current farming practices and are regulated through the provision of appropriate permits and livestock movement statements. The development and operation of a feedlot that uses livestock from varying sources is not unlike current extensive grazing activities and is not considered to pose any increase in risk or threat to adjoining rural enterprises. Furthermore, there is no evidence or literature to support that rate of transmission of zoonotic diseases would increase as a result of the development proceeding and those people involved in agricultural activities, particularly raising cattle, or close to cattle grazing or handling areas should already be vaccinated against transmission of diseases such as Q-fever.

Animal Welfare

The submission has raised the issue of animal welfare and pen size in relation to the plans provided to Council. The proponent has nominate a total area of 12 m^2 per head which is slightly less than the National Guidelines recommended stocking density which nominated a recommendation of 15m2 per head. The proposed pen size are considered adequate in this instance, Council acknowledges the facility will rarely be at maximum capacity and based on the information provided, the feedlot is designed to operate as a backgrounding yard to prepare livestock for other feedlot facilities where they will be finished prior to slaughter. Individual cattle in the facility will rarely exceed 500kg per unit which is considered to be a small beast and therefore would be able to be housed at 12m2 per head. The Proponent states that the welfare of cattle is an important consideration to maximise cattle growth and productivity therefore the proposed feedlot has been designed and would be operated to ensure that the health and well being of animals is maintained. It is a condition of consent that the feedlot would be operated in accordance with the requirements of NSW Department of Primary Industries as well as the National Guidelines for cattle and sheep feedlots in Australia.

Specialised consultants and independent assessment

The submission suggests that the information and data submitted was incomplete and/or inaccurate and that the application should be reviewed by an independent consultant rather than Council.

The application and supporting documentation was submitted for Council's consideration. Council is bound to assess each application lodged against the relevant heads of consideration under Section 4.15 of the *Environmental Planning and Assessment Act 1979*. The supporting documentation was prepared by an independent consultant commissioned by the land owner and there is no additional requirement to have a further independent consultant review the application, this is Council's role as the Consent Authority.

In this regard, the application has been assessed by staff with the relevant qualifications in the appropriate fields. Council's Town Planner is suitably qualified to assess the development under Section 4.15 of the *Environmental Planning and Assessment Act 1979.* Furthermore, the application was referred to Council's Environmental Health Officer and Development Engineer for their expert assessments of matters related to odour, noise and traffic. That being the case it is considered that the application has been fully assessed by staff with the appropriate knowledge and expertise in their field.

Summary of matters raised in late submission received 26 October 2020

1. **Council not following due process:**

   Matter addressed above within addendum to Council's assessment report.

2. **Specialised consultants:**

   Matter addressed above within addendum to Council's assessment report.

3. **Previous feedlot DA rejected:**

   The rejection of a previous DA on the subject land is not a matter for consideration under s4.15 of the *EP&A Act 1979* and does not prevent any further applications for the same use. As such, Council's assessment has been undertaken for the current proposal which is within the attachments to the Report.

4. **Water Pollution:**

   Matter addressed above and within Council's assessment report.

5. **Independent Assessment:**

   Matter addressed above within addendum to Council's assessment report.

6. **Topographical maps:**

   Council's Environmental Officer was able to access detailed topographic maps of the Site via Council's mapping system and NSW SEED data to do a thorough assessment of the environmental impacts of the development and review the surface water run-off calculations prepared by the proponent.

7. **Hadley:**

   The consolidation of the lots is required as a condition of consent prior to the feedlot commencing. Council is satisfied that this is the appropriate time for consolidation of the lots.

8. **National Feedlot Accreditation Scheme:**

   The Applicant has advised that they may apply for accreditation to the Scheme. In this regard, it is noted these are guidelines only and that there is no mechanism that a feedlot is actually required to be accredited under the National Scheme.

9. **Pen sizes do not meet DPI guidelines:**

   Matter addressed above within addendum to Council's assessment report. Furthermore, it is again advised that these requirements are guidelines suggested by DPI and are not mandatory. In this regard, Council's role with this proposal is to assess the development and

land use itself and matters such as animal welfare are not a matter for consideration under s4.15 of the *EP&A Act 1979* rather it is a matter for DPI and RSPCA.

10. Drainage systems do not meet DPI guidelines:

Matter addressed above and within Council's assessment report. Again DPI documentation are guidelines not mandatory.

11. Holding/sedimentation pond capacity:

Matter addressed above and within Council's assessment report.

12. Irrigation:

Matter addressed above within addendum to Council's assessment report.

13. Soil:

Matter addressed above within addendum to Council's assessment report.

14. Department of Urban Affairs and Planning:

The proposed development is of a scale that does not warrant an EIS. Furthermore, the Applicant has submitted the proposal for the use of the subject land as proposed and Council has considered and assessed the development accordingly.

15. Environmental management plan:

Council Officers consider that an EMP is not required in this instance. In this regard, there are other pieces of legislation available that enable Council to satisfactorily manage any issues of concern that may arise in the future related to ongoing management and operation of the facility.

16. Risk to human health:

Matter addressed above within addendum to Council's assessment report.

17. Endangered Bells Turtle:

Matter addressed above and within Council's assessment report.

18. Generational Tenterden farming families:

Note a matter for consideration under s4.15 of the EP&A Act 1979.

19. Armidale DA checklist:

Council is satisfied that the information submitted with the application and additional information requested that sufficient documentation has been provided to enable Council to satisfactorily assess and determine the development.

20. DPI composting process:

These are guidelines suggested by DPI and it will be the applicant's responsibility to comply with any Worksafe requirements in regards to handling potentially contaminated and/or hazardous goods/materials.

21. Biosecurity:

Matter addressed above within addendum to Council's assessment report.

22. Separation distances:

Council is satisfied that adequate separation distances are provided between the proposed feedlot itself and any non related sensitive receptors.

23. Previous water testing:

Noted, but was this reported to either Council or EPA?

24. Complaints/Questions:

Council and/or the EPA are the relevant complaints authorities related to odour, noise and water matters.

25. Operations EMP:

Matters addressed above.

26. Professional advice:

Matter addressed above within addendum to Council's assessment report.

27. Land and Environment Court:

Noted

NOTICE OF DETERMINATION OF A DEVELOPMENT APPLICATION

issued under the *Environmental Planning and Assessment Act 1979* Section 4.18(1)(a)

DEVELOPMENT APPLICATION NO:	DA-77-2020

LAND TO BE DEVELOPED	
PROPERTY ADDRESS:	1075 Tenterden Road TENTERDEN NSW 2365
LEGAL DESCRIPTION:	Lot 51 DP 753669

PROPOSED DEVELOPMENT (This consent is issued in respect of the following matters)	
DEVELOPMENT DESCRIPTION:	Intensive livestock agriculture - Feedlot (999 head cattle or 3999 head sheep)
DETERMINATION:	Approved subject to Conditions
MADE ON:	28 September 2020
CONSENT TO OPERATE FROM:	28 September 2020
CONSENT TO LAPSE ON: (If development is not physically commenced by this date)	28 September 2025

CONDITIONS ATTACHED TO DEVELOPMENT CONSENT NO. DA-77-2020

Please read all conditions carefully. The applicant/developer may arrange to meet with Council to review and clarify, if necessary, the precise requirements of the conditions of this consent.

Note: A copy of all conditions contained in this consent are to be provided to contractors and subcontractors working on the site, to ensure all work is carried out in accordance with this consent.

GENERAL CONDITIONS

1. To ensure this development is consistent with Council's consent, the development must take place in accordance with the approved plans (bearing the Council approval stamp); and all other documents submitted with the application, subject to the consent conditions in this notice. In the event of any inconsistency between the approved plans and the conditions of this consent, the conditions shall prevail.

   The approved plans/documents are attached to this consent notice and are listed below:

Plan Drawer	Report Title/Plan Title	Date
SMK Consultants	Statement of Environmental Effects	October 2019
	Air Quality Impact Assessment	September 2019
	Appendix 2 Effluent Management and Runoff Calculations	Undated
	Site/Topographic Plan for Concept Feedlot Location in Respects to Creek Buffer Zone	20 August 2020

   ADVISING: Further consent may be required for any change, enlargement or intensification of the premises or land use, including the display / erection of any new structure such as signage, partition walls or building fit-out (unless the proposed work is exempt from the need for consent). Please check with Council before commencement.

2. The Proponent shall ensure that all necessary licenses, permits and approvals are obtained and renewed as required throughout the life of the feedlot. This Consent does not remove the obligation for the proponent to obtain, renew or comply with such licenses, permits or approvals. The Proponent shall ensure that all staff and contractors are aware of and comply with the conditions of consent and any other relevant approvals.

3. The construction and operation of the feedlot is to be conducted in accordance with the approved site plan prepared by *SMK Consultants – Site/Topographic Plan for concept Feedlot Location in Respects to Creek Buffer Zone* – dated 20 August 2020.

4. The total number of cattle accommodated within the feedlot pens on the premise must not exceed 999 at any time. Otherwise, the total number of sheep accommodated within the feedlot pens on the premise must not exceed 3,999 at any time.

5. This development consent does not give permission for clearing of any native vegetation.

   ADVISING: Prior to undertaking any native vegetation management, including clearing on your property, it is important to check if approval is required from NSW Local Land Services and/or Council.

PRIOR TO COMMENCEMENT

6. Evidence must be provided to Armidale Regional Council confirming that the consolidation of LOT 61 DP753679, 125 Moredun Dams Road TENTERDEN and Lot 51 DP 753669, 1075 Tenterden Road TENTERDEN has occurred and been registered . This is to ensure that the property is not sold to a person whom is not associated with the operation of the feedlot, thus causing this property to become a sensitive receiver in terms of odour and noise.

7. An inspection must be conducted by Council's Environmental Health Officer to ensure that the development is per the approved plans and all environmental management considerations will be met.

8. Effluent catch drains and a sedimentation pond shall be designed and constructed in accordance with the relevant design specifications under the *National Guidelines for Beef Cattle Feedlots in Australia* 3rd Edition, published by Meat & Livestock Australia in June 2012.

   ADVISING: Failure to take effective action may render the developer liable to prosecution under the NSW Protection of the Environment Operations Act.

DURING CONSTRUCTION

10. Effective dust control measures to be implemented and maintained during the construction phase to maintain public safety and amenity. Vehicle speed will be limited to 40km/hr on unsealed internal roads to reduce dust generation during hot dry and windy conditions. When necessary, dust is to be supressed by a water cart/truck, especially during periods of increased vehicle movements at the Site.

    ADVISING: Failure to take effective action may render the developer liable to prosecution under the NSW Protection of the Environment Operations Act.

11. The hours of any building work are to be restricted to between 7.00am and 6.00pm on Monday to Friday and 8.00am to 1.00pm on Saturdays, to maintain the amenity of the locality.

    Any proposed building work to be undertaken outside these hours or on Public Holidays must be the subject of prior written agreement from Council - consideration may be given to special circumstances and non-audible work if applicable.

    ADVISING: Breaches of this condition may result in the issuing of a Penalty Infringement Notice or prosecution.

OPERATIONAL MATTERS

13. The development is to be carried-out in accordance with the current edition of the National Guidelines for Beef Cattle Feedlots in Australia and National Beef Cattle Feedlot Environmental Code of Practice at all times to ensure compliance with the industry standards and all other relevant environmental, animal welfare and food safety legislation.

14. To mitigate any visual impacts that may arise from the development, any outdoor lighting that is installed shall comply with the following Australian Standards; AS1158.1.1 (1997 – Lighting for Roads and Public Spaces Vehicular Traffic) and AS4282 (1997- Control of the Obtrusive Effects of Outdoor Lighting).

15. The feedlot shall operate in accordance with the current edition of the *Australian Animal Welfare Standards and Guidelines for Cattle and Sheep*, to ensure a high level of animal health and welfare is maintained at all times.

16. All operations and activities associated with the feedlot must be carried out in a manner that will minimise emissions of dust from the premise. Movement of solids to be carried out in weather conditions which minimise emission of dust.

17. All operations and activities shall be undertaken to mitigate offensive odour for the purposed of the POEO Act 1997. Management must prevent the potential offensive odours impacts upon non-associated receptors. Irrigation of effluent is not to be conducted during high wind events or wet weather to protect the amenity of non-associated receptors.

    In the event of ongoing substantiated odour complaints relating to the development being received by Council, the Proponent will be required by Council to engage the services of a suitably qualified air and odour consultant to undertake a odour impact assessment upon the developments activities to address the effect of the development upon the affected residential receivers and outline suitable recommendations to address the odour impacts. The report shall be forwarded to Armidale Regional Council for review and acceptance.

18. The Proponent shall ensure that all activities associated with the operation of the feedlot, including the use of earthmoving machinery and heavy vehicle movements, are conducted in a manner that does not give rise to noise complaints under the POEO Act 1997.

    In the event of ongoing substantiated noise complaints relating to the development being received by Council, the Proponent will be required by Council to engage the services of a suitably qualified acoustic consultant to undertake a noise impact assessment upon the developments activities to address the effect of the development upon the affected residential receivers and outline suitable recommendations to address the noise impacts. The report shall be forwarded to Armidale Regional Council for review and acceptance.

19. A 200m buffer distance (minimum) is to be maintained between all aspects of the feedlot and the environmentally sensitive area of Kangaroo creek at all times. Grass surrounding sedimentation ponds, holding ponds, feedlot drains, chains and pen areas should be trimmed regularly to keep levels low to prevent fly population growth

20. All feedlot drainage channels are to have adequate slope so that solids do not settle in the drain, and hard surfaces maintained to prevent scouring. The sedimentation basin is to be routinely cleaned and maintained to a high standard so there is adequate capacity for settling solids from inflow events.

21. Manure stockpiles shall be maintained within a controlled drainage area to prevent external run-off. Management shall also prevent spontaneous combustion. Manure and effluent shall be applied to utilisation areas in a safe manner, at rates that maintain an acceptable nutrient balance and be incorporated as soon as practicable. Manure and effluent shall not reach neighbouring properties

or enter any natural watercourse at any time. Effluent ponds shall be regularly maintained to ensure they work efficiently.

Manure stockpiles are to be stored as far away from non-associated receptors as practicable so that they are not highly visible and there is no detection of odour from stockpiles on neighbouring properties.

The spreading of manure on the property shall be conducted in such a way that impacts from dust and odour are appropriately managed. The required measures include having an adequate setback from adjoining landholder's fence lines and not spreading manure on windy days where the direction of the wind is likely to carry dust and odour to neighbouring residences.

22. Mortality pits shall be designed in a manner that will not contaminate ground water (soil shall be impermeable to water or create an impermeable pit with at least 1.5 metres to groundwater). When placed in the pit carcases shall be covered in sufficient soil (at least 1 metre) to prevent odour, flies and pest animals (for example foxes and crows) being able to access the carcases. Rendering plants or composting procedure may also be utilised. Stormwater runoff must be diverted from the carcass disposal area at all times so as to ensure no surface water runoff occurs within environmentally sensitive areas.

23. Records shall be kept and maintained onsite for the day-to-day operations, including: incoming and outgoing stock numbers; pen cleaning activity; areas used for effluent and manure application and the rates of application; amount of manure removed; stock deaths and associated disposal.

24. The Proponent shall create and maintain a register of all complaints received regarding the impact of the feedlot facilities. This register must include: all responses and any measures taken to redress any perceived problems; time and date details; name and contact details of complaints (if known) and those responsible for investigating the complaint; climatic conditions associated with the complaint.

ADVICE

Where archaeological relics are discovered during excavation, work must cease in the affected area pending investigation and assessment of its heritage value.

Aboriginal relics are to be referred to the National Parks and Wildlife Service (NPWS) and objects of non-Aboriginal settlement are to be bought to the attention of the Heritage Council.

For further information go to the NPWS Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW (available online) and/or the Heritage Council.

OTHER APPROVALS/CONSENTS

Local Government Act 1993 - approvals granted under Section 4.12(3) and (5) of the Environmental Planning and Assessment Act 1979: Nil

John Goodall
Coordinator Development, Planning & Environment **Date:** 28 September 2020

Applies to:	Planning and Environment (Environmental Health)
Responsible Stream:	Service Delivery
Responsible Officers:	Manager Development & Regulatory Services, Planning & Environment , Environmental Health & Building Surveyor , Environmental Health Officer
Legislation	Protection of the Environment Operations Act 1997 Protection of the Environment (Clean Air) Regulation 2010
Adoption Date/History:	*Version I – 22 October 2012* *Version VII November 2020*
CEO Approval Date	XX Month Year
TRIM File Number:	TBA
Review Date:	November 2022

1. PURPOSE

This Policy provides a framework for the consideration of proposal for the burning of cut and stacked vegetation (pile burn) within the Armidale Regional Council Local Government Area.

2. APPLICATION

Where Council grants approval to burn, the approval is giving permission to pollute and is not giving permission to light a fire. Additional information should also be gained from the NSW Rural Fire Service or NSW Fire and Rescue about approvals required from those agencies.

3. POLICY INTENT

The *Protection of the Environmental Operations (Clean Air) Regulation 2010* and *Rural Fires Act 1997* regulate the burning of materials in New South Wales.

Under cl.13 of the *Protection of the Environmental Operations (Clean Air) Regulation 2010*, approvals to burn may be granted by Armidale Regional Council for the '*burning of dead and dry vegetation on the premises from which the vegetation grew'.* All other approvals to burn can only be granted by the Environment Protection Authority (EPA).

NOTE:
The Protection of the Environment Operations (Clean Air) Regulation 2010:

- *Requires anyone who burns anything in the open or in an incinerator to do so in a manner that prevents or minimises air pollution (Clause 13(3))*
- *Prohibits the burning of tyres, coated wire, paint or solvent containers and residues, and timber treated with copper chromium arsenate or pentachlorophenol (Clause 11)*
- *Controls the burning of domestic waste and vegetation (Clause 12)*
- *Permits agricultural, cooking and recreational fires in certain circumstances. (Clause 12(4))*
- *Prohibits the burning of domestic waste without approval where there is a domestic waste collection service available (Schedule 8)*

The main objectives of this policy are:

- To improve ambient air quality in Armidale's urban area.
- To implement this Policy in a manner which is fair to our community, balancing consideration of local Climate, environment sustainability and community health.
- To encourage the re-use of green waste at Council's waste transfer station and recycling facilities.
- To address Council's statutory responsibilities in relation to pile burning.
- To allow burning where there is no reasonable alternative to dispose of dead and dry vegetation on the premises from which the vegetation grew.

4. COMMUNITY STRATEGIC PLAN OBJECTIVES

To implement Strategic Goal 5E-1.3 of the Armidale Community Strategic Plan 2011-2026 – " To reduce wood smoke pollution in Armidale urban area in order to meet national fine particle (PM 2.5) air quality standards".

5. POLICY

Armidale Regional Council requires that other alternatives to pile burning of vegetation within the "Armidale urban area" (see definition below) should be considered. These are preferred before an application for a permit to burn is submitted for assessment or blanket approval applies under this policy.

Burning in the Armidale urban area

No pile burning allowed within the Armidale urban area.

> ***NOTE:***
> *The Rural Fires Act 1997:*
> *This Act regulates the lighting of fires. If the lighting of any fire is to occur during the bush fire danger period or is likely to cause harm to any building, a permit from either the NSW Rural Fire Service or NSW Fire and Rescue is required (depending on the location of the fire). The purpose of this permit is to provide for the safe use of fire. The lighting of any open fire is prohibited by the declaration of a Total Fire Ban by the Commissioner of the NSW Rural Fire Service or on days when the Fire Danger Rating for the New England area is VERY HIGH OR ABOVE.* (Information on Fire Danger Ratings and Total Fire Bans can be obtained from www.rfs.nsw.gov.au or by calling 1800 679 737). It is the responsibility of any person lighting a fire to determine if a prohibition is in force.

Applications to pile burn within the Armidale urban area are rarely granted as there is a green waste collection service and a waste transfer station that receives green waste for a charge listed in Council's Operational Plan. Additionally it is expected that urban landowners will manage their land such that large piles will not be removed by burning.

Certain recreational and cooking fires do not require Council approval in accordance with the *Protection of the Environment Operations (Clean Air) Regulation 2010*. As a guide for the purposes of this Policy, recreational or cooking fires consist of dry seasoned wood or proprietary BBQ fuel less than 1 metre in diameter and 1 metre in height. Any larger fires must be discussed with Council's Environmental Health Officers. No prohibited items under the Regulation (eg tyres) are to be burnt in any case.

The Armidale urban area is defined for this purpose as the following land use zones in Council's Local Environmental Plan 2012:

- R1 General Residential
- R2 Low Density Residential
- B2 Local Centre
- B3 Commercial Core
- B4 Mixed Use
- B5 Business Development
- B7 Business Park
- E4 Environmental Living
- IN1 General Industrial
- IN2 Light Industrial
- SP2 Infrastructure zone
- RE1 Public Recreation
- RE2 Private Recreation

Burning in Rural Areas including Guyra

'Blanket approval':

A 'blanket approval' is available for properties that are not located within the Armidale urban area as defined above.

As required by cl.10 of the Regulation, at all times burning must be carried out *"by such practical means necessary to prevent or minimise air pollution".* The potential for smoke impacting on any person due to wind direction and weather conditions must be taken into account.

Enforcement actions for not complying with the conditions in this Policy or lighting fires without approval are listed at the end of this document.

The blanket approval is granted only when Requirements 1 and 2 below are met.

Requirement 1 - Before burning

a) The person responsible for the burn must consider:
- Can they avoid the burning altogether? Consider other options. Is mechanical clearing possible? Is vegetation destruction essential? Have alternatives such as mulching been considered?
- If persistent pesticides have been applied to the biomass, burning should be avoided.

b) Burning must **NOT** include:
- Matter other than dead and dry vegetation grown on the property.
- Grass clippings and leaves.
- Any vegetation, where necessary Council and/or other relevant agency approvals have not been obtained (eg vegetation subject to Council or State Government tree preservation controls).

Requirement 2 - Blanket Approval Conditions

a) The person responsible for the burn must conduct the burn in accordance with the *NSW Rural Fire Service* 'Standards for Pile Burning' and 'Before You Light That Fire' documents as available from www.rfs.nsw.gov.au

b) The person must undertake the following prior to burning:
- If open burning cannot be avoided, choose weather conditions likely to be favourable for both fire control and pollution dispersion.
- In the event of a total fire ban or a fire danger rating of very high or above being declared, this approval is suspended. Any existing fire is to be extinguished and cannot be re-commenced until the fire ban is lifted and the fire danger rating recedes below Very High.
- In the event of a no burn day being declared by the EPA, this approval is suspended for the duration of the declaration. When a No Burn Notice is issued, it applies to the lighting of new fires in the declared areas. Existing fires should be allowed to continue as extinguishing them would result in more smoke. No Burn Notices are usually available from 4pm the day before they come into effect. Information is available by calling 131 555 or via the OEH website http://www.environment.nsw.gov.au/air/aboutnb.htm.

- This permit is subject to variation, suspension or revocation by Council's authorised officers, either verbally or in writing should the conditions of this blanket approval not be complied with.

c) The person responsible for the burn must undertake the following during burning:
- Persons lighting fires in proximity to main roads or highways must ensure the safety of the road users from smoke hazards or other hazards associated with the fire. Before lighting, the wind direction should be favourable to prevent these hazards.

- A responsible supervising adult over the age of 18 shall be available to monitor the fire periodically with enough water to extinguish the fire, if required, for the time the fire is active. Any direction or condition issued by a fire authority supersedes this requirement.

d) The person responsible for the burn must undertake the following after burning:

- Any residue waste from the burning must be disposed of in an environmentally satisfactory manner and in accordance with *Protection of the Environment Operations Act 1997* and *Protection of the Environment Operations (Waste) Regulation 2005*. On completion of the burn, the burnt area must be maintained in a condition that minimises or prevents the emission of dust and prevents sediment or ash from fires being washed from the area into surrounding waterways (natural or constructed).

Special Circumstances:

If any conditions in this Policy cannot be complied with, a proposal may be presented to the General Manager or delegated officer for determination. A report is to be prepared by an authorised officer to provide information to the General Manager or delegated officer to assist in the determination. The preparation of this report shall incur an hourly fee for "Development/activity-related information services" in the Council's annual schedule of fees. This is to be paid at the time of lodgement of an application to gain approval to pile burn, based on the officer's estimated processing time. Any unexpended fees will be refunded. Payment of fees will not guarantee that approval will be granted.

Notes:

The exhibition of this document and review of submissions prior to its adoption is considered to satisfy Clause 13 (3d) and (3e) of the Protection of the Environment Operations (Clean Air) Regulation 2010.

Due to the restrictions this Policy will place on the residents in the Local Government Area, there will be a transitional period of twelve months after this Policy has been adopted. During this period there will be increased awareness made of this Policy through the media and education resources. Applications made during this period will be assessed by the Environmental Health Officer on a case by case basis using the criteria described above.

Enforcement

An authorised officer of Council or of the EPA can issue directions to extinguish a fire and not to light or maintain a similar fire at a premise for a period of up to 48 hours in accordance with Section 134 of the *Protection of the Environment Operations Act 1997* if:

1. The fire is prohibited by an order of the EPA under Section 133 of the Act, or;
2. Air pollution from the fire is injurious to the health of any person, or is causing or likely to cause serious discomfort or inconvenience to any person.

The authorised officer may give this direction to:

- The occupier of the premises, or;
- The person apparently in charge of the premises, or;
- The person apparently in charge of the fire.

A direction to extinguish a fire, and not to light or maintain a similar fire at premises for a period of up to 48 hours, overrides any approval for certain fires or incinerators granted under the Regulation.

Note - Penalties:
A person who, with out reasonable excuse does not comply with an order or notice (as stated above) is guilty of an offence, Maximum Penalty 30 Penalty units (Protection of the Environment Operations Act 1997 s.135).
The burning of vegetation in the Armidale Dumaresq LGA without approval may incur a Maximum Penalty of 100 Penalty Units (Corporation) and 50 Penalty Units (Individual). This excludes exempt fires as described in the background section of this policy, as per the Protection of the Environment Operations (Clean Air) Regulation 2010 cl.12. At the time of writing a penalty unit is $110.00.

6. LEGISLATIVE REQUIREMENTS

Protection of the Environment Operations Act 1997

Protection of the Environment Operations Act (Clean Air) Regulation 2010

Rural Fires Act 1997

Associated documents:

POL 134 Policy for sustainable Domestic Energy Use and Local Air Quality (incorporation Local Approvals Policy for Solid Fuel Heaters).

NSW Rural Fire Service “Standards for Pile Burning”

NSW Rural Fire Service “Before you light that Fire:”


ARMIDALE URBAN AREA
LEGEND
Armidale Urban Area (Sourced: ADC LEP 2012)
Parcel Boundary
Road Centre Line
Railway Line
Date : February 2013
Note: Zones may be subject to future LEP Amendments
N
0
1,000
METRES
STONY RIDGE RD
CLUNY RD
BOORALONG RD
OLD RIVERVIEW RD
BUNDARRA RD
COONES RD
GRAFTON RD
CASTLEDOYLE RD
LONG SWAMP RD
DAMMAREE DR
OLD POSTHWY CK RD
KELLYS PLAINS RD
MOUNTAINSIDE DR

Dumaresq Dam Wall Upgrading
Project Costs

The on-going cost of the Dumaresq Dam Wall project comprises the construction contract, project management, site supervision and miscellaneous other costs as set out in the table below. All costs shown are exclusive of GST.

Description of Activity	**Cost**
Contract cost as submitted	$5,096,834
Contingency: 15% as per Department of Planning, Industry and Environment recommendation	$764,525
Project and Site Management Services	$300,000
Site Works Inspection	$275,000
Design Liaison and Design Site Inspection	$120,000
Expert Reviewer	$180,000
Project Overview: Armidale Regional Council	$20,000
Legal Advice	$10,000
Additional security and management of Dumaresq Dam reservoir recreational activities	$80,000
Miscellaneous other costs	$70,000
Total Project Cost	**$6,916,359**

McArdle and Sons
Arboricultural Services

A National Tree Amenity Industry Body

Tree Assessment Report

PREPARED FOR:

Armidale Regional Council

SECTION 1

Back Kempsey Road Segment 38-19

ARC Project Manager: Sreejan Tarafder

Email: Starafder@armidale.nsw.gov.au

Mobile: 0448 557 603

Inspection Date: 7th to 9th April 2020 Report
Date: 7th May 2020 (Version 12)
Reviewed Inspection Date: 21st July 2020

Amended GPS : 9/11/2020 (Version 16)

PREPARED BY
McArdle and Sons Arboricultural Services Pty Ltd *(since 1956)*

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Dan McArdle
AQF5 Dip Arboriculture; Dip Agriculture
AQF 3 Trade Arborist
License No: TCAA 99/1003/19

Table of Contents

1.0 SUMMARY

1.1 Armidale Regional Council has commissioned a review of the Tree Risk Assessment Report relating fire damaged trees(and to include soil erosion and flood effected trees) located up to approximately 30m from the road edge of the Back Kempsey Rd from the start of segment 38 proceeding to Segment 19 at Lower Creek approximately 25.3km. The initial collection of data was conducted on the 18th to 20th March and 7th and 8th April

1.2 A review and update of this report was completed in line with the recommendations on the 21st July 2020

1.3 McArdle and Sons Arboricultural Services Pty Ltd prepared the report. AQF Level 5 Arborists, Dan McArdle, Jim McArdle, Aaron Erbacher, Mitch Merino and Rohen Bainbridge conducted the initial inspections and data collection based on using Visual Tree Assessment (VTA) method and best industry practices.

2.0 AIMS The aim of this report is to:

1.0 To inspect fire damage trees both side of the Back Kempsey Rd and document trees that pose a risk of failure impacting the carriage way and give a professional opinion and management of these trees to reduce the risk to as low as reasonably possible(ALARP).

2.0 Retaining habitat tree where possible by remedial action that is cost effective.

3.0 Indicate specific trees that require urgent remediation of the hazard.

4.0 Review trees impacted by soil erosion and flood.(new inclusion)

5.0 Audit remediation's recommendations.(new inclusion)

3.0 IN BRIEF

3.1 Approximately 25.3km of roadside trees have been inspected starting (SECTION 1) starting at Segment 38 and concluding at Segment 19, Trees that have an impacted by the fire were inspected for structural concern that may be a hazard to the carriage way and users. The initial inspection was undertaken on the 18th to the 20th of March and the 7th and 8th April 2020.The latest review was undertaken on the 21st of July 2020 and includes soil erosion, flood damage affected trees with audit of completed actions recommended.

3.2 Each tree assigned a tag and number GPS located, pink tape and white pain mark was used to identify the tree, and the data documented in the Tree Survey of this report, remediation action of any hazard that has been determined to cause a potential risk to the carriage way and users are recommended.

3.3 Tree numbers run in consecutive numbers from Water Fall Way end with Left or right side indicated in the tree survey in segment sections.

3.3 Habitat hollows have been noted in trees and identified for possible retention where practical and this is dependent on the work method the contractor will use to conduct safe operations. Tree species has been generalized as Eucalyptus Species only.

3.4 Conclusions page 82. Priority work is governed by the degree of risk specified and time frames for remediation work to be completed.

Please contact our office on 67 69 0373 or our mobile 0418165650 for any further information regarding this report.

Regards

Consulting Arborist

Dan McArdle *Dip. Arb ; Dip. Ag*

4.0 INTRODUCTION

4.1 Armidale Regional Council has commissioned a Tree Risk Assessment Report relating fire flood damaged trees located approximately 30m from the road edge of the Back Kempsey Rd from the start of Segment 38 to Segment 19 Lower Creek Village approximately 25.3km.

4.2 McArdle and Sons Arboricultural Services Pty Ltd senior consulting arborist prepared this report. AQF Level 5 Arborists, Dan McArdle, Jim McArdle, Aaron Erbacher, Mitch Merino and Rohen Bainbridge conducted the inspections and data collection using Visual Tree Assessment (VTA) method and best industry practices. The systems are in accordance with industry best practice and impact assessments are based upon the Australian Standards, Risk Management ISO 3100-2009 and guidelines set down by TCAA of Australia.

AIMS The aim of this report is to:

6.0 To inspect fire damage trees both side of the Back Kempsey Rd and document trees that pose a risk of failure impacting the carriage way and give a professional opinion and management of these trees to reduce the risk to as low as reasonably possible(ALARP).

7.0 Retaining habitat tree where possible by remedial action that is cost effective.

8.0 Indicate specific trees that require urgent remediation of the hazard.

9.0 Review trees impacted by soil erosion and flood.(new inclusion)

10.0 Audit remediation's recommendations.(new inclusion)

5.0 LIMITS OF THIS REPORT

The inspection was conducted from the ground, visual observation only with no testing undertaken other than described in the Inspection Methodology, where trees have been observed to contain cavities or structural related problems I have used my best judgment based on 30 years of tree working experience to decide the appropriate remediation action as opposed to utilizing expensive testing equipment such as radar imaging or *Resistograph IML* drilling technology.

Identification of the different species has been made difficult with the fire damage, I have concluded that using *Eucalyptus Species* as means of conserving time during the process of inspection. Under normal circumstances I would positively identify and use the Botanical names of eachspecies.
Photos have been taken and included in this report, some trees may not be included due to focus issues.
The day of the inspections the skies were overcast and some visual canopy faults may have been overlooked.
This report is relevant to the date of the inspection undertaken and would suggest reviewing the site in several month time or after significant rainfall events.*(This review has been completed 21st July 2020)*
Tree Risk Assessment (TRA) rating has been documented in the TRA in the Tree Assessment Table for the trees inspected, the structural condition was the focus from fire damage, however I have used this principle (Appendix D) to ascertain the tree's potential of failure as a basis of my remediation action recommended.
Habitat trees are described as indicator by existing hollows and any positive identification would require the Ecologist to verify if required.
Ground that was to unstable to gain access to the trees was experienced in Segment 11, trees in the segment was reliant on visual aids from the road and assist marking with White Paint dot on the bank with also ribbon indicator.

6.0 INSPECTION METHODOLOGY

6.1 The collection of data is performed in the field by an AQF Level 5 arborist. The level 3 assessment summaries the species, height and diameter, the trees health and structural condition for each tree's hazards, Tree's useful life expectancy and retention categories were assigned to each tree.

6.2 Testing on site may include:
Mallet sounding, and non- invasive testing for hollows, probing cavities, white ant infestation.
All testing is ground based. It should be noted that this Tree Assessment Report cannot be considered final until all aerial inspections have been completed if specified, as these may reveal further defects. This data was recorded in a Tree Survey Table

1. ***Tree Useful Life Expectancy*** *(TULE) (Burrell Approved TCAA use 2014).* The rating of the expected life span of the tree and takes into account age, life span of the species, local environmental conditions, location, and tree safety.

2. ***Health & Structural Condition of Tree Assessment.*** This describes the vigour and vitality of the tree.
3. ***Tree Hazard & Site Assessment.*** This assessment identifies structural defects that predispose a tree to failure located near a target. It is a useful WH&S requirement.

4. Some trees have special restrictions including cultural, historical or threatened category and may be reviewed as part of this report or further reporting.

5. ***Tree Risk assessment tools*** (Appendix D) to determine a risk rating applied to the specific tree location.

7.0 SITE DESCRIPTION (SECTION 1 / SEGMENT 38-19).

7.1 Approximately 25.3 km of road side trees impacted by fire along both sides of the Back Kempsey Rd, the inspection included trees approximately 30m from the road edge.

7.2 The area has been burnt out with some trees producing active epicormics growths regenerating others are dead trees

7.3 Ground vegetation has been destroyed by fire and added to the unstable nature of soil surface on the steep terrain. Several hazards are present from fallen trees or suspended tree stumps exposed by erosion and storm water.

8.0 SITE NOTES (SECTION ONE)

- To assist with identifying the location of the trees assess a white paint marker on the cutting wall and tree, in most cases a pink ribbon on the tree at chest height.
- Where 2 different ribbons are attached these identify that these trees require action urgently.
- GPS locations are approximate and tree descripting should be read to assist identification.

9.0 FINDINGS TREE SURVEY TABLE FROM SEGMENT 38-20

SECTION ONE LEFT SIDE

SEGMENT 38

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
1L	-30° 38 579' 152° 11 833'	*Eucalyptus spp.* Eucalyptus	38	6 x 12	18	75	Mature, with structural damage.	4c	ALARP	Completed
2L	-30° 38 582' 152° 11 834'	*Eucalyptus spp.* Eucalyptus	38	3 x 7	15	40	Immature, with structural damage.	4c	HIGH 1	Remove.
3L	-30° 38 630' 152° 11 823'	*Eucalyptus spp.* Eucalyptus	38	5	10	30	Dead.	4c	HIGH 1	Remove.

SEGMENT 37

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
4L	-30° 39 115' 152° 12 068'	*Eucalyptus spp.* Eucalyptus	37	6	15	38	Dead.	4c	HIGH 1	Remove.
5L	-30° 39 188' 152° 12 132'	*Eucalyptus spp.* Eucalyptus	37	8	16	40	Mature, with structural damage, and a cavity.	4c	HIGH 1	Remove.
6L	-30° 39 220' 152° 12 153'	*Eucalyptus spp.* Eucalyptus	37	10	16	90	Mature, with a cavity, and 40% holding wood.	4c	HIGH 1	Remove.
7L	-30° 39 250' 152° 12 193'	*Eucalyptus spp.* Eucalyptus	37	12	16	120	Mature, with a large cavity at the base, and structural damage.	4c	HIGH 1	Remove.
8L	-30° 39 262' 152° 12 203'	*Eucalyptus spp.* Eucalyptus	37	12	24	150	Mature, with structural damage, 30% holding wood, and a large cavity at the base.	4c	HIGH 1	Remove.
9L	-30° 39 266' 152° 12 213'	*Eucalyptus spp.* Eucalyptus	37	10	18	80	Mature, dead.	4c	HIGH 1	Remove.
10L	-30° 39 294' 152° 12 255'	*Eucalyptus spp.* Eucalyptus	37	3	10	15	Immature, with structural root damage.	4c	HIGH 1	Remove.
11L	-30° 39 288' 152° 12 259'	*Eucalyptus spp.* Eucalyptus	37	8	10	50	Mature, with a large cavity at the base.	4c	HIGH 1	Remove.
12L	-30° 39 357' 152° 12 361'	*Eucalyptus spp.* Eucalyptus	37	6	15	50	Dead.	4c	HIGH 1	Remove.
13L (x 2)	-30° 39 365' 152° 12 364'	*Eucalyptus spp.* Eucalyptus	37	8	18	50	Mature, with a lifted stump.	4c	HIGH 1	Remove.
14L	-30° 39 375' 152° 12 361'	*Eucalyptus spp.* Eucalyptus	37	6	14	50	Mature, with a cavity at the base that extends up to 9m height.	4c	HIGH 1	Remove.
15L	-30° 39 411' 152° 12 342'	*Eucalyptus spp.* Eucalyptus	37	-	12	40	Dead.	4c	HIGH 1	Remove.
16L	-30° 39 417' 152° 12 339'	*Casuarina spp.* She-Oak	37	5	9	30	Mature, with structural damage at the base.	4c	HIGH 1	Remove.
17L (x 3)	-30° 39 450' 152° 12 353'	*Syncarpia glomulifera* Turpentine *Eucalyptus spp.* Eucalyptus	37	3	10	30	Dead Turpentine trees, with large cavities.	4c	HIGH 1	Remove.
18L (x2)	-30° 39 484' 152° 12 380'	*Eucalyptus spp.* Eucalyptus	37	8	18	80	Structural damage, fallen into adjacent tree.	4c	HIGH 1	Remove.
19L	-30° 39 523' 152° 12 327'	*Casuarina spp.* She-Oak	37	6	8	30	Mature, with a cavity.	4c	HIGH 1	Remove.
20L	-30° 39 540' 152° 12 317'	*Eucalyptus spp.* Eucalyptus	37	6	12	50	Mature, with root damage, and a cavity.	4c	HIGH 1	Remove.
21L	-30° 39 540' 152° 12 317'	*Eucalyptus spp.* Eucalyptus	37	6	9	30	Semi-mature, with root damage.	4c	HIGH 1	Remove.

22L	-30° 39 344' 152° 12 305'	*Casuarina spp.* She-Oak	37	3	8	30	Dead.	4c	HIGH 1	Remove.

SEGMENT 36

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
23L (x 4)	-30° 39 554' 152° 12 283'	*Eucalyptus spp.* Eucalyptus	36	30	10	30	Mature to semi-mature, with eroded bark.	4c	ALARP	Completed
24L	-30° 39 575' 152° 12 263'	*Eucalyptus spp.* Eucalyptus	36	7	12	60	Mature, more than 80% dead, with a lean and structural damage.	4c	ALARP	Completed
25L	-30° 39 599' 152° 12 223'	*Eucalyptus spp.* Eucalyptus	36	5	12	40	Mature, good condition but poor development, with a cavity at the base, and 40% hollow.	3d	ALARP	Completed
26L	-30° 39 632' 152° 12 195'	*Eucalyptus spp.* Eucalyptus	36	-	10	70	Mature, with a lean and structural damage.	4c	ALARP	Completed
27L (x2)	-30° 39 641' 152° 12 197'	*Syncarpia glomulifera* Turpentine	36	3	8	30	Semi-mature, with structural damage at the base, and a cavity at 1m height.	4c	HIGH 1	Remove.
28L	-30° 39 673' 152° 12 204'	*Syncarpia glomulifera* Turpentine	36	10	16	90	Mature, with structural damage, 20% hollow, and root damage.	4c	HIGH 1	Remove.
29L	-30° 39 690' 152° 12 114'	*Eucalyptus spp.* Eucalyptus	36	10	16	80	Mature, with structural damage, a cavity, and 20% holding wood.	4c	ALARP	Completed
30L (x2)	-30° 39 792' 152° 12 105'	*Eucalyptus spp.* Eucalyptus	36	8	10	30/40	Mature, with erosion and structural damage.	4c	ALARP	Completed
31L	-30° 39 806' 152° 12 096'	*Eucalyptus spp.* Eucalyptus	36	3	8	25	Semi-mature, with erosion and structural damage.	4c	ALARP	Completed
32L	-30° 39 821' 152° 12 090'	*Eucalyptus spp.* Eucalyptus	36	1	8	30	Mature, dead.	4c	ALARP	Completed
33L	-30° 39 844' 152° 12 114'	*Eucalyptus spp.* Eucalyptus	36	1	14	40	Mature, with a cavity at the base, and 30% hollow.	4c	ALARP	Completed
34L (x 2)	-30° 39 854' 152° 12 120'	*Eucalyptus spp.* Eucalyptus	36	3	10	30	Mature, with structural damage at the base, and 15% holding wood.	4c	ALARP	Completed
35L	-30° 39 866' 152° 12 117'	*Eucalyptus spp.* Eucalyptus	36	3	8	25	Semi-mature, with structural damage at the base, and 20% holding wood.	4c	ALARP	Completed
36L	-30° 39 876' 152° 12 118'	*Eucalyptus spp.* Eucalyptus	36	1	6	20	Semi-mature, with physical damage at the base.	4c	ALARP	Completed
37L	-30° 39 965' 152° 12 095'	*Eucalyptus spp.* Eucalyptus	36	5	12	35	Mature, in decline, with structural damage, and 10-15% holding wood.	4c	ALARP	Completed
38L	-30° 40 004' 152° 12 075'	*Eucalyptus spp.* Eucalyptus	36	5	10	30	Mature, with erosion.	4c	ALARP	Completed
39L	-30° 40 015' 152° 12 079'	*Eucalyptus spp.* Eucalyptus	36	8	12	60	Mature, with structural damage, a cavity, and 20% holding wood.	4c	ALARP	Completed

SEGMENT 36 CONTINUED

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
40L	-30° 40 020' 152° 12 083'	*Eucalyptus spp.* Eucalyptus	36	6	14	35	Mature, with structural damage, and 20% erosion.	4c	ALARP	Completed
41L	-30° 40 023' 152° 12 083'	*Eucalyptus spp.* Eucalyptus	36	10	14	60	Mature, with structural damage, erosion, and root damage.	4c	ALARP	Completed
42L (x 2)	-30° 40 047' 152° 12 090'	*Casuarina spp.* She-Oak	36	4	9	25	Mature, dead, with structural damage, a cavity, and 25% holding wood.	4c	ALARP	Completed
43L	-30° 40 068' 152° 12 082'	*Eucalyptus spp.* Eucalyptus	36	12	24	90	Mature, with structural damage at the base, and 20% hollow.	4c	ALARP	Completed
44L	-30° 40 086' 152° 12 080'	*Syncarpia glomulifera* Turpentine	36	5	10	30	Semi-mature, with 25% holding wood.	4c	ALARP	Completed
45L (x 2)	-30° 40 113' 152° 12 072'	*Eucalyptus spp.* Eucalyptus	36	6	10	40	Mature, suspect tree.	4c	ALARP	Completed
46L	-30° 40 219' 152° 12 112'	*Eucalyptus spp.* Eucalyptus	36	6	12	45	Mature, with structural damage at the base, and 15% holding wood.	4c	ALARP	Completed

SEGMENT 35

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
47L (x 2)	-30° 40 371' 152° 12 138'	*Eucalyptus spp.* Eucalyptus	35	12	20	60	Mature, with a cavity at the base.	3d	Medium	Monitor.
48L	-30° 40 624' 152° 12 361'	*Eucalyptus pilularis* Blackbutt	35	12	20	50/50	Mature, dead, with structural damage, and a cavity at the base.	4c	ALARP	Completed
49L	-30° 40 674' 152° 12 511'	*Casuarina spp.* She-Oak	35	2	10	25	Dead.	3d	ALARP	Completed
50L	-30° 40 719' 152° 12 596'	*Eucalyptus spp.* Eucalyptus	35	6	10	30	Dead.	3d	ALARP	Completed

SEGMENT 33

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
51L	-30° 41 779' 152° 12 297'	*Eucalyptus spp.* Eucalyptus	33	10	26	70	Mature, with a cavity (70% decay).	4c	HIGH 1	Remove.
52L	-30° 41 834' 152° 12 364'	*Eucalyptus microcorys* Tallowood	33	16	34	75	Mature, with a cavity through the tree.	4c	ALARP	Completed
53L	-30° 41 859' 152° 12 330'	*Eucalyptus saligna* Sydney Blue Gum	33	14	35	50	Mature, with a cavity through the tree.	4c	HIGH 1	Remove.
54L	-30° 41 869' 152° 12 321'	*Species unknown* (stag)	33	-	30	50	Dead.	4c	HIGH 1	Remove.

SEGMENT 32 AND 30

Tree No.	GPS Location	Scientific & Common Name	Segment	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
55L	-30° 42 033' 152° 12 168'	*Eucalyptus spp.* Eucalyptus	32	8	16	30	Mature. Tree suspended.	3d	ALARP	Completed
56L	-30° 42 826' 152° 11 720'	*Eucalyptus spp.* Eucalyptus	30	10	14	60	Dead.	4c	Medium	Remove.
57L	-30° 42 973' 152° 11 661'	*Eucalyptus spp.* Eucalyptus	30	15	15	60	Dead, with structural damage.	4c	ALARP	Completed

SEGMENT 29

Tree no.	GPS Location	Scientific& Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	TRA	Intervention (Specification)
58L	-30° 43 123' 152° 11 543'	*Eucalyptus spp.* Eucalyptus	29	10	14	60	Dead	No	C4	Medium	Remove
59L	-30° 43 458' 152° 11 307'	*Eucalyptus Sp.*	29	3	12	30 30	Semi mature, structural damage	No	C4	Medium	Remove
60L	-30° 43 522' 152° 11 342'	*Eucalyptus Sp.* Group x3	29	8	1	40/30 50	Mature, structural damage, dead tree	No	C4	HIGH 1	Group x3 remove
61L	-30° 43 568' 152° 11 342'	*Eucalyptus Sp.*	29	5	12	50	Mature, structural damage, dead tree	No	C4	HIGH 1	Remove
62L (x2)	-30° 43 605' 152° 11 314'	*Eucalyptus Sp.* Group x2	29	7	14	40/20	Mature, structural damage, dead tree	No	C4	Medium	Remove
63L	-30° 43 599' 152° 11 245'	Casuarina glauca *She oak*	29	8	10	50	Mature, structural damage, cavity on stem	No	C4	HIGH 1	Urgent removal
64L (x4)	-30° 43 883' 152° 11 273'	*Eucalyptus Sp.* Group x4	29	10	14	60	Dead tree	No	C4	HIGH 1	Remove 1x urgent
65L	-30° 43 905' 152° 11 290'	*Eucalyptus Sp.*	29	10	14	60/30	Dead tree	No	C4	Medium	Remove
66L	-30° 43 905' 152° 11 368'	*Eucalyptus Sp.*	29	10	15	65	Mature, cavity at base through 80% of the stem	No	C4	HIGH 1	Remove
67L	-30° 44 753' 152° 11 309'	*Angophora costata* Smooth bark apple	28	4	10	30	Semi mature, structural damage, suspended, root plate failed	No	C4	HIGH 1	Urgent removal
68L (x3)	-30° 44 871' 152° 11 265'	*Eucalyptus Sp.* Group x3	27	3	8	25	Semi mature, root plate eroded	No	C4	HIGH 1	Remove
69L	-30° 44 908' 152° 11 266'	*Eucalyptus Sp.*	29	8	10	30	Dead tree	No	C4	HIGH 1	Remove
70L	-30° 45 071' 152° 11 316'	*Eucalyptus Sp.*	29	6	10	40	Dead tree	No	C4	Medium	Remove
71L (x2)	-30° 45 095' 152° 11 342'	*Eucalyptus Sp.* Group x2	-	6	10	40	Dead tree	No	C4	Medium	Remove

SEGMENT 24

Tree no.	GPS Location	Scientific & Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	TRA	Intervention (Specification)
72L (x3)	-30° 45 033' 152° 11 502'	*Eucalyptus Sp.* Group x3	Bass lodge	5	10	30	Dead tree with structural damage	No	C4	Medium	Remove at bass lodge
73L (x4)	-30° 45 021' 152° 11 531'	*Eucalyptus Sp.* Group x4	-	10	15	40	Dead tree	No	C4	HIGH 1	Remove
74 x 2)	-30° 44 999' 152° 11 765'	*Eucalyptus Sp.* Group x2	26	5	9	30	Dead tree, dead branch suspended off of stem	No	C4	HIGH 1	Urgent removal
75L	-30° 45 010' 152° 11 609'	*Eucalyptus Sp.*	-	5	9	35	Semi mature, structural damage, cavity at base through 70% of the stem	No	C4	Medium	Remove
76L	-30° 45 066' 152° 12 163'	*Eucalyptus Sp.*	Bass lodge 25	5	10	30	Dead	No	C4	HIGH 1	Remove, 10m off road
77L	-30° 45 068' 152° 12 189'	*Eucalyptus Sp.*	24	6	10	40	Mature, lean, root plate moved	No	C4	Medium	Remove
78L	-30° 45 103' 152° 12 398'	*Eucalyptus Sp.*	24	5	12	40	Dead with structural damage at base	No	C4	HIGH 1	Remove
79L	-30° 45 148' 152° 12 464'	*Eucalyptus Sp.*	24	3	10	30	Dead with structural damage at base	No	C4	HIGH 1	Remove
80L	-30° 45 223' 152° 12 727'	*Eucalyptus Sp.* Group x2	24	1	8	25	Dead	No	C4	Medium	Remove
81L	-30° 45 223' 152° 12 747'	*Eucalyptus Sp.*	-	7	10	30	Mature, structural damage at base	No	C4	Medium	Remove
82L (x8) (x1)	-30° 45 211' 152° 12 789'	*Eucalyptus Sp.* 8x large 1x small	Council stockpile	9	12	50	Mature, structural damage at base, dead, cavity through 85% of the stem	No	C4	HIGH 1	Remove
83L (x2)	-30° 45 225' 152° 12 823'	*Eucalyptus Sp.* Group x2	-	5	10	30	Semi mature, dead	No	C4	Medium	Remove
84L (x2)	-30° 45 214' 152° 12 873'	*Eucalyptus Sp.* Group x2	-	3	10	30	2x dead	No	C4	Medium	Remove

Segment 24 continued

Tree no.	GPS Location	Scientific & Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	TRA	Intervention (Specification)
85L (x6)	-30° 45 234' 152° 12 914'	*Eucalyptus Sp.* Group x6	--	5	10	15/10 40	6x dead trees	No	C4	Medium	Remove
86L (x7)	-30° 45 239' 152° 13 045'	*Eucalyptus Sp.* Group x7	-	5	12	30	7x dead trees	No	C4	Medium	Remove
87L (x7)	-30° 45 226' 152° 13 086'	*Eucalyptus Sp.* Group x7	-	3	9	30	2x dead trees	No	C4	Medium	Remove
88L	-30° 45 211' 152° 13 098'	*Eucalyptus Sp.*	-	10	14	40/60	Declining condition	No	D3	Medium	Prune half
89L (x4)	-30° 45 218' 152° 13 122'	*Eucalyptus Sp.* Group x4	-	3	9	20	4x dead trees	No	C4	Medium	Remove
90L	-30° 45 261' 152° 13 193'	Suspended log	-	-	-	-	6m long log 60cm diameter	No	C4	HIGH 1	Remove, urgent
91L	-30° 45 270' 152° 13 253'	*Eucalyptus Sp.*	-	3	8	20	Semi mature, dead tree	No	C4	Medium	Remove
92L	-30° 45 290' 152° 13 334'	*Eucalyptus Sp.*	-	4	10	40	Semi mature, dead, cavity at base 70% coverage	No	C4	HIGH 1	Remove
93L	-30° 45 286' 152° 13 347'	*Eucalyptus Sp.*	-	8	14	50	Mature, dead tree	No	C4	Medium	Remove
94L	-30° 45 304' 152° 13 392'	*Eucalyptus Sp.*	-	10	15	60	Mature, dead tree cavity 90% cavity coverage	No	C4	HIGH 1	Remove, urgent
95L	-30° 45 317' 152° 13 441'	*Eucalyptus Sp.*	-	9	14	50	Dead	No	C4	Medium	Remove
96L (x2)	-30° 45 323' 152° 13 451'	*Eucalyptus Sp.* Group x2	-	10	16	50	2x dead with cavity at base covering 75%	No	C4	Medium	Remove
97L (x2)	-30° 45 350' 152° 13 521'	*Eucalyptus Sp.* Group x2	-	10	14	50	2x mature tree, structural damage at base	No	C4	HIGH 1	Remove, urgent

Segment 24 continued

Tree no.	GPS Location	Scientific & Common name	Segment (m)	Crown Spread (m)	Heigh t (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	TRA	Intervention (Specification)
98L	-30° 45 389' 152° 13 607'	*Eucalyptus Sp.*	-	4	10	40	1x mature dead tree	No	C4	Medium	Remove
99L (x2)	-30° 45 393' 152° 13 629'	*Eucalyptus Sp.* Group x2	23	10	14	50	2x mature, dead tree	No	C4	Medium	Remove
100L	-30° 45 388' 152° 13 651'	*Eucalyptus Sp.*	-	8	10	60	Dead	Yes	C4	Medium	Prune height 30%, retain due to habitat
101L (x6)	-30° 45 397' 152° 13 687'	*Eucalyptus Sp.* Group x6	-	5	14	60	Dead 1x cavity at base 85% of stem	No	C4	HIGH 1	1x urgent removal, 1x remove
102L (x2)	-30° 45 410' 152° 13 731'	*Eucalyptus Sp.* Group x2	-	10	12	20/5 0	Dead	No	C4	Medium	Remove
103L (x2)	-30° 45 395' 152° 13 811'	*Eucalyptus Sp.* Group x2	-	6	10	30+7 0	Dead 1x structural damage at base 85% of stem	No	C4	HIGH 1	Smaller tree remove, urgent, remove 1x
104L (x2)	-30° 45 390' 152° 13 823'	*Eucalyptus Sp.* Group x2	-	10	14	60/6 0	Mature, union segregated	No	C4	Medium	Remove + dead tree
105L	-30° 45 368' 152° 13 951'	*Eucalyptus Sp.*	-	10	15	50 50 20	Mature, dead tree	No	C4	Medium	Remove
106L	-30° 45 321' 152° 14 019'	*Eucalyptus Sp.*	-	7	12	50	Mature, dead tree	No	C4	Medium	Remove
107L	-30° 45 265' 152° 14 128'	*Eucalyptus Sp.*	-	2	10	25	Semi mature, dead tree	No	C4	HIGH 1	Remove
108L (x3)	-30° 45 120' 152° 14 260'	*Eucalyptus Sp.* Group x3	22	4	10	30	Semi mature, cavity at base, structural damage	No	C4	HIGH 1	1x urgent removal
109L (x7)	-30° 45 080' 152° 14 271'	*Eucalyptus Sp.* Group x7	21	5	15	30	Immature + mature, dead tree	No	C4	HIGH 1	1x tree urgent 80% basal cavity

SEGMENT 20 *ENDS LOWER CREEK VILLAGE

Tree no.	GPS Location	Scientific& Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	TRA	Intervention (Specification)
110L	-30° 45 023' 152° 14 351'	*Eucalyptus Sp.*	20	12	16	80 20	Mature, structural damage at base with a lean south	No	C4	Medium	Prune leader off road
111L (x2)	-30° 44 973' 152° 14 338'	*Eucalyptus Sp.* Group x2	-	8	15	50	Immature, dead	No	C4	HIGH 1	Remove
112L (x5)	-30° 44 986' 152° 14 376'	*Eucalyptus Sp.* Group x5	20	5	10	30	Immature, + mature, structural damage at base covering 85% of the stem	No	C4	HIGH 1	3x urgent
113L (x6)	-30° 44 981' 152° 14 427'	*Eucalyptus Sp.* Group x6	20	3	10	30	Immature + mature, dead with structural damage	No	C4	HIGH 1	4x urgent removal
114L	-30° 44 971' 152° 14 453'	*Eucalyptus Sp.*	20	6	10	36	Immature + mature, dead with structural damage	No	C4	Medium	Remove
115L (x5)	-30° 44 951' 152° 14 470'	*Eucalyptus Sp.* Group x5	20	6	12	40	Immature + mature, 1x dead, structural damage 80% of stem	No	C4	HIGH 1	2x urgent
116L (x4)	-30° 44 893' 152° 14 437'	*Eucalyptus Sp.* Group x4	20	4	8	30 30	Semi mature, structural damage, dead tree	No	C4	HIGH 1	2x urgent removals Reduce adjacent leader
117L	-30° 44 873' 152° 14 439'	*Eucalyptus Sp.* Group x2	21 90km	4	8	30	Semi mature, structural damage and dead tree	No	C4	Medium	Remove
118L	-30° 44 875' 152° 14 511'	*Eucalyptus Sp.*	21 90km	5	10	30	Mature, structural damage	No	C4	HIGH 1	Urgent
119L (x8)	-30° 44 862' 152° 14 547'	*Eucalyptus Sp.* Group x8	21 90km	4	10	30	Semi mature + mature, structural damage	No	C4	HIGH 1	4x urgent
120L	-30° 44 676' 152° 14 682'	*Eucalyptus Sp.*	21 90km	6	10	30/30 30	Semi mature, structural damage	No	C4	HIGH 1	Urgent
121L (x2)	-30° 44 461' 152° 14 921'	*Eucalyptus Sp.* Group x2	20 90km	2	10	25	Semi mature	No	C4	Medium	Remove
122L (x2)	-30° 44 407' 152° 15 000'	*Eucalyptus Sp.* Group x2	20 90km	10	16	70	Mature, structural damage and lost section	No	C4	HIGH 1	Remove 1x small tree in corner

Tree no.	GPS Location	Scientific & Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	TRA	Intervention (Specification)
123L (x5)	-30° 44 392' 152° 15 020'	*Eucalyptus Sp.* Group x5	20 90km	3	9	20	Semi mature, dead tree	No	C4	Medium	Remove
124L (x4)	-30° 44 377' 152° 15 099'	*Eucalyptus Sp.* Group x4	20 90km	3	8	20	Semi mature, structural damage and dead tree	No	C4	HIGH 1 Med	Remove 1x urgent
125L (x2)	-30° 44 287' 152° 15 243'	*Eucalyptus Sp.* Group x2	20 90km	7	12	25	Semi mature, structural damage	No	C4	High Med	Remove 1x urgent
126L (x3)	-30° 44 255' 152° 15 285'	*Eucalyptus Sp.* Group x3	20 90km	2	7	25	Semi mature, structural damage and dead tree	No	C4	Medium	Remove
127L (x2)	-30° 44 166' 152° 15 381'	*Eucalyptus Sp.* Group x2	20 90km	10	14	80	Mature, habitat dead tree	YES	C4	Medium	Retain but prune 30% of height
128L	-30° 44 137' 152° 15 413'	*Eucalyptus Sp.*	20 90km	10	10	80	Mature, lean, structural damage at base	No	C4	Medium	Prune to reduce canopy 40%
129L	-30° 44 003' 152° 15 497'	-	20	12	20	180	Mature, dead tree	No	C4	HIGH 1	Very large tree urgent

- SEGEMENT 19 – no trees requiring action in this segment.

SEGMENT 38 SECTION ONE RIGHT SIDE

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
1R	-30° 38 562' 152° 11 831'	*Eucalyptus spp.* Peppermint	10	17	30 20	Semi-mature, with a lean, and damaged roots.	4c	HIGH 1	Remove.
2R	-30° 38 580' 152° 11 826'	*Eucalyptus spp.* Eucalyptus	1	14	20 22	Immature, dead.	4c	HIGH 1	Remove.
3R	-30° 38 636' 152° 11 826'	*Eucalyptus spp.* Eucalyptus	18	18	50 45	Semi-mature, with damaged roots, and a cavity.	4c	HIGH 1	Remove.
4R	-30° 38 636' 152° 11 821'	*Eucalyptus spp.* Eucalyptus	28	28	180 168	Mature, with damaged roots, and a cavity.	4c	HIGH 1	Remove.
5R	-30° 38 647' 152° 11 823'	*Eucalyptus spp.* Eucalyptus	12	25	65	Immature.	4c	HIGH 1	Remove.
6R	-30° 38 649' 152° 11 823'	*Eucalyptus spp.* Eucalyptus	18	25	655 822	Fungal stem.	4c	HIGH 1	Remove.
7R	-30° 38 676' 152° 11 821'	*Eucalyptus spp.* Eucalyptus	12	20	30	Leaning. Located on a bank.	4c	HIGH 1	Remove.
8R	-30° 38 689' 152° 11 827'	*Pittosporum spp.* Cheesewood	9	13	30	Dead, with damaged roots.	4c	HIGH 1	Remove.
9R	-30° 38 694' 152° 11 822'	*Eucalyptus spp.* Eucalyptus	10	20	20	Leaning/	4c	HIGH 1	Remove.
10R	-30° 38 694' 152° 11 822'	*Eucalyptus spp.* Eucalyptus	20	35	100	Mature, with a heavy branch.	4c	HIGH 1	Remove.
11R	-30° 38 715' 152° 11 823'	*Eucalyptus spp.* Eucalyptus	20	28	80	Semi-mature, with a fungal stem, and epicormics.	3d	HIGH 1	Prune.
12R	-30° 38 755' 152° 11 824'	*Eucalyptus spp.* Eucalyptus	20	18	90	Mature, with soil upheaval, and a cavity.	4c	HIGH 1	Remove.
13R (x 2)	-30° 38 782' 152° 11 823'	*Eucalyptus spp.* Eucalyptus	30	25	90	Mature, with a cavity.	4c	HIGH 1	Remove.
14R	-30° 38 800' 152° 11 824'	*Eucalyptus spp.* Eucalyptus	28	30	95	Cavity, and 55% holding wood.	4c	HIGH 1	Remove.
15R	-30° 38 820' 152° 11 825'	*Eucalyptus spp.* Eucalyptus	-	20	60	Dead, with a hollow.	4c	HIGH 1	Remove.

Segment 38 continued

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
16R	-30° 38 822' 152° 11 830'	*Eucalyptus spp.* Eucalyptus	-	12	20	Dead.	4c	HIGH 1	Remove.
17R	-30° 38 843' 152° 11 829'	*Eucalyptus spp.* Eucalyptus	12	20	50	Hollow to the north by 85%.	4c	HIGH 1	Remove.
18R	-30° 38 859' 152° 11 830'	*Eucalyptus spp.* Eucalyptus	8	16	40	Damaged roots. Located on the side of a bank.	4c	HIGH 1	Remove.
19R	-30° 38 868' 152° 11 819'	*Eucalyptus spp.* Eucalyptus	12	18	45	Semi-mature, with damaged roots. Located on the edge of the bank.	4c	HIGH 1	Remove.
20R	-30° 38 898' 152° 11 808'	*Eucalyptus spp.* Eucalyptus	9	16	35	Dead, with a lean over the road.	4c	HIGH 1	Remove.
21R	-30° 38 922' 152° 11 820'	*Eucalyptus spp.* Eucalyptus	-	12	15	Dead, with hanging branch close to the road.	4c	HIGH 1	Remove.
22R	-30° 38 927' 152° 11 825'	*Eucalyptus spp.* Eucalyptus	5	13	28	Immature, with damaged roots. Located on a bank.	4c	HIGH 1	Remove.
23R	-30° 38 983' 152° 11 870'	*Eucalyptus spp.* Eucalyptus	14	20	60	Mature, with damaged roots, epicormics, a cavity, and a lean. Located on top of a bank.	4c	HIGH 1	Remove.
24R	-30° 39 000' 152° 11 890'	*Eucalyptus spp.* Eucalyptus	12	24	80	Mature, with a cavity at the base, a lean and an unbalanced canopy.	4c	HIGH 1	Remove.
27R	-30° 39 002' 152° 11 894'	*Eucalyptus spp.* Eucalyptus	-	15	30	Dead, with physical damage, and a lean.	4c	HIGH 1	Remove.
27bR	-30° 39 005' 152° 11 900'	*Eucalyptus spp.* Eucalyptus	7	15	35	Leaning, with a cavity, and epicormics.	4c	HIGH 1	Remove.
27cR	-30° 39 005' 152° 11 900'	*Eucalyptus spp.* Eucalyptus	-	16	50	Damaged roots, leaning.	4c	HIGH 1	Remove.
27dR	-30° 39 005' 152° 11 900'	*Eucalyptus spp.* Eucalyptus	-	18	50	Damaged roots, leaning.	4c	HIGH 1	Remove.

SEGMENT 37

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
28R (x 2)	-30° 39 009' 152° 11 927'	*Eucalyptus spp.* Eucalyptus	-	14	30	Immature, dead, with damaged roots.	4a-4c	HIGH 2	Remove.
29R	-30° 39 032' 152° 11 950'	*Eucalyptus spp.* Peppermint	-	12	50	Dead, with a lean.	4a	HIGH 2	Remove.
30R	-30° 39 030' 152° 11 954'	*Eucalyptus spp.* Eucalyptus	-	16	40	Dead, with a lean.	4a	HIGH 2	Remove.
31R	-30° 39 030' 152° 11 954'	*Eucalyptus spp.* Eucalyptus	-	16	35	Dead, with a cavity at 1m height.	4a	HIGH 2	Remove.
33R	-30° 39 035' 152° 11 960'	*Eucalyptus spp.* Eucalyptus	-	12	100	Mature, dead.	4c	HIGH 2	Remove.
34R	-30° 39 054' 152° 11 982'	*Eucalyptus spp.* Eucalyptus	12	25	48	Mature, with a lean towards the road.	4c	HIGH 2	Remove.
35R	-30° 39 054' 152° 11 982'	*Eucalyptus spp.* Eucalyptus	6	17	35	Immature, in decline, with epicormic growth.	4c	HIGH 2	Remove.
36R	-30° 39 054' 152° 11 985'	*Eucalyptus spp.* Eucalyptus	13	20	50	Semi-mature, with root damage and co- dominant stems.	4c	HIGH 2	Remove.
37R	-30° 39 064' 152° 11 998'	*Eucalyptus spp.* Eucalyptus	14	15	40	Leaning, with epicormics, a fungal stem, and a sparse foliage crown.	4c	HIGH 1	Remove.
38R	-30° 39 064' 152° 11 998'	*Eucalyptus spp.* Eucalyptus	-	22	40	Leaning.	4c	HIGH 1	Remove.
39R	-30° 39 068' 152° 11 999'	*Eucalyptus spp.* Eucalyptus	-	20	100	Physical damage, an unbalanced canopy, and a cavity.	4c	HIGH 1	Remove.
40R	-30° 39 073' 152° 12 003'	*Eucalyptus spp.* Eucalyptus	-	18	100	Leaning, with damaged roots and an unbalanced canopy.	4c	HIGH 1	Remove.
41R	-30° 39 078' 152° 12 009'	*Eucalyptus spp.* Eucalyptus	-	8	20	Dead, with physical damage.	4c	HIGH 1	Remove.
42R (x 2)	-30° 39 117' 152° 12 061'	*Eucalyptus spp.* Eucalyptus	-	32	80	Dead.	4c	HIGH 1	Remove.
43R	-30° 39 122' 152° 12 067'	*Eucalyptus spp.* Eucalyptus	-		70	Leaning, with a cavity, damaged roots, and epicormics.	4c	HIGH 1	Remove.
44R	-30° 39 133' 152° 12 075'	*Eucalyptus spp.* Eucalyptus	-	22	40	Dead, with physical damage.	4c	HIGH 1	Remove.

Segment 37 continued

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
45R	-30° 39 206' 152° 12 131'	*Eucalyptus spp.* Eucalyptus	-	28	90	Dead, with physical damage.	4c	HIGH 1	Remove.
46R	-30° 39 219' 152° 12 142'	*Eucalyptus spp.* Eucalyptus	-	34	120	Physically damaged, with inclusions, and a cavity.	4c	HIGH 1	Remove.
47R	-30° 39 226' 152° 12 157'	*Eucalyptus spp.* Eucalyptus	-	30	75	Dying, with a lean.	3d	HIGH 1	Remove.
48R	-30° 39 268' 152° 12 203'	*Eucalyptus spp.* Eucalyptus	-	33	40/40 120	Co-dominant stems and a cavity.	4c	HIGH 1	Remove.
49R	-30° 39 306' 152° 12 253'	*Eucalyptus spp.* Eucalyptus	-	34	40/40 120	Physically damaged, with a cavity and co- dominant stems.	4c	HIGH 1	Remove.
50R	-30° 39 306' 152° 12 253'	*Eucalyptus spp.* Eucalyptus	-	34	120	Physically damaged, with a cavity.	4c	HIGH 1	Remove.
51R	-30° 39 328' 152° 12 293'	*Eucalyptus spp.* Eucalyptus	-	15	45	**Habitat tree.**	4c	HIGH 1	**Habitat tree**. Prune to reduce height.
52R	-30° 39 385' 152° 12 357'	*Eucalyptus spp.* Eucalyptus	-	18	40	Semi-mature, with damage from a climbing plant, and a cavity.	4c	HIGH 1	Remove.

SEGMENT 36

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
53R	-30° 39 668' 152° 12 155'	*Eucalyptus spp.* Eucalyptus	13	25	55	Semi-mature, with a cavity at the base, and 70% holding wood.	4c	HIGH 1	Remove.
54R	-30° 39 668' 152° 12 125'	*Eucalyptus spp.* Eucalyptus	6	20	45	Immature, with a cavity at the base, and 40% holding wood.	3d-4c	HIGH 1	Monitor.
55R	-30° 39 741' 152° 12 096'	*Eucalyptus spp.* Eucalyptus	8	22	35	Immature, good condition but poor development, with hanging branches.	3a	HIGH 1	Prune two hanging branches.
56R	-30° 39 834' 152° 12 103'	*Eucalyptus spp.* Eucalyptus	12	30	80	Semi-mature, good condition but poor development, with a cavity at the base.	3b	HIGH 1	Monitor.
57R	-30° 39 868' 152° 12 113'	*Eucalyptus spp.* Eucalyptus	-	25	38	Dead tree, no hollows.	4a	HIGH 1	Remove.
58R	-30° 39 887' 152° 12 113'	*Eucalyptus spp.* Eucalyptus	-	30	40	Dead tree, no hollows.	4c	HIGH 1	Remove.
59R	No GPS Location	*Eucalyptus spp.* Eucalyptus		35	65	Semi-mature.	2d	HIGH 1	Prune dead wood over the road.
60R	-30° 40 037' 152° 12 086'	*Eucalyptus spp.* Eucalyptus	10	18	35	Dead.	4a	HIGH 1	Remove.
61R	-30° 40 063' 152° 12 077'	*Eucalyptus spp.* Eucalyptus	5	28	25	Dying.	4a	HIGH 1	Remove.
62R	-30° 40 137' 152° 12 074'	*Eucalyptus spp.* Eucalyptus	15	40	80	Mature, with fire-damaged roots.	3d	ALARP	Completed
63R	-30° 40 163' 152° 12 079'	*Eucalyptus spp.* Eucalyptus	14	32	70	Semi-mature, tall, with a cavity.	4c	HIGH 1	Remove.
64R (x 2)	-30° 40 255' 152° 12 100'	*Eucalyptus spp.* Eucalyptus		14	20	Dead.	4a	HIGH 1	Remove.
65R (x 2)	-30° 40 275' 152° 12 095'	*Eucalyptus spp.* Eucalyptus	8	16	30/30	Immature.	4c	HIGH 1	Remove.

SEGMENT 35

Tree No.	GPS Location	Scientific & Common Name	Crown Sprea d (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
66R	-30° 40 358' 152° 12 131'	*Eucalyptus spp.* Eucalyptus	-	14	35/30	Dead.	4a	HIGH 1	Remove.
67aR	-30° 40 389' 152° 12 140'	*Eucalyptus spp.* Eucalyptus	8	15	30	Immature, with exposed roots, and an unbalanced canopy.	4c	HIGH 1	Remove.
67bR	-30° 40 373' 152° 12 136'	*Eucalyptus spp.* Eucalyptus	2	8	10	Semi-mature, dead.	4c	HIGH 1	Remove.
68R	-30° 40 382' 152° 12 137'	*Eucalyptus spp.* Eucalyptus	12'	20	16	Semi-mature, with an extensive lean and an unbalanced canopy, damaged.	4c	ALARP	Completed
69R	-30° 40 402' 152° 12 133'	*Eucalyptus spp.* Eucalyptus	-	8	70	Dead, with a 90% cavity.	4c	ALARP	Completed
70R	-30° 40 448' 152° 12 153'	*Eucalyptus spp.* Eucalyptus	-	18	35	Dead, with an 80% cavity.	4c	ALARP	Completed
71R	-30° 40 440' 152° 12 150'	*Eucalyptus spp.* Eucalyptus	10	14	50	Semi-mature, fire damaged, hollow at the base, unbalanced canopy.	4c	ALARP	Completed
72R	-30° 40 457' 152° 12 163'	*Eucalyptus spp.* Eucalyptus	3	14	50	Over-mature, 50% hollow, with a lean to the road.	4c	ALARP	Completed
73R	-30° 40 419' 152° 12 188'	*Eucalyptus spp.* Eucalyptus	10	16	40	Immature, with a fungi stem.	4c	ALARP	Completed
74R	-30° 40 476' 152° 12 217'	*Eucalyptus spp.* Eucalyptus	-	18	50	Dead, with a lean to the road.	4c	ALARP	Completed
75R	-30° 40 480' 152° 12 217'	*Eucalyptus spp.* Eucalyptus	10	14	35	Dead, 70% hollow at the base.	4c	ALARP	Completed
76R	-30° 40 491' 152° 12 227'	*Eucalyptus spp.* Eucalyptus	-	13	25	Immature, with root damage.	4c	ALARP	Completed
77R	-30° 40 449' 152° 12 239'	*Eucalyptus spp.* Eucalyptus	-	15	35	Immature, with root damage.	4c	ALARP	Completed
78R	-30° 40 522' 152° 12 245'	*Eucalyptus spp.* Eucalyptus	-	17	40	Immature, with a hanging branch.	4d	ALARP	Prune two hanging branches.

Segment 35 continued

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
79R	-30° 40 526' 152° 12 247'	*Eucalyptus spp.* Eucalyptus	10	25	45	Immature, with a cavity all through the base.	4c	ALARP	Completed
80R	-30° 40 537' 152° 12 249'	*Eucalyptus spp.* Eucalyptus	-	20	45	Dead	4a	ALARP	Completed
81R	-30° 40 553' 152° 12 261'	*Eucalyptus spp.* Eucalyptus	-	35	20/50	Dead, with a lean and an unbalanced canopy.	4c	ALARP	Completed
82R (x 3)	-30° 40 558' 152° 12 272'	*Eucalyptus spp.* Eucalyptus	-	-	20	Dead.	4c	ALARP	Completed
83R	-30° 40 562' 152° 12 276'	*Eucalyptus spp.* Eucalyptus	14	35	55	Dead, with a cavity (75%).	4c	ALARP	Completed
84R	-30° 40 571' 152° 12 308'	*Eucalyptus spp.* Eucalyptus	15	20	55	Semi-mature, dead.	4c	ALARP	Completed
85R (x 4)	-30° 40 578' 152° 12 325'	*Eucalyptus spp.* Eucalyptus	-	20-25	20-40	Dead trees.	4c	ALARP	Completed
86R	-30° 40 593' 152° 12 343'	*Eucalyptus spp.* Eucalyptus	8	20	35/15		4c	ALARP	Completed
87R (x 6)	-30° 40 612' 152° 12 354'	*Eucalyptus spp.* Eucalyptus	-	15-20	15-25	Dead.	4a	ALARP	Completed
88R	-30.390625 152.119357	*Eucalyptus spp.* Eucalyptus	8	12	35	Dead, with a cavity (60%).	4c	ALARP	Completed
89R (x 6)	-30° 40 625' 152° 12 357'	*Eucalyptus spp.* Eucalyptus	5-10	20	40	Immature, with a cavity.	4c	ALARP	Completed
90R	-30° 40 676' 152° 12 508'	*Eucalyptus spp.* Eucalyptus	8	15	30	Semi-mature, cavity at the base.	4c	ALARP	Completed
91R	-30° 40 696' 152° 12 542'	*Eucalyptus spp.* Eucalyptus	-	10	25	Dead.	4a	HIGH 1	Remove.
92R	-30° 40 706' 152° 12 566'	*Eucalyptus spp.* Eucalyptus	6	14	20/20	Immature, with fire damage Erosion at stump	4c	HIGH 1	Remove.
93R	-30° 40 755' 152° 12 560'	*Eucalyptus spp.* Eucalyptus	-	25	20/22	Dead, fallen.	4a	ALARP	Completed

SEGMENT 34

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
94R	-30° 40 821' 152° 12 505'	*Eucalyptus spp.* Eucalyptus	-	20	30 35	Physically damaged, with a lean.	4a	ALARP	Completed
95R	-30° 40 884' 152° 12 415'	*Syncarpia glomulifera* Turpentine	8	17	30 28	Physically damaged, with a lean. The tree is half burned at the base.	4a	ALARP	Completed
96R	-30° 40 922' 152° 12 418'	*Eucalyptus spp.* Eucalyptus	10	24	55 40	Physically damaged, with a lean.	4a	ALARP	Completed
97R	-30° 40 998' 152° 12 421'	*Eucalyptus spp.* Eucalyptus	6	14	30 40	Physically damaged, with damaged roots.	4a	ALARP	Completed
98R	-30° 41 011' 152° 12 419'	*Eucalyptus spp.* Eucalyptus	14	22	50 60	Physically damaged, with damaged roots, a cavity, and shifted roots.	4a	ALARP	Completed
99R	-30° 41 068' 152° 12 402'	*Eucalyptus spp.* Eucalyptus	16	26	25 20	Eroding soil, with damaged roots, and physical damage.	4a	ALARP	Completed
100R	-30° 41 071' 152° 12 406'	*Eucalyptus spp.* Eucalyptus	9	16	55 60	Eroding soil, with damaged roots.	4a	ALARP	Completed
101R	-30° 41 098' 152° 12 432	*Eucalyptus spp.* Eucalyptus	9	16	55 60	Eroding soil, with damaged roots.	4a	ALARP	Completed
102R	-30° 41 149' 152° 12 521'	*Corymbia maculata* Spotted Gum	10	16	60 40/20	Eroding soil, with damaged roots.	4a	ALARP	Completed
103R	-30° 41 156' 152° 12 531'	*Eucalyptus spp.* Eucalyptus	10	16	50 45	Dead.	4a	ALARP	Completed
104R	-30° 41 159' 152° 12 538'	*Eucalyptus spp.* Eucalyptus	20	22	60 40	Cavity.	4a	ALARP	Completed
105R	-30° 41 166' 152° 12 549'	*Eucalyptus spp.* Eucalyptus	10	18	60 50	Physically damaged, with a cavity, damaged roots, and a sparse foliage crown.	4a	ALARP	Completed
106R	-30° 41 186' 152° 12 553'	*Eucalyptus spp.* Eucalyptus	4	16	35 30	Physically damaged, with damaged roots.	4a	ALARP	Completed
107R	-30° 41 200' 152° 12 526'	*Eucalyptus spp.* Eucalyptus	12'	28	85	Root damage, a cavity at the base, and physical damage.	4a	ALARP	Completed
108R	-30° 41 205' 152° 12 524'	*Eucalyptus spp.* Eucalyptus	10	18	40	Physical damage, a cavity, and an unbalanced canopy.	4a	ALARP	Completed
109R	-30° 41 207' 152° 12 518'	*Eucalyptus spp.* Eucalyptus	4	18	25	Dead, with a cavity.	4a	ALARP	Completed
110R	-30° 41 207' 152° 12 518'	*Eucalyptus spp.* Eucalyptus	6	16	30	Leaning, with physical damage, and a cavity.	4a	ALARP	Completed
111R	-30° 41 214' 152° 12 516'	*Eucalyptus spp.* Eucalyptus	8	25	35	Leaning, with physical damage, an unbalanced canopy, and a cavity.	4a	ALARP	Completed

Segment 34" continued

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
112R	-30° 41 220' 152° 12 511'	*Eucalyptus spp.* Eucalyptus	14	20	30/10	Unbalanced canopy, co-dominant stems, and a cavity.	4a	ALARP	Completed
113R	-30° 41 229' 152° 12 506'	*Eucalyptus spp.* Eucalyptus	10	22	30	Damaged and eroded roots.	4a	ALARP	Completed
114R	-30° 41 332' 152° 12 504'	*Eucalyptus spp.* Eucalyptus	5	12	20	Immature, with a cavity, and a structural damage (30%).	4c	ALARP	Completed
115R (x 3)	-30° 41 320' 152° 12 511'	*Eucalyptus spp.* Eucalyptus	8	18	25	Immature, with a cavity, and a structural damage (15%).	4c	ALARP	Completed
116R	-30° 41 328' 152° 12 506'	*Eucalyptus spp.* Eucalyptus	8	15	25	Mature, with a cavity, and a structural damage (15%).	4c	ALARP	Completed
117R	-30° 41 332' 152° 12 505'	*Eucalyptus spp.* Eucalyptus	6	15	20	Mature, with a cavity, and a structural damage (30%).	4c	ALARP	Completed

SEGMENT 33

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
118R	-30° 41 376' 152° 12 495'	*Species unknown* (stag)	-	17	30	Dead.	4c	ALARP	Completed
119R	-30° 41 375' 152° 12 496'	*Casuarina spp.* She-Oak	-	12	20	Dead.	4c	ALARP	Completed
120R	-30° 41 381' 152° 12 496'	*Species unknown* (stag)	-	12	20	Dead.	4c	ALARP	Completed
121R	-30° 41 401' 152° 12 462'	*Eucalyptus spp.* Eucalyptus	12	20	45	Semi-mature, with root damage, and erosion.	4c	ALARP	Completed
122R	-30° 41 417' 152° 12 402'	*Eucalyptus spp.* Eucalyptus	14	30	50	Semi-mature, with ¾ cambial scarring, and a cavity.	4c	ALARP	Completed
123R	-30° 41 452' 152° 12 395'	*Eucalyptus spp.* Eucalyptus	-	26	65	Dead, with a cavity (80%) at the base.	4c	ALARP	Completed
124R	-30° 41 454' 152° 12 393'	*Eucalyptus spp.* Eucalyptus	15	34	75	Mature, dehydrated, with a cavity.	4c	ALARP	Completed
125R	-30° 41 433' 152° 12 394'	*Eucalyptus spp.* Eucalyptus	7	12	50	Dead.	4c	ALARP	Completed
126R (x 4)	-30° 41 480' 152° 12 393'	*Eucalyptus spp.* Eucalyptus	7-12	25	25-40	Immature, with fungi at 1.5m height, and fire damage.	4c	ALARP	Completed
127R (x 2)	-30° 41 519' 152° 12 361'	*Eucalyptus spp.* Eucalyptus	10	34	35/50	1 x Fallen tree. 1 x Soil heaving, with root damage.	4c	ALARP	Completed
128R (x 2)	-30° 41 528' 152° 12 339'	*Eucalyptus spp.* Eucalyptus	-	25	30	Dead.	4c	ALARP	Completed
129R	-30° 41 567' 152° 12 296'	*Eucalyptus spp.* Eucalyptus	-	25	30/45	Semi-mature, with an unbalanced canopy, and one dead side.	4c	ALARP	Completed
130R	-30° 41 578' 152° 12 297'	*Eucalyptus spp.* Eucalyptus	10	16	35/35	Immature, hanging tree pushing the front tree.	4c	ALARP	Completed

Segment 33 continued

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
131R	-30° 41 678' 152° 12 303'	*Eucalyptus spp.* Eucalyptus	8	24	40	Immature, with a cavity (75%).	4c	HIGH 1	Remove.
132R	-30° 41 684' 152° 12 302'	*Corymbia maculata* Spotted Gum	-	34	50	Semi-mature, with fungi at 6m height, and a decaying stem.	4c	HIGH 1	Remove.
133R (x 2)	-30° 41 691' 152° 12 300'	*Corymbia maculata* Spotted Gum	-	30	35	Immature, with root plate damage, and eroded roots.	4c	HIGH 1	Remove.
134R	-30° 41 769' 152° 12 296'	*Species unknown* (stag)	-	14	25	Dead.	4c	ALARP	Completed
134aR	-30° 41 793' 152° 12 320'	*Species unknown* (stag)	-	22	35	Dead.	4c	ALARP	Completed
135R	-30° 41 809' 152° 12 369'	*Eucalyptus microcorys* Tallowood	-	12	25	Immature, with a cavity (80%).	4c	ALARP	Completed
136R (x 3)	-30° 41 823' 152° 12 371'	*Species unknown* (stag)	-	20	30	Dead trees with minor cavities.	4c	HIGH 1	Remove.
137R	-30° 41 831' 152° 12 364'	*Species unknown* (stump)	-	7	40	Dead, with a cavity (80%).	4c	HIGH 1	Remove.
138R	-30° 41 848' 152° 12 339	*Species unknown* (stag)	-	20	30	Dead tree on bank .Eroded stump.	4c	ALARP	Completed
No tag	-30° 41 850' 152° 12 378'	*Eucalyptus spp.* Eucalyptus				Mature tree on bank. Eroded stump.	4c	HIGH 1	Remove
139R	-30° 41 912' 152° 12 293'	*Eucalyptus spp.* Eucalyptus	10	13	20/20	Immature, with erosion of the root plate.	4c	HIGH 1	Remove.
140R	-30° 41 929' 152° 12 273'	*Species unknown* (stag)	-	28	45	Dead, with a lean and a cavity.	4c	ALARP	Completed

SEGMENT 32

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
141R	-30° 41 979' 152° 12 242'	*Species unknown* (stump)	-	7	15	Dead stump on the bank.	4c	HIGH 1	Remove.
142R	-30° 41 983' 152° 12 241'	*Species unknown* (stag)	-	15	25/30	Dead, with twin stems.	4c	HIGH 1	Remove.
143R (x 2)	-30° 42 006' 152° 12 237'	*Species unknown* (stag)	-	25	40	Dead.	4c	HIGH 1	Remove.
144R (x 2)	-30° 42 021' 152° 12 237'	*Species unknown* (stag)	-	10-20	20-40	Dead.	4c	ALARP	Completed
145R (x 2)	-30° 42 026' 152° 12 236'	*Species unknown* (stag)	-	14	25	Dead.	4c	ALARP	Completed
146R (x 2)	-30° 42 043' 152° 12 193'	*Species unknown* (stag)	-	20	30	Dead.	4c	ALARP	Completed
147R	-30° 42 047' 152° 12 141'	*Species unknown* (stag)	-	28	40	Dying, heavily dehydrated, with epicormics.	4a-c	ALARP	Completed
148R	-30° 42 052' 152° 12 137'	*Species unknown* (stag)	-	15	25/35	Dead.	4c	ALARP	Completed
149R	-30° 42 145' 152° 12 118'	*Species unknown* (stag)	-	27	40	Dead.	4c	ALARP	Completed
150R (x 2)	-30° 42 174' 152° 12 106'	*Species unknown* (stag)	-	25	40	Dead.	4c	ALARP	Completed
151R	-30° 42 180' 152° 12 105'	*Eucalyptus spp.* Eucalyptus	-	24	35	Immature, with a cavity (90%).	4c	ALARP	Completed
152R	-30° 42 189' 152° 12 103'	*Eucalyptus spp.* Eucalyptus	10	20	40	Immature, with dehydration, and a cavity (75%).	4c	ALARP	Completed
153R(x2)	-30° 42 225' 152° 12 068'	*Corymbia maculata* And Angophora adjacent	8	14	20/30	Immature, with a damaged root plate.	4c	HIGH 1	Remove.
154R	-30° 42 240' 152° 12 041'	*Eucalyptus spp.* Eucalyptus	12	10	15	Immature, over the road.	2d	ALARP	Completed
155R	-30° 42 277' 152° 12 029'	*Species unknown* (stag)	-	10	20	Dead.	4c	ALARP	Completed

SEGMENT 32

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
156R	-30° 42 300' 152° 12 019'	*Eucalyptus spp.* Eucalyptus	6	15	20	Cavity (85%).	4c	ALARP	Completed
157R	-30° 42 306' 152° 12 016'	*Eucalyptus spp.* Eucalyptus	7	18	20	Dead, with a cavity at the base.	4c	ALARP	Completed
158R (x 2)	-30° 42 328' 152° 12 011'	*Eucalyptus spp.* Eucalyptus	12	25	45	Structural damage (70%), and a cavity.	4c	ALARP	Completed
159R (x 2)	-30° 42 337' 152° 12 007'	*Eucalyptus spp.* Eucalyptus	8	14	20	Dead.	4c	ALARP	Completed
160R (x 2)	-30° 42 352' 152° 12 006'	*Eucalyptus spp.* Eucalyptus	8	14	20	Dead.	4c	ALARP	Completed
161R (x 2)	-30° 42 357' 152° 12 003'	*Eucalyptus spp.* Eucalyptus	12	15	18 40	Broken and with a cavity.	4c	ALARP	Completed
SEGMENT 31									
162R	-30° 42 375' 152° 12 003'	*Eucalyptus spp.* Eucalyptus	10	20	30	Structural damage (80%), and a cavity.	4c	ALARP	Completed
163R (x 2)	-30° 42 380' 152° 12 003'	*Eucalyptus spp.* Eucalyptus	7	20	20	Structural damage (70%), and a cavity.	4c	ALARP	Completed
164R (x 2)	-30° 42 406' 152° 11 999'	*Eucalyptus spp.* Eucalyptus	8	20	40	Dead.	4c	ALARP	Completed
165R	-30° 42 438' 152° 11 996'	*Eucalyptus spp.* Eucalyptus	18	30	60	Dead.	4c	ALARP	Completed
166R (x 3)	-30° 42 483' 152° 12 012'	*Eucalyptus spp.* Eucalyptus	6	12	20	Dead.	4c	ALARP	Completed
167R (x 2)	-30° 42 496' 152° 12 020'	*Eucalyptus spp.* Eucalyptus	12	20	30	Dead.	4c	HIGH 1	Remove.
168R	-30° 42 505' 152° 12 024'	*Eucalyptus spp.* Eucalyptus	10	16	20	Structural damage (60%), a cavity, and a lean.	4c	HIGH 1	Remove.
169R (x 2)	-30° 42 512' 152° 12 023'	*Eucalyptus spp.* Eucalyptus	6	15	20 20	Dead, with structural damage (70%), and a cavity.	4c	HIGH 1	Completed
170R (x 2)	-30° 42 524' 152° 12 019'	*Eucalyptus spp.* Eucalyptus	4	10	15	Dead.	4c	HIGH 1	Remove.
171R	-30° 42 537' 152° 11 977'	*Eucalyptus spp.* Eucalyptus	5	16	20	Dead.	4c	HIGH 1	Remove.
172R	-30° 42 569' 152° 11 931'	*Eucalyptus spp.* Eucalyptus	-	16	20	Dead.	4c	HIGH 1	Remove.
173R (x 2)	-30° 42 580' 152° 11 906'	*Eucalyptus spp.* Eucalyptus	12	25	40	Eroded and undermined.	4c	HIGH 1	Remove x 2.

Segment 31 continued

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
174R (x 2)	-30° 42 605' 152° 11 865'	*Eucalyptus spp.* Eucalyptus	10	20	40	Structural damage (60%), and a cavity 15m off road.	4c	HIGH 1	Remove.
NO TAG	-30° 42 645' 152° 11 841'	*Eucalyptus spp.* Eucalyptus	3	8	20	Immature Erosion of soil	4c	HIGH 1	Remove
NO TAG	-30° 42 656' 152° 11 841'	*Eucalyptus spp.* Eucalyptus	3	8	20	Immature Suspended Erosion	4c	HIGH 1	Remove
175R	-30° 42 656' 152° 11 837'	*Eucalyptus spp.* Eucalyptus	10	18	30	Eroded and undermined.	4c	HIGH 1	Remove.
176R (x 3)	-30° 42 736' 152° 11 803'	*Eucalyptus spp.* Eucalyptus	-	15	20	Dead.	4c	HIGH 1	Remove.
177R (x 2)	-30° 42 751' 152° 11 793'	*Eucalyptus spp.* Eucalyptus	-	18	60	Dead.	4c	HIGH 1	Remove.
178R (x 2)	-30° 42 754' 152° 11 788'	*Eucalyptus spp.* Eucalyptus	-	15	40	1 x Dead. 1 x Structural damage (70%), and a cavity.	4c	HIGH 1	Remove.
179R (x 2)	-30° 42 777' 152° 11 772'	*Eucalyptus spp.* Eucalyptus	-	22	90	1 x Dead. 1 x Structural damage (70%), and a cavity.	4c	HIGH 1	Remove.
180R (x 7)	-30° 42 788' 152° 11 762'	*Eucalyptus spp.* Eucalyptus	-	14	20	Dead.	4c	HIGH 1	Remove.
181R	-30° 42 774' 152° 11 719'	*Eucalyptus spp.* Eucalyptus	-	20	30	Dead.	4c	HIGH 1	Remove.
182R	-30° 42 705' 152° 11 693'	*Eucalyptus spp.* Eucalyptus	-	15	35	Structural damage (70%), and a cavity.	4c	HIGH 1	Remove.
183R	-30° 42 673' 152° 11 712'	*Eucalyptus spp.* Eucalyptus	-	12	20	Dead.	4c	HIGH 1	Remove.
184R	-30° 42 670' 152° 11 712'	*Eucalyptus spp.* Eucalyptus	-	15	20	Dead, with structural damage (60%).	4c	HIGH 1	Remove.
185R	-30° 42 660' 152° 11 731'	*Eucalyptus spp.* Eucalyptus	9	25	40	Structural damage (70%), and a cavity.	4c	HIGH 1	Remove.
186R	-30° 42 652' 152° 11 728'	*Eucalyptus spp.* Eucalyptus	12	20	30	Structural damage (70%) and a cavity.	4c	HIGH 1	Remove.
187R (x 4)	-30° 42 648' 152° 11 716'	*Eucalyptus spp.* Eucalyptus	-	10	15	Dead.	4c	HIGH 1	Remove.

SEGMENT 30

Tree No.	GPS Location	Scientific & Common Name	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects & Measurements)	TULE	TRA	Intervention (Specification)
188R	-30° 42 507' 152° 11 653'	Eucalyptus spp. Eucalyptus	8	15	30	Structural damage, cavity, and lifted roots.	4c	HIGH 1	Remove.
189R	-30° 42 518' 152° 11 623'	Eucalyptus spp. Eucalyptus	-	25	60	Structural damage (70%), and a cavity.	4c	HIGH 1	Remove.
190R	-30° 42 637' 152° 11 619'	Eucalyptus spp. Eucalyptus	12	25	50	Structural damage (85%), and a cavity.	4c	HIGH 1	Remove.
191R	-30° 42 795' 152° 11 625'	Eucalyptus spp. Eucalyptus	10	25	50	Structural damage (90%), and a cavity.	4c	HIGH 1	Remove.
192R	-30° 42 814' 152° 11 614'	Eucalyptus spp. Eucalyptus	8	16	40	Dead.	4c	HIGH 1	Remove.
193R	-30° 42 829' 152° 11 613'	Acacia spp. Wattle	-	12	30	Dead.	4c	HIGH 1	Remove.
194R	-30° 42 832' 152° 11 612'	Eucalyptus spp. Eucalyptus	-	12	20	Dead.	4c	HIGH 1	Remove.
195R	-30° 42 835' 152° 11 613'	Acacia spp. Wattle	10	12	20	Dead.	4c	HIGH 1	Remove.
196R	-30° 42 835' 152° 11 613'	Eucalyptus spp. Eucalyptus	-	28	50	Dead.	4c	HIGH 1	Remove.
197R	-30° 42 836' 152° 11 613'	Eucalyptus spp. Eucalyptus	-	25	50	Dead.	4c	HIGH 1	Remove.
198R	-30° 42 919' 152° 11 651'	Eucalyptus spp. Eucalyptus	15	30	80	Dead.	4c	HIGH 1	Remove.
199R (x 2)	-30° 42 977' 152° 11 658'	Eucalyptus spp. Eucalyptus	-	30	60	Dead.	4c	HIGH 1	Remove.
200R	-30° 43 010' 152° 11 666'	Eucalyptus spp. Eucalyptus	-	10	20	Dead.	4c	HIGH 1	Remove.
201R	-30° 43 053' 152° 11 665'	Eucalyptus spp. Eucalyptus	15	25	60	Dead, with co-dominant stems.	4c	HIGH 1	Remove.
202R	-30° 43 063' 152° 11 631'	Eucalyptus spp. Eucalyptus	10	25	50	Dead.	4c	HIGH 1	Remove.
203R	-30° 43 065' 152° 11 622'	Eucalyptus spp. Eucalyptus	12	20	50	Dead.	4c	HIGH 1	Remove.
204R	-30° 43 077' 152° 11 601'	Eucalyptus spp. Eucalyptus	8	20	48	Dead, with structural damage (75%), and a cavity.	4c	HIGH 1	Remove.
205R	-30° 43 084' 152° 11 593'	Eucalyptus spp. Eucalyptus	12	30	70	Dead leader over the road.	4c	Medium	Prune off dead leader.
206R	-30° 43 092' 152° 11 561'	Eucalyptus spp. Eucalyptus	-	35	40	Dead.	4c	HIGH 1	Remove.

207R	-30° 43 093' 152° 11 561'	Eucalyptus spp. Eucalyptus	-	15	60	Dead.	4c	HIGH 1	Remove.

Tree no.	GPS Location	Scientific& Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	TULE	TRA	Intervention (Specification)
208R	-30° 43 134' 152° 11 537'	*Eucalyptus spp.* Eucalyptus	29	-	30	50	Dead.	4c	HIGH 1	Remove.
209R	-30° 43 144' 152° 11 526'	*Eucalyptus spp.* Eucalyptus	29	-	25	30	Dead.	4c	HIGH 1	Remove.
210R (x 3)	-30° 43 147' 152° 11 526'	*Eucalyptus spp.* Eucalyptus	29	-	30	40	Dead.	4c	HIGH 1	Remove.
211R	-30° 43 164' 152° 11 537'	*Eucalyptus spp.* Eucalyptus	29	-	18	30	Dead.	4c	HIGH 1	Remove.
212R (x 2)	-30° 43 198' 152° 11 538'	*Eucalyptus spp.* Eucalyptus	29	-	15	20	Dead.	4c	HIGH 1	Remove.
213R	-30° 43 250' 152° 11 504'	*Eucalyptus Sp.*	29	8	22	40	Dead tree, suppressed canopy, 2m from road	C4	HIGH 1	Remove
214R	-30° 43 333' 152° 11 497'	*Eucalyptus Sp.* Group x2	29	5	18	30	Dead tree, 4m from edge of bank	C4	HIGH 1	Remove
215R	-30° 43 465' 152° 11 293'	*Eucalyptus Sp.*	29	15	30	90	Dying, 8m from road	C4	HIGH 1	Remove
216R	-30° 43 489' 152° 11 310'	*Acacia Sp.* Wattle	29	8	10	20	Dead, 8m from road	C4	Medium	Remove
217R	-30° 43 499' 152° 11 330'	*Eucalyptus Sp.*	29	10	15	80	Dead, 5m from road structural damage, 4m from road	C4	Medium	Remove
218R	-30° 43 542' 152° 11 329'	*Eucalyptus Sp.* Group x2	29	5	18	35	Dead section, 16m from road	C4	Medium	Remove
219R	-30° 43 595' 152° 11 235'	*Casuarina glauca* She oak	29	4	8	20	Structural damage. Basal cavity, 0.5m from bank	C4	Medium	Remove
220R	-30° 43 596' 152° 11 225'	*Casuarina glauca* She oak	29	6	10	25	Structural damage. Basal cavity, 3m from road	C4	Medium	Remove

Segment 29 continued

Tree no.	GPS Location	Scientific & Common name	Segment (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	TULE	TRA	Intervention (Specification)
221R	-30° 43 630' 152° 11 246'	*Eucalyptus Sp.*	29	6	15	60	Dead tree, 9m from road	C4	Medium	Remove
222R	-30° 43 818' 152° 11 214'	*Eucalyptus Sp.*	29	6	12	25	Dead tree, on edge of bank	C4	HIGH 1	Remove
223R	-30° 43 885' 152° 11 257'	*Eucalyptus Sp.*	29	8	12	30	Dead tree, 3m from road	C4	Medium	Remove
224R	-30° 44 268' 152° 11 421'	*Eucalyptus Sp.*	29	10	18	40	Dead tree, 1m from edge of bank	C4	HIGH 1	Remove
225R (x 4)	-30° 45 003' 152° 11 819'	*Eucalyptus Sp.* Group x4	29	10	20	70	Dead tree, 7m from road	C4	Medium	Remove
226R (x 6)	-30° 45 008' 152° 11 883'	*Eucalyptus Sp.* Group x6	29	8	25	50	Dead tree, 8m from road	C4	Medium	Prune back from road
227R	-30° 45 227' 152° 12 823'	*Eucalyptus Sp.*	29	7	16	35	Dead tree, 6m from road	C4	Medium	Remove

SEGMENT 24

Tree no.	GPS Location	Scientific & Common name	Segme nt (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	TULE	TRA	Intervention (Specification)
228R (x 4)	-30° 45 228' 152° 12 878'	*Eucalyptus Sp.* Group x4	24	5	15	30	Dead trees, 3-6m from road	C4	HIGH 1	Remove
229R (x 3)	-30° 45 233' 152° 12 902'	*Eucalyptus Sp.* Group x3	24	4	12	25	Dead trees, 4m from road	C4	Medium	Remove
230R (x 3)	-30° 45 236' 152° 12 928'	*Eucalyptus Sp.* Group x3	24	4	15	20	Dead trees, 3-6m from road	C4	Medium	Remove
231R (x 2)	-30° 45 241' 152° 12 976'	*Eucalyptus Sp.* Group x2	24	8	15	30	Dead trees, 3m from road	C4	Medium	Remove
232R (x 3)	-30° 45 239' 152° 13 025'	*Eucalyptus Sp.* Group x3	24	6	20	35	Dead trees, 2-3m from road	C4	Medium	Remove
233R (x 2)	-30° 45 238' 152° 13 046'	*Eucalyptus Sp.* Group x2	24	14	20	90	Dead trees, 2-6m from road	C4	Medium	Prune
234R (x 2)	-30° 45 235' 152° 13 068'	*Eucalyptus Sp.* Group x2	24	6	12	20	Dead trees, 3-4m from road	C4	Medium	Remove
235R	-30° 45 215' 152° 13 096'	*Eucalyptus Sp.*	24	7	20	40	Dead tree, 7m from road	C4	Medium	Remove
236R	-30° 45 234' 152° 13 135'	*Eucalyptus Sp.*	24	6	20	30	Dead tree, 6m from road	C4	Medium	Remove
237R	-30° 45 270' 152° 13 259'	*Eucalyptus Sp.*	24	8	18	41	Cavity at base, 6m from road	C4	Medium	Remove
238R	-30° 45 289' 152° 13 329'	*Eucalyptus Sp.*	24	10	28	70	Dead tree, 6m from road	C4	HIGH 1	Remove
239R	-30° 45 410' 152° 13 750'	*Eucalyptus Sp.*	24	7	16	25	Dead tree, 6m from road	C4	Medium	Remove
240R	-30° 45 396' 152° 13 796'	*Eucalyptus Sp.*	24	12	20	80	Dead tree, 8m from road	C4	HIGH 1	Prune away from road
241R (x 2)	-30° 45 379' 152° 13 902'	*Eucalyptus Sp.* Group x2	24	7	15	20	Dead tree, 3m from road	C4	Medium	Prune 4m from road
242R	-30° 45 314' 152° 14 031'	*Acacia Sp.* Wattle	24	6	10	20	Dead tree, 2m from road	C4	Medium	Remove

SEGMENT 21 & 20

Tree no.	GPS Location	Scientific & Common name	Segment (m)	Crown Spread (m	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	TULE	TRA	Intervention (Specification)
243R (x 2)	-30° 45 145' 152° 14 258'	*Eucalyptus Sp.* Group x2	21	6	15	30	Dead trees, 184m from road	C4	HIGH 1	Remove
244R	-30° 45 111' 152° 14 258'	*Eucalyptus Sp.*	21	8	15	40	Dead tree, 3m from road	C4	Medium	Remove
245R (x 2)	-30° 45 092' 152° 14 281'	*Eucalyptus Sp.* Group x2	21	8	15	30	1x dead tree with basal cavity over 80% of stem, lean, dead tree, 2m from road	C4	HIGH 1	Remove
246R	-30° 45 102' 152° 14 301'	*Eucalyptus Sp.* Group x2	21	10	15	50	Dead tree, 2m from road	C4	Medium	Remove
247R	-30° 45 053' 152° 14 359'	*Eucalyptus Sp.*	21	-	12	20	Dead tree, lean, 5m from road	C4	HIGH 1	Remove
248R (x 5)	-30° 45 033' 152° 14 363'	*Eucalyptus Sp.* Group x5	21	12	20	60	Dead trees, 1-3m from road, dead, small surrounding dead trees	C4	HIGH 1	Remove
249R (x 2)	-30° 45 018' 152° 14 352'	*Eucalyptus Sp.* Group x2	22	14	25	25	Dead trees, 1 and 4m from road	C4	Medium	Remove
250R	-30° 44 982' 152° 14 354'	*Eucalyptus Sp.*	21	5	15	25	Dead tree, lean, 4m from road	C4	HIGH 1	Remove
251R (x 8)	-30° 44 986' 152° 14 378'	*Eucalyptus Sp.*	20	6	15	20	Dead tree, lean, 2m from road	C4	HIGH 1	Remove
251R (x 8)	-30° 44 982' 152° 14 429'	*Eucalyptus Sp.* Group x8	20	4	12	10-20	Small dead trees within 1m of roadway	C4	Medium	Remove
252R	-30° 44 950' 152° 14 471'	*Eucalyptus Sp.*	20	6	10	20	Small dead tree, within 1m of roadway	C4	HIGH 1	Remove
253R	-30° 44 929' 152° 14 473'	*Eucalyptus Sp.*	20	6	15	20	Dead tree, lean, 1m from road	C4	HIGH 1	Remove
254R	-30° 44 893' 152° 14 443'	*Eucalyptus Sp.*	20	8	15	20	Dead tree, 2m from road	C4	HIGH 1	Remove

SEGMENT 20 continued

Tree no.	GPS Location	Scientific& Common name	Segment (m)	Crown Spread (m	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Tule	Risk	Intervention (Specification)
255R	-30° 44 477' 152° 14 878'	*Eucalyptus Sp.* Group x2	20	8	18	40	Dead trees, lean, 305m from road	C4	HIGH 1	Remove
256R	-30° 44 420' 152° 14 995'	*Eucalyptus Sp.* Group x2	20	3	12	20	Dead trees 6m from road	C4	Medium	Remove

*No action required for segment 19

10.0 FINDINGS PHOTOGRAPHIC OBSERVATIONS.

PHOTOS SECTION ONE LEFT SIDE

SECTION ONE LEFT SIDE Trees 1– 129

Tree 1 L (yellow arrow).

Tree 2 L (yellow arrow).

Tree 3 L (yellow arrow).

Tree 4 L

Tree 5 L (yellow arrow).

Tree 6 L (yellow arrow).

Tree 7 L (yellow arrow).

Tree 8 L (yellow arrow).

Tree 9 L (yellow arrow).

Tree 10 L (yellow arrow)

Tree 11 L (yellow arrow).

Tree 12 L (yellow arrow).

Tree 13 L x 2 (yellow arrow).

Tree 14 L (yellow arrow).

Tree 15 L(yellow aroow)

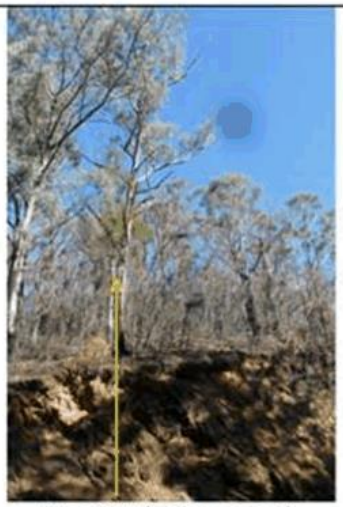
Tree 16L (yellow arrow)

Tree 17 L x 3 (yellow arrow).

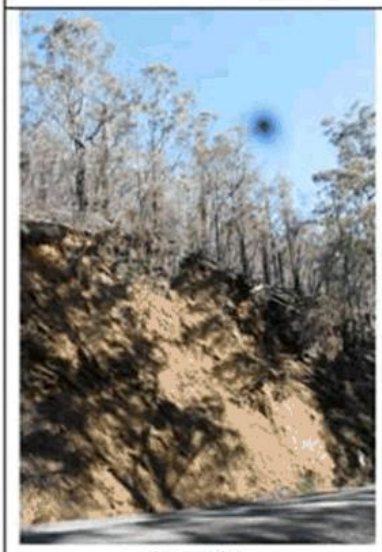
Tree 18 L x 2 (yellow arrow).

Tree 19 L (yellow arrow).

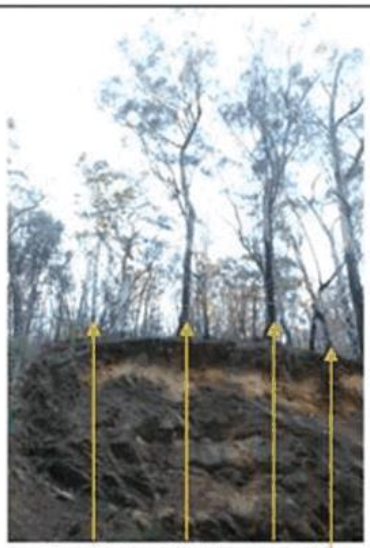
Tree 20 L (yellow arrow).



Tree 21 L (yellow arrow).



Tree 22 L



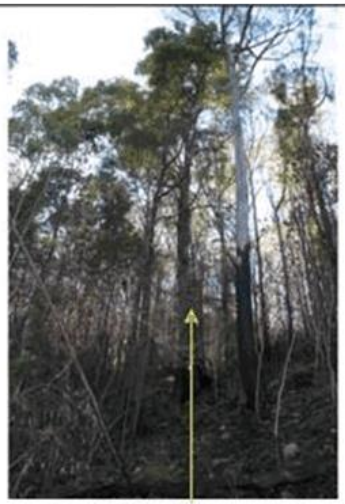
Tree 23 L x 4 (yellow arrow).

Tree 24 L (yellow arrow).

Tree 25 L (yellow arrow).

Tree 26 L (yellow arrow).

Tree 27 L x 2 (yellow arrow)



Tree 28 L (yellow arrow).

Tree 29 L (yellow arrow).

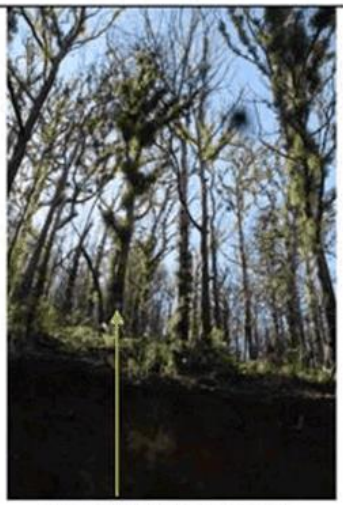
Tree 30 L x2 (yellow arrow).

Tree 31 L (yellow arrow).

Tree 32 L (yellow arrow).

Tree 33 L (yellow arrow).

Tree 34 x 2(yellow arrow).



Tree 35 (yellow arrow).

Tree 36 L (yellow arrow).

Tree 37 L (yellow arrow).

Tree 38 L (yellow arrow).

Tree 39 L (yellow arrow).

Tree 40 L

Tree 41 L (yellow arrow).

Tree 42 x 2
No Photo

Tree 43 L (yellow arrow).

Tree 44 L (yellow arrow).

Tree 45 L x 2 (yellow arrow).

Tree 46 L (yellow arrow).

Tree 47 L x 2(yellow arrow).

Tree 48 L (yellow arrow).

Tree 49 L (yellow arrow).

Tree 50 L (yellow arrow).

Tree 51 L (yellow arrow).

Tree 52 L (yellow arrow).

Tree 53 L (yellow arrow).

Tree 54 L (yellow arrow).

Tree 55 L (yellow arrow).

Tree 56 L (yellow arrow).

Tree 57 L (yellow arrow).

Tree 58 L (yellow arrow).

Tree 59 L

Tree 60 L

Tree 61 L

Tree 62 L x 2

Tree 63 L

Tree 64 Lx 4

Tree 64 L x 4)

Tree 64 L x 4

Tree 65. L

Tree 65 L

Tree 66 L

Tree 67 L

Tree 68 L x 3

Tree 69 L

Tree 70 L

Tree 71 Lx 2

Tree 72 L x 2

Tree 73 L x 4

Tree 73 L x 2

Tree 74 L x 2

Tree 75 L

Tree 76 L

Tree 77 L

Tree 78 L

Tree 79 L

Tree 80 L

Tree 8 1L

Tree 82 L x 8

Tree 82 L x 8

Tree 83 L x 2

Tree 84 L x 2

Tree 85 L x 6

Tree 86 L x 7

Tree 87L x 7

Tree 88 L

Tree 89 L x 4

Tree 90 L

Tree 91 L

Tree 92 L

Tree 93 L

Tree 94 L

Tree 95 L

Tree 96 Lx 2

Tree 97 L

Tree 98 L

Tree 99 L x 2

Tree 100 L

Tree 101 L x 6

Tree 102 L x 2

Tree 103 Lx 2

Tree 103 Lx 2

Tree 104 L x 2

Tree 105 L

Tree 106 L

Tree 107 L

Tree 108 L x 3

Tree 109 L x 7

Tree 109 L x 7

Tree 110 L

Tree 111 L x 2

Tree 112 L x 5

Tree 113 L x 6

Tree 114 L

Tree 115 Lx 5

Tree 116 Lx 4

Tree 116 L x 4

Tree 117 L

Tree 118 L

Tree 119 L X 8

Tree 120 L

Tree 121 L x 2

Tree 122 L x 2

Tree 113 L x 5

Tree 124 L x 4

Tree 125 L x 2

Tree 126 L x 3

Tree 127 x 2

 *Tree 128 L*	 *Tree 129 L*	End of photos

PHOTOS SECTION ONE RIGHT SIDE

SECTION ONE RIGHT SIDE Tree 1-256

Tree 1 R (yellow arrow).

Tree 2 R (yellow arrow).

Tree 3 R (yellow arrow).

Tree 4 R (yellow arrow).

Tree 5 R (yellow arrow).

Tree 6 R

Tree 7 R (yellow arrow).

Tree 8 R (yellow arrow).

Tree 9 R (yellow arrow)

Tree 10R (yellow arrow)

Tree 11 R (yellow arrow).

Tree 12 R (yellow arrow).

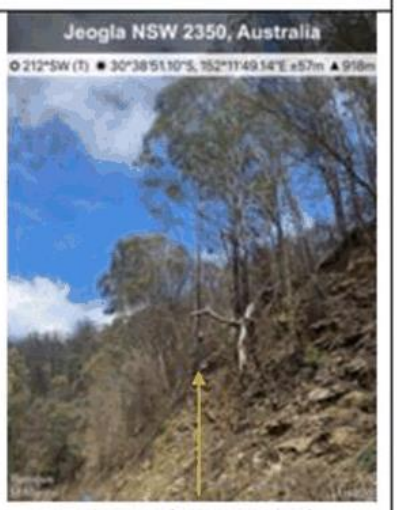
Tree 13 R x 2 (yellow arrow).

Tree 14 R (yellow arrow).

Tree 15 R (yellow arrow).

Tree 16 R (yellow arrow)

Tree 17 R (yellow arrow).

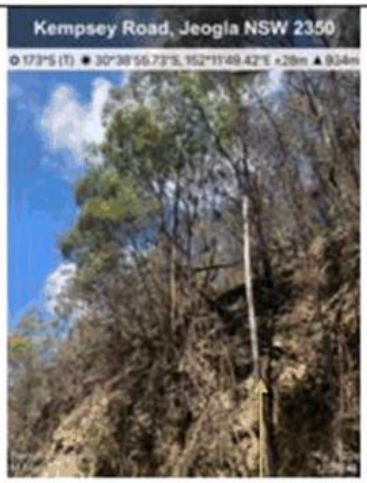


Tree 18 R (yellow arrow).

Tree 19 R (yellow arrow).

Tree 20 R (yellow arrow).

Tree 21 R (yellow arrow).



Tree 22 R (yellow arrow).

Tree 23 R (yellow arrow).

Tree 24 R (yellow arrow).

Tree 26(yellow arrow).

Tree 27 R

Tree 27 b R (yellow arrow).

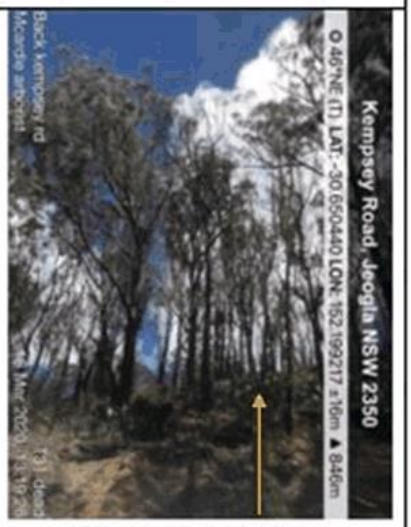
Tree 27 c R (yellow arrow).

Tree 27 d R (yellow arrow).

Tree 28R x 2

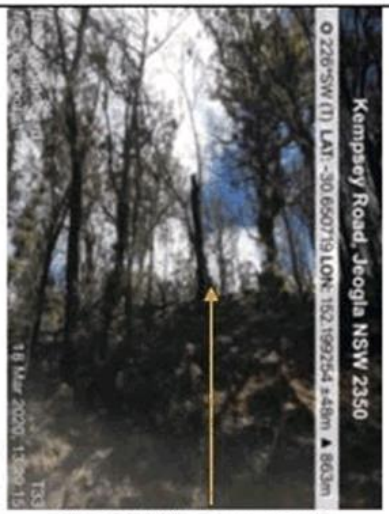
Tree 29 R (yellow arrow).

Tree 30 R (yellow arrow).



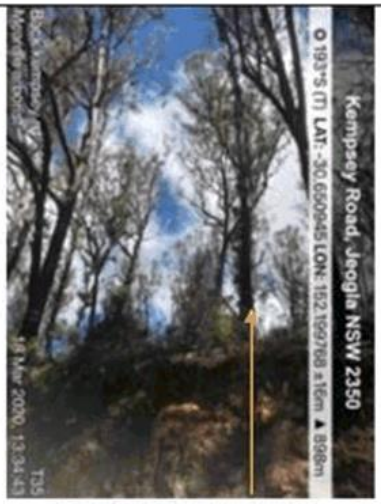
Tree 31 R (yellow arrow).

Tree 32
N/ a



Tree 33 R (yellow arrow).

Tree 34 R (yellow arrow).



Tree 35 R (yellow arrow).

Tree 36 R (yellow arrow).

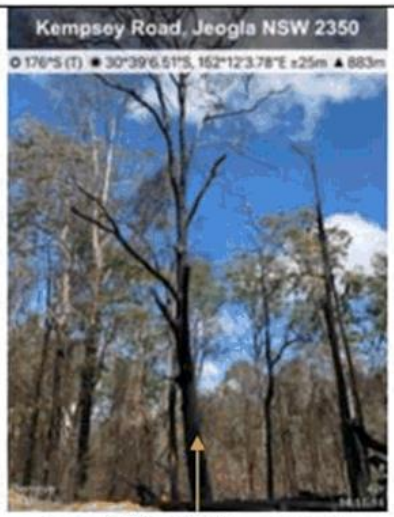
Tree 37 R (yellow arrow).

Tree 38 R (yellow arrow).

Tree 39 R (yellow arrow).

Tree 40 R (yellow arrow).

Tree 41 R (yellow arrow).

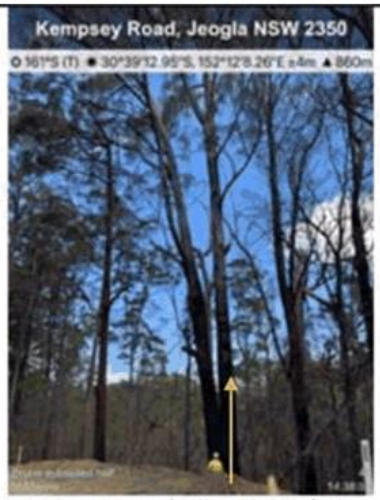


Tree 42 R x 2 (yellow arrow).

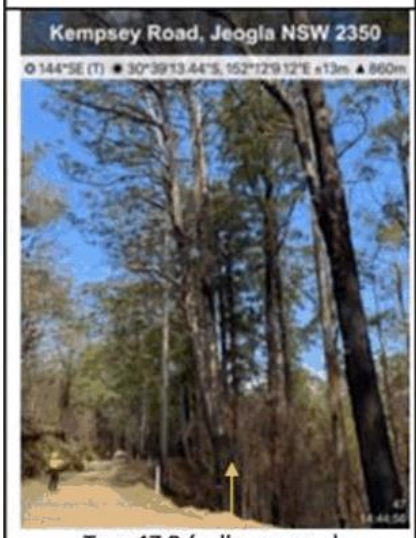
Tree 43 L (yellow arrow).

44 R (yellow arrow).

Tree 45 R (yellow arrow).

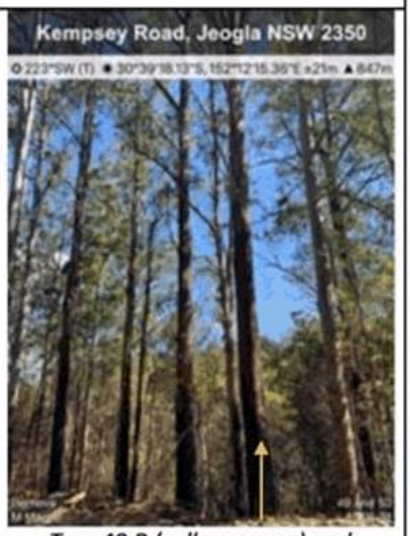


Tree 46 R (yellow arrow).



Tree 47 R (yellow arrow).

TREE 48 R

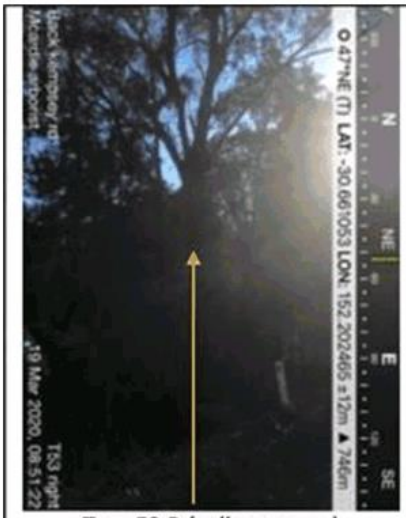


Tree 49 R (yellow arrow) and

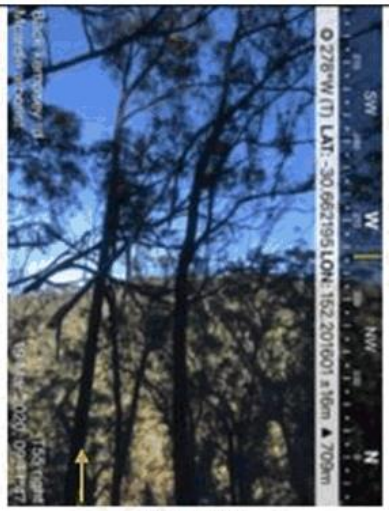
50 R (yellow arrow).

Tree 51 R (yellow arrow).

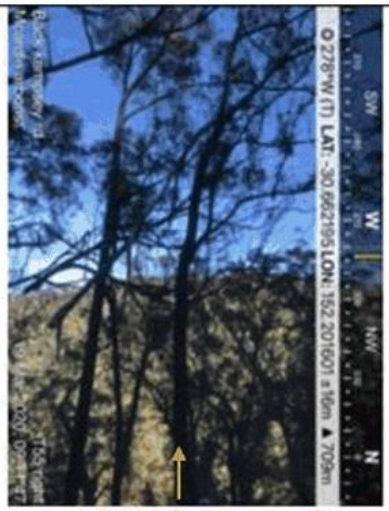
Tree 52 R (yellow arrow).



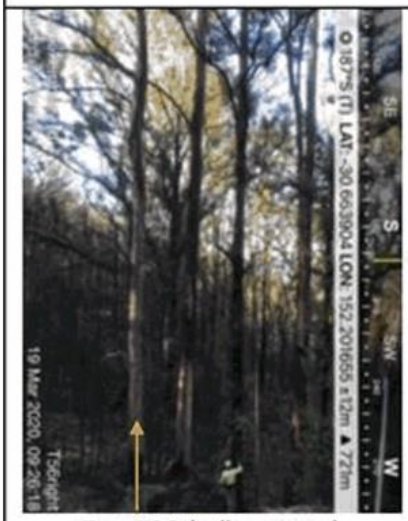
Tree 53 R (yellow arrow).



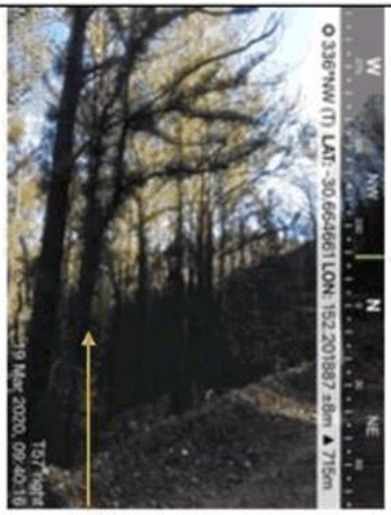
Tree 54 R



Tree 55 R (yellow arrow).

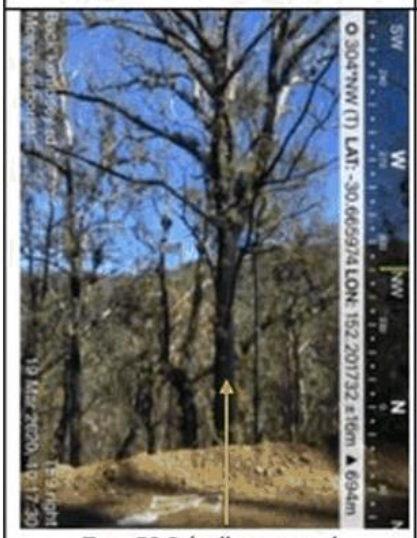


Tree 56 R (yellow arrow).

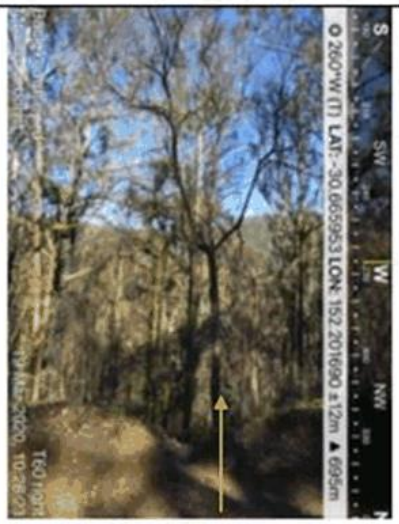


Tree 57 R (yellow arrow).

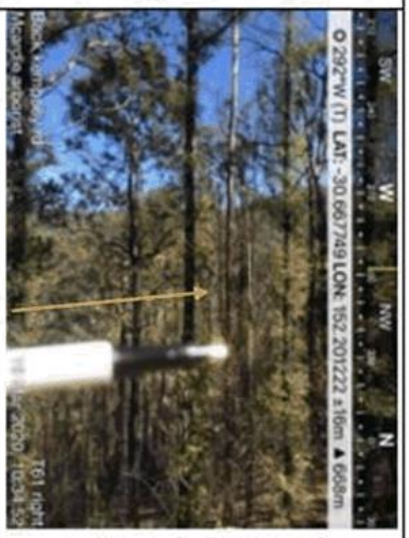
Tree 58 R (yellow arrow).



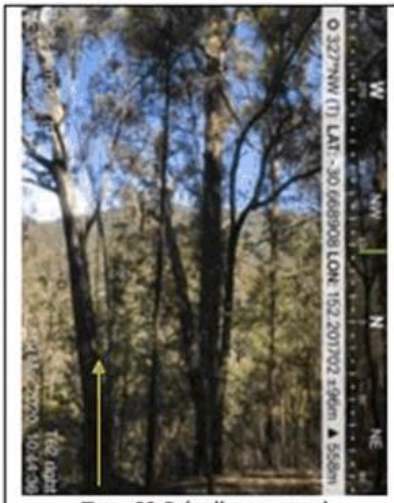
Tree 59 R (yellow arrow).



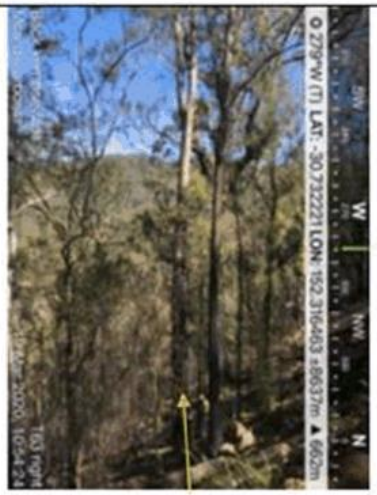
Tree 60 R (yellow arrow).



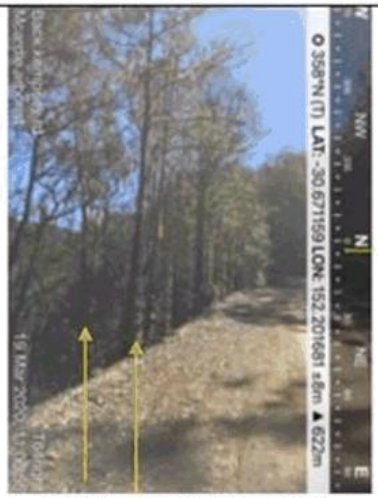
Tree 61 R (yellow arrow).



Tree 62 R (yellow arrow).

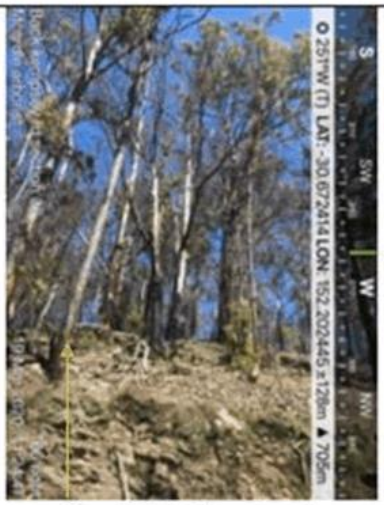


Tree 63 R (yellow arrow).

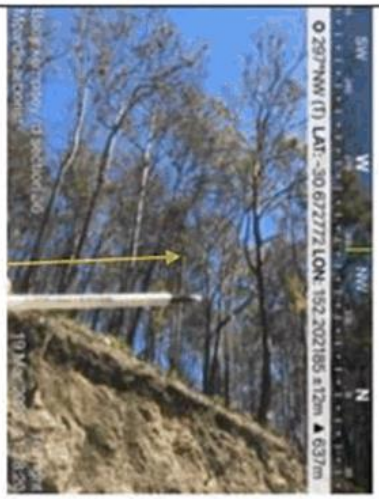


Tree 64 R x 2 (yellow arrow).

Tree 65 R x 2 (yellow arrow).



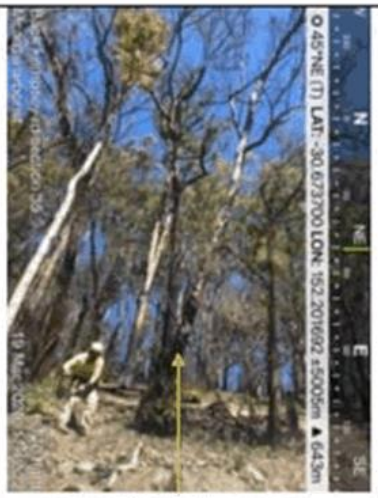
Tree 66 R (yellow arrow).



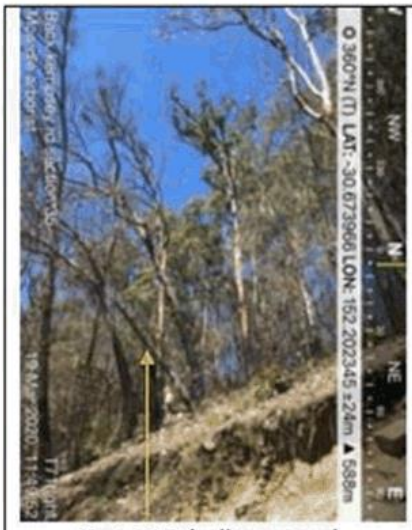
Tree 67 R (yellow arrow).

Tree 68 R (yellow arrow).

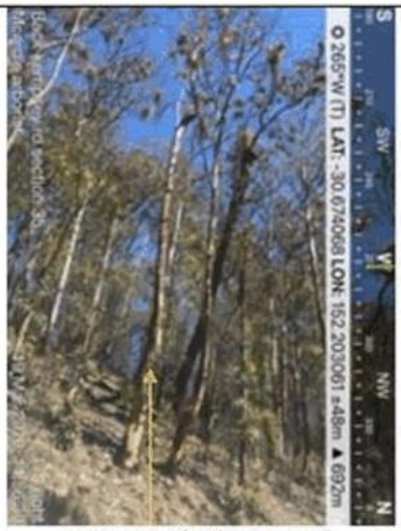
Tree 69 R (yellow arrow).



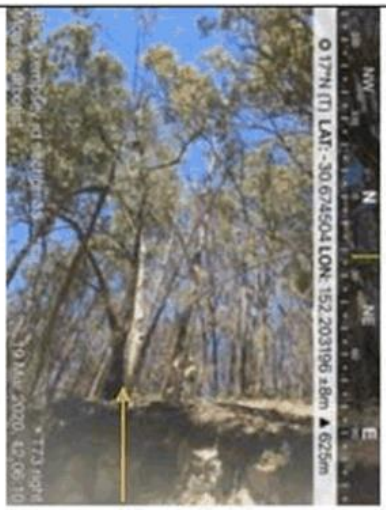
Tree 70 R (yellow arrow).



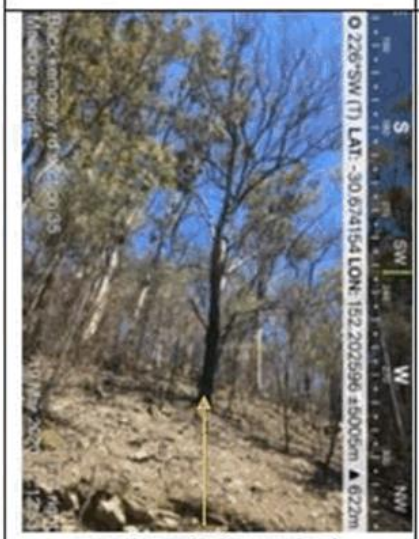
Tree 71 R (yellow arrow).



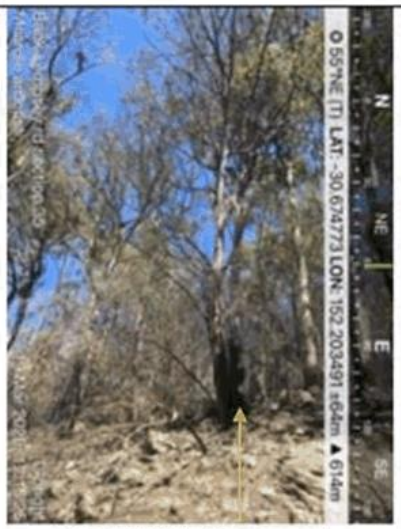
Tree 72 R (yellow arrow).



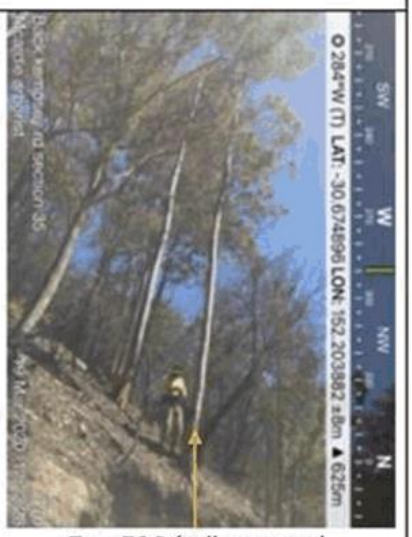
Tree 73 R (yellow arrow).



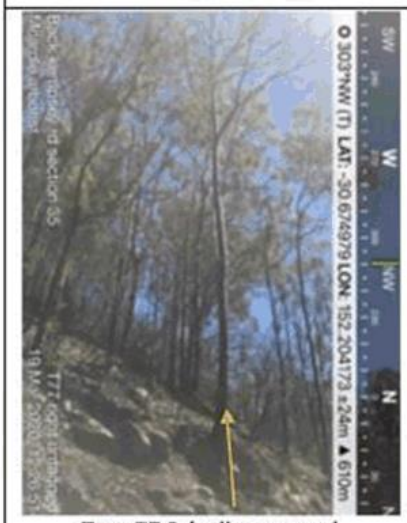
Tree 74 R (yellow arrow).



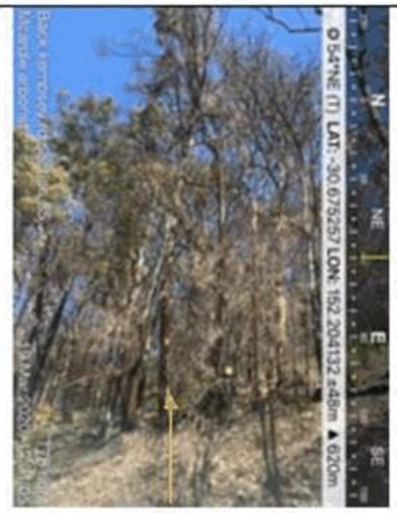
Tree 75 R (yellow arrow).



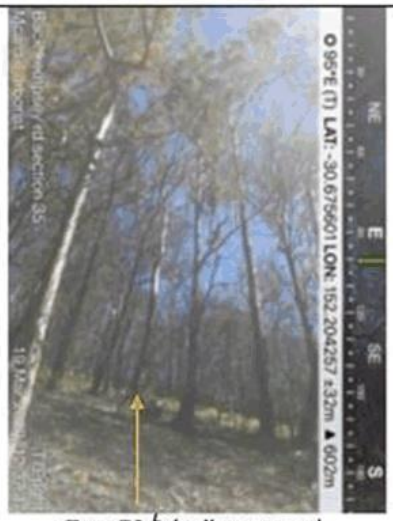
Tree 76 R (yellow arrow).



Tree 77 R (yellow arrow).

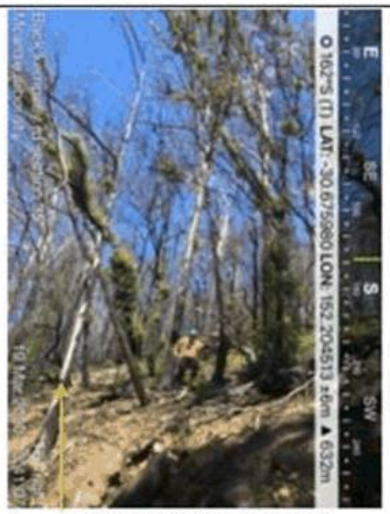


Tree 78 R (yellow arrow).

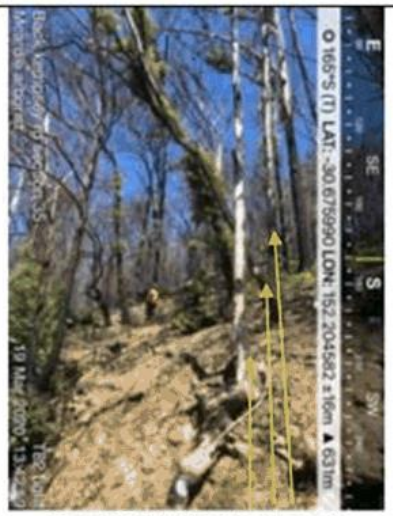


Tree 79 R (yellow arrow).

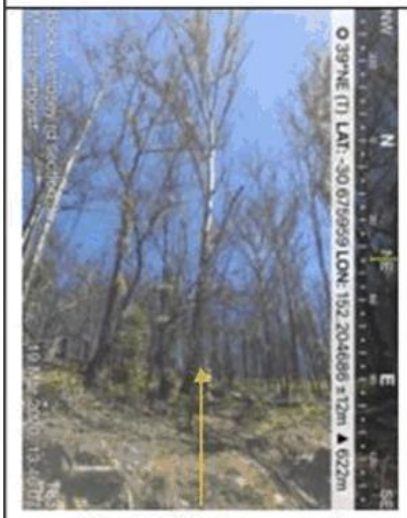
Tree 80 R (yellow arrow).



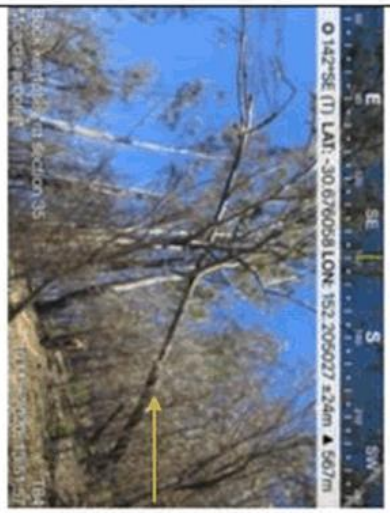
Tree 81 R (yellow arrow).



Tree 82 R X 3(yellow arrow).

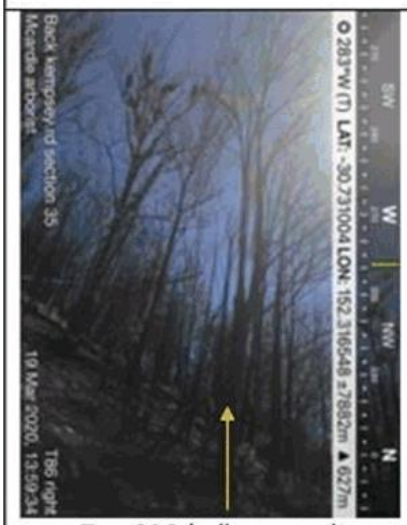


Tree 83 R (yellow arrow).

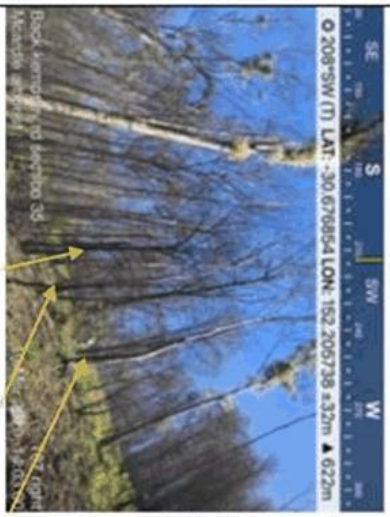


Tree 84 R (yellow arrow).

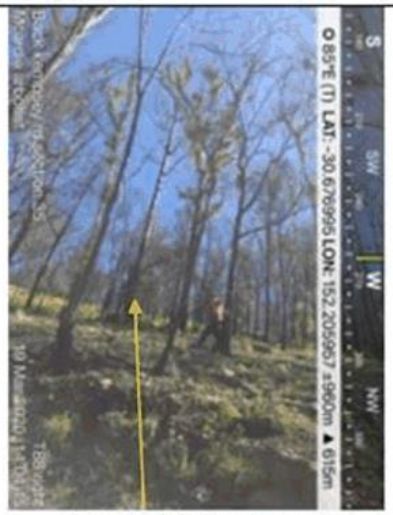
Tree 8 5R X 4 (yellow arrow).



Tree 86 R (yellow arrow).

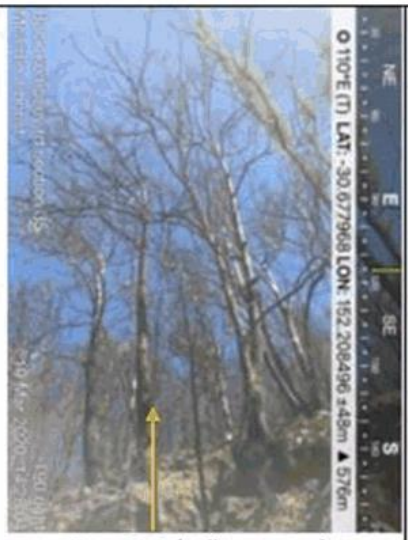


Tree 87 R X 6 (yellow arrow).

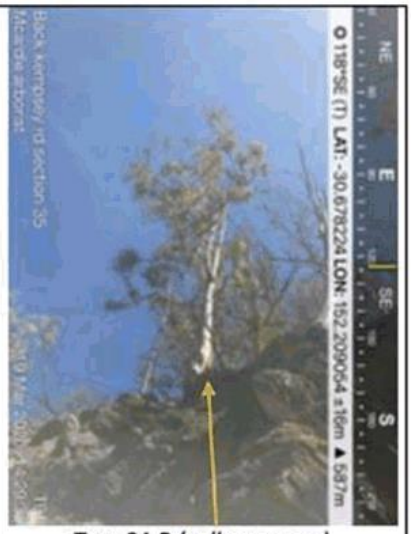


Tree 88 R (yellow arrow).

Tree 89 R X 6 (yellow arrow).

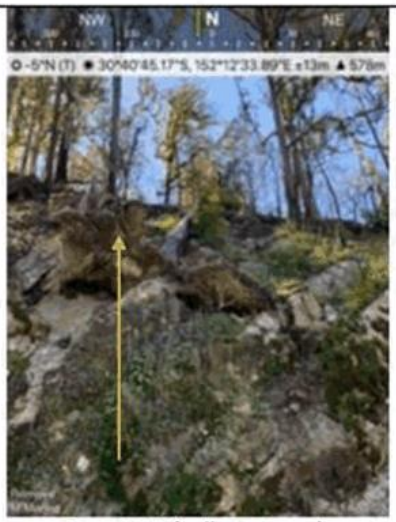


Tree 90 R (yellow arrow).

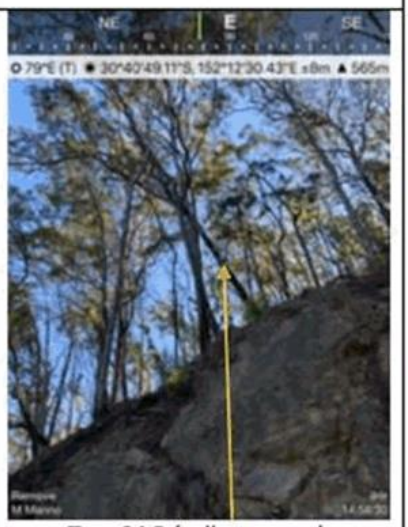


Tree 91 R (yellow arrow).

Tree 92 R (yellow arrow).



Tree 93 R (yellow arrow).



Tree 94 R (yellow arrow).

Tree 95 R (yellow arrow).

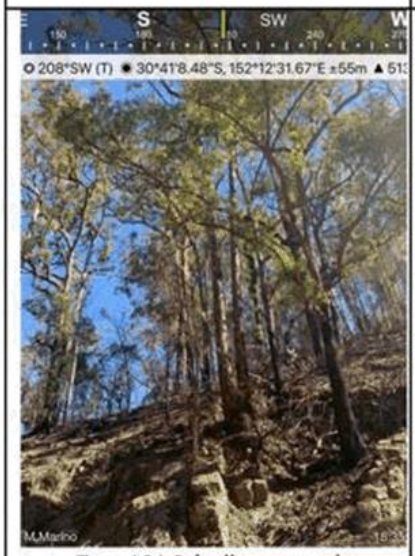
Tree 96 R

Tree 97 R (yellow arrow).

Tree 98 R (yellow arrow).

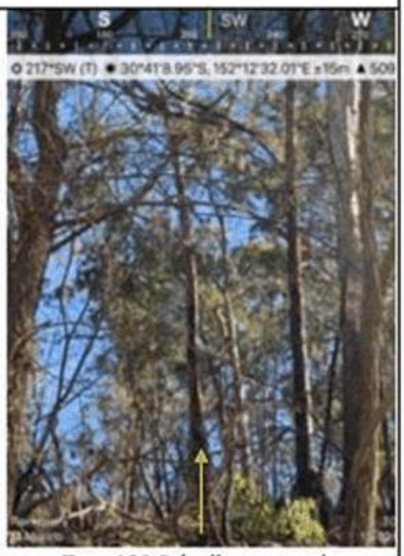
Tree 99 R (yellow arrow).

Tree 100 R (yellow arrow).



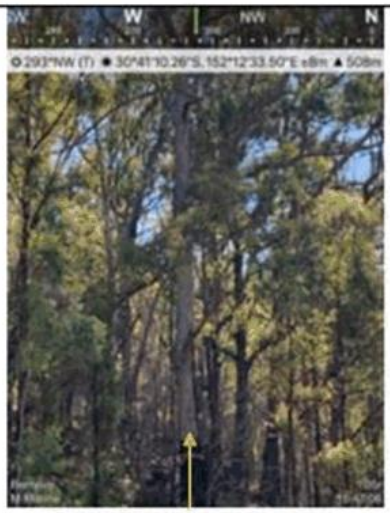
Tree 101 R (yellow arrow).

Tree 102 R (yellow arrow).

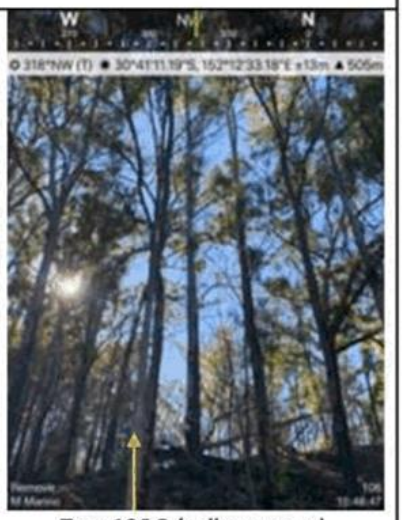


Tree 103 R (yellow arrow).

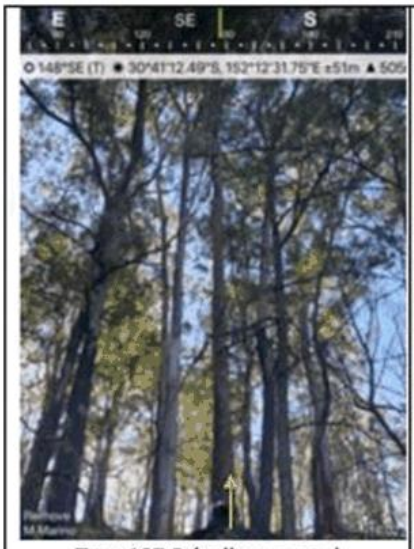
Tree 104 R (yellow arrow).



Tree 105 R (yellow arrow).

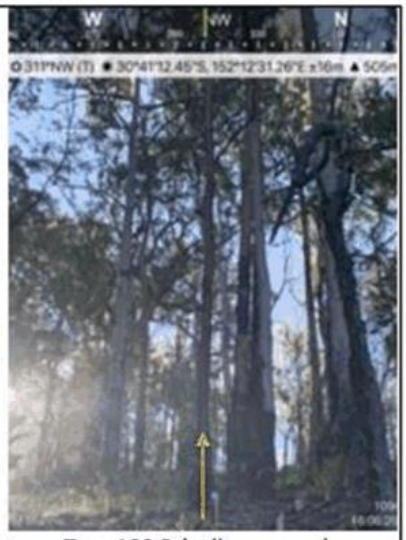


Tree 106 R (yellow arrow).



Tree 107 R (yellow arrow).

Tree 108 R (yellow arrow).



Tree 109 R (yellow arrow).

Tree 110 R (yellow arrow).

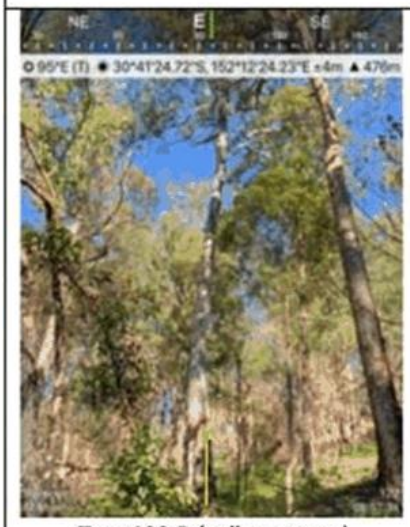
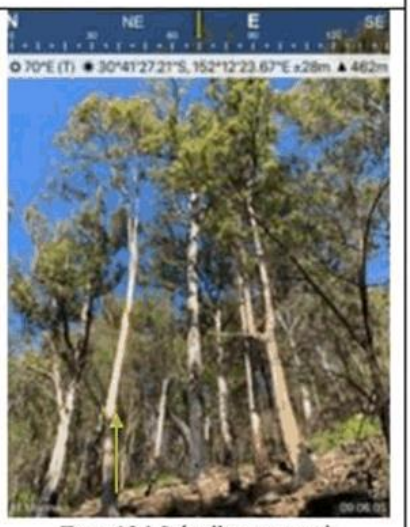
Tree 111 R (yellow arrow).

Tree 112 R (yellow arrow).

Tree 113 R (yellow arrow).

Tree 114 R

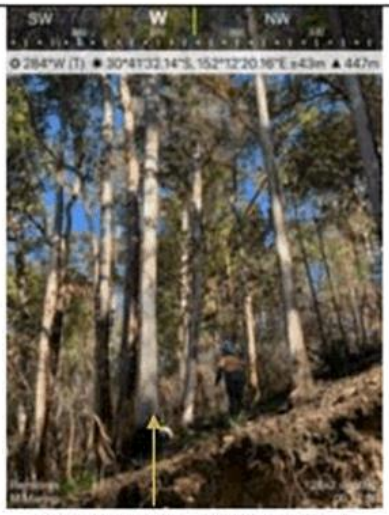
Tree 115 R x 3
No photo

Tree 116R *No photo*	*Tree 117R* *No photo*	 *Tree 118 R (yellow arrow).*
 *Tree 119 R (yellow arrow).*	 *Tree 120 R (yellow arrow).*	 *Tree 121 R (yellow arrow).*
 *Tree 122 R (yellow arrow).*	 *Tree 123 R (yellow arrow).*	 *Tree 124 R (yellow arrow).*

Tree 125 R (yellow arrow).

Tree 126 R x 4 (yellow arrow).

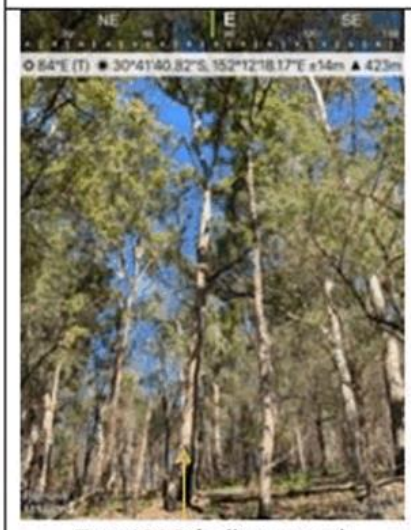
Tree 127 R x 2 (yellow arrow).



Tree 128 R x 2 (yellow arrow).

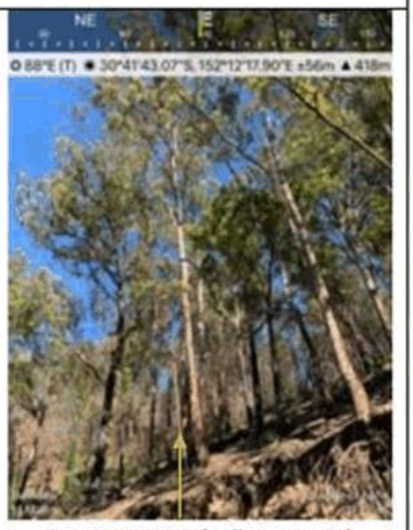
Tree 129 R (yellow arrow).

Tree 130 R (yellow arrow).

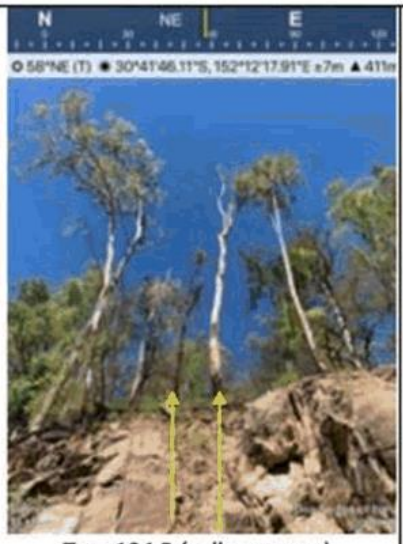


Tree 131 R (yellow arrow).

Tree 132 R (yellow arrow).

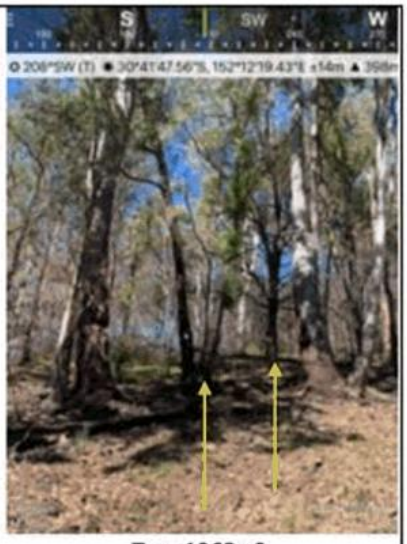


Tree 133 R x 2 (yellow arrow).



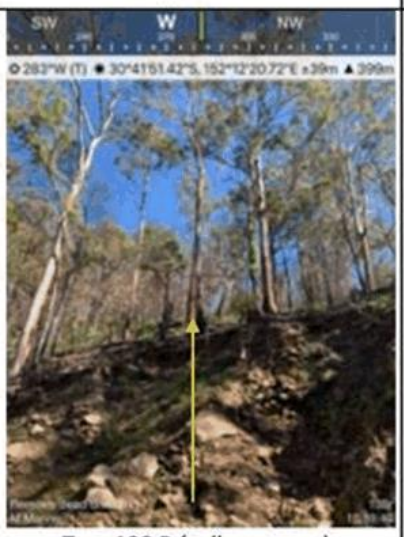
Tree 134 R (yellow arrow).

Tree 135R



Tree 136R x3

Tree 137 R (yellow arrow).



Tree 138 R (yellow arrow).

Tree 139 R (yellow arrow).

Tree 140 R (yellow arrow).

Tree 141 R (yellow arrow).

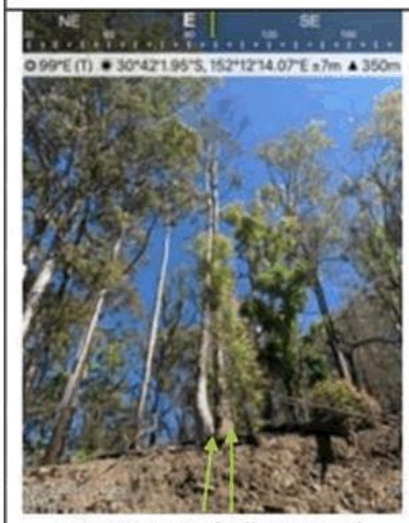
Intentionally

Blank

Tree 142 R (yellow arrow).

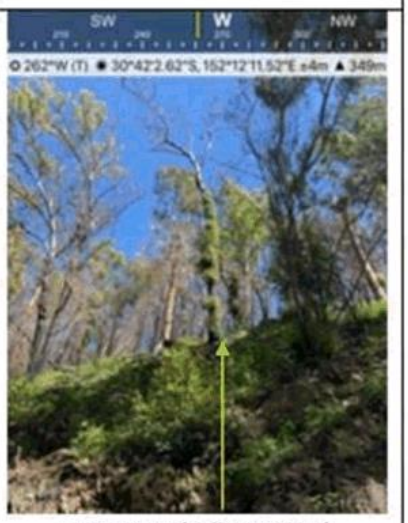
Tree 143 R x 2 (yellow arrow).

Tree 144 R x 2 (yellow arrow).



Tree 145 R x 2 (yellow arrow).

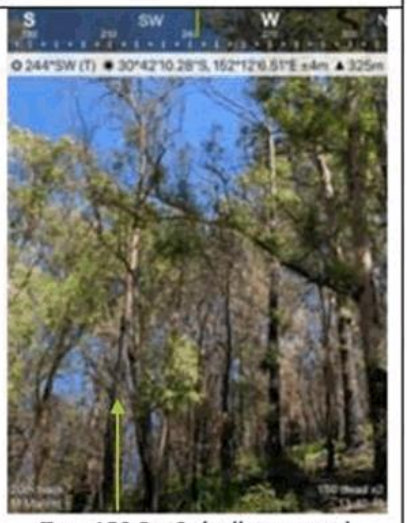
Tree 146 R x 2 (yellow arrow).



Tree 147 R (yellow arrow).

Tree 148 R (yellow arrow).

Tree 149 R (yellow arrow).



Tree 150 R x 2 (yellow arrow).

Tree 151 R (yellow arrow).

Tree 152 R (yellow arrow).

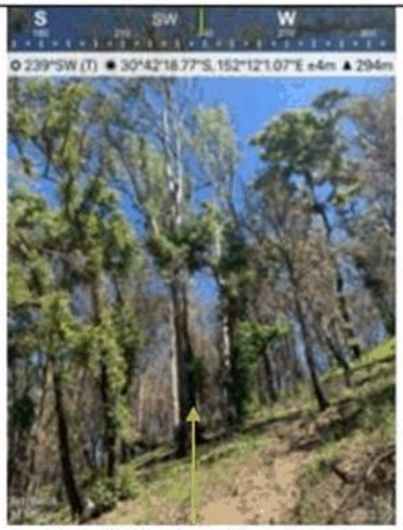
Tree 153 R x 2 (yellow arrow).

Tree 154 R (yellow arrow).

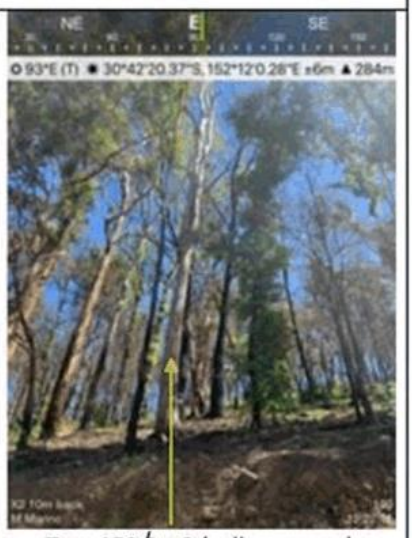
Tree 155 R (yellow arrow).

Tree 156 R (yellow arrow).

Tree 157 R (yellow arrow).

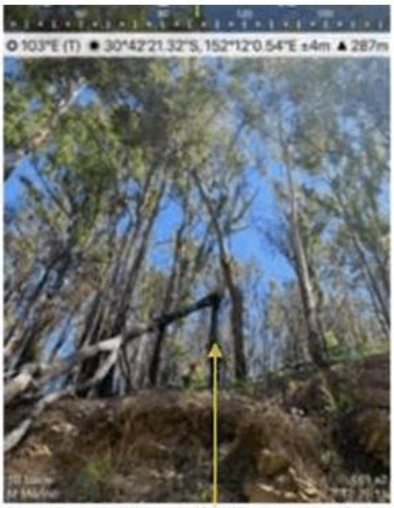


Tree 158 R x 2 (yellow arrow).



Tree 159 R x 2 (yellow arrow).

Tree 160 R x 2 (yellow arrow).

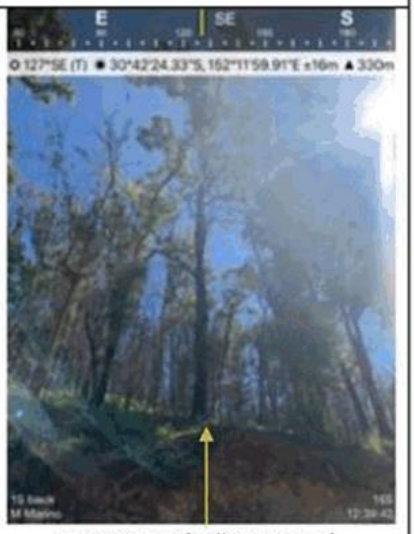


Tree 161 R x 2 (yellow arrow).

Tree 16 2R (yellow arrow).

Tree 163 R x 2 (yellow arrow).

Tree 164 R x 2 (yellow arrow).

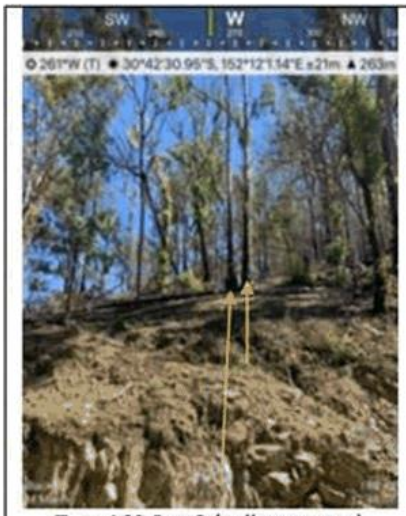


Tree 165 R (yellow arrow).

Tree 166 R x 2 (yellow arrow).

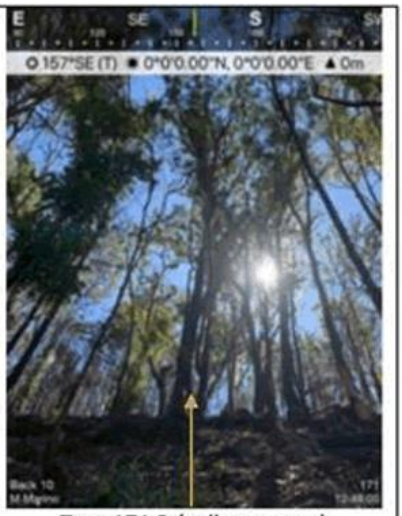
Tree 167 R x 2 (yellow arrow).

Tree 168 R (yellow arrow).



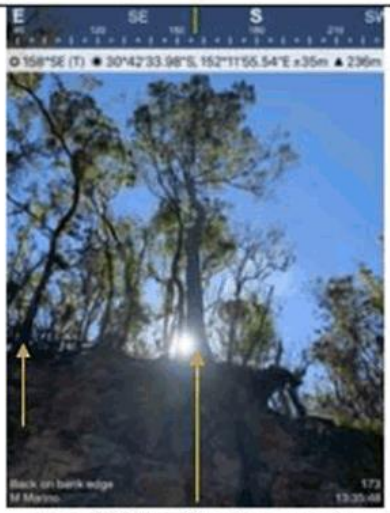
Tree 169 R x 2 (yellow arrow).

Tree 170 R x 2 (yellow arrow).



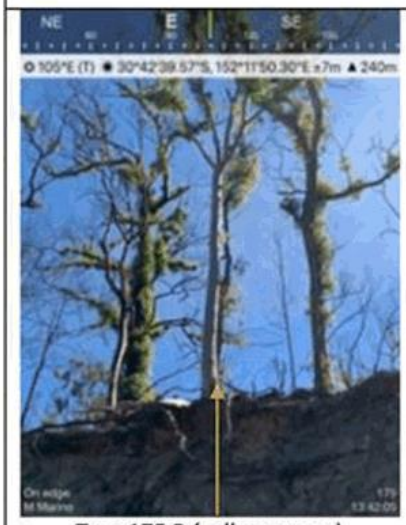
Tree 171 R (yellow arrow).

Tree 172 R (yellow arrow).



Tree 173 R x 2 (yellow arrow).

Tree 174 R x 2 (yellow arrow).



Tree 175 R (yellow arrow).

Tree 176 R x 3 (yellow arrow).

Tree 177 R x 2 (yellow arrow).

Tree 178 R x 2 (yellow arrow).

Tree 179 R x 2 (yellow arrow).

Tree 180 R x 2 (yellow arrow).

Tree 181R (yellow arrow).

Tree 182 R (yellow arrow).

Tree 183 R (yellow arrow).

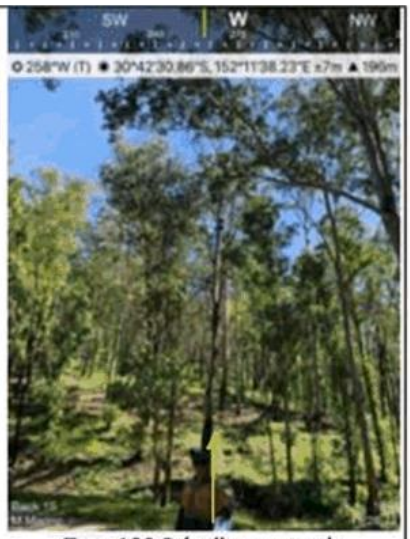
Tree 184 R (yellow arrow).

Tree 185 R (yellow arrow).

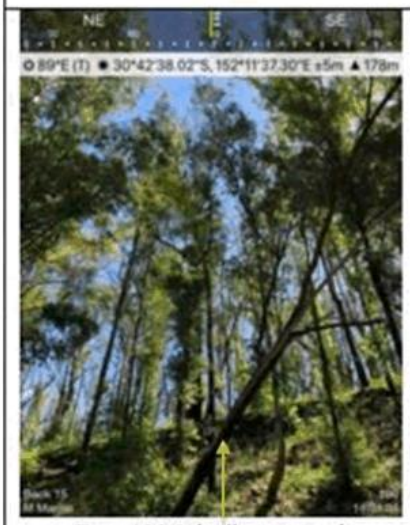
Tree 186 R (yellow arrow).

Tree 187 R x 4 (yellow arrow).

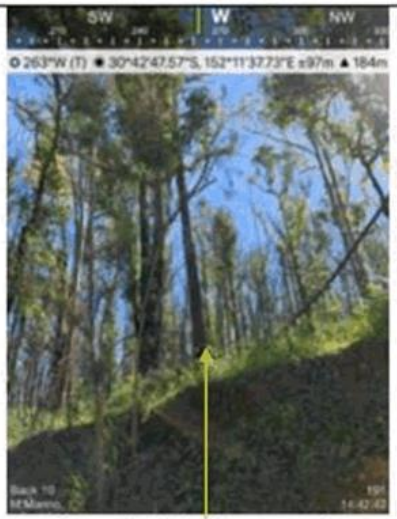
: Tree 188 R (yellow arrow).



Tree 189 R (yellow arrow).



Tree 190 R (yellow arrow).



Tree 191 R (yellow arrow).

Tree 192 R (yellow arrow).

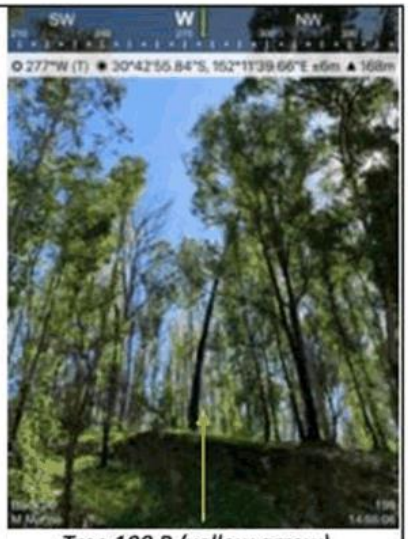
Tree 193 R (yellow arrow).

Tree 194 R (yellow arrow).

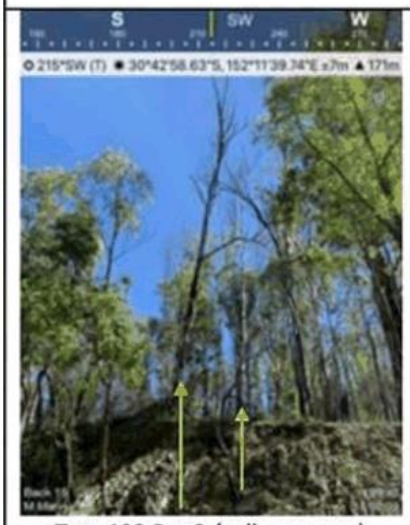
Tree 195 R (yellow arrow).

Tree 196 R (yellow arrow).

Tree 197 R (yellow arrow).



Tree 198 R (yellow arrow).



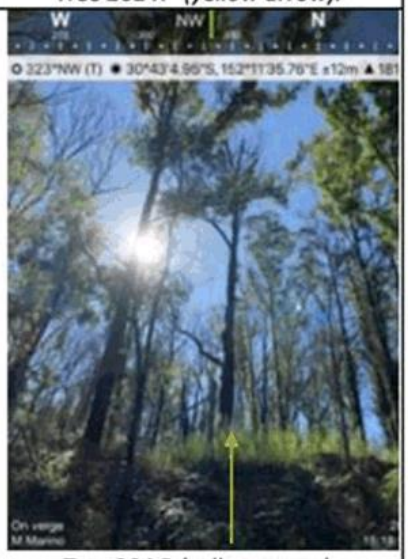
Tree 199 R x 2 (yellow arrow).

Tree 200 R

Tree 201 R (yellow arrow).

Tree 202 R (yellow arrow).

Tree 203 R (yellow arrow).



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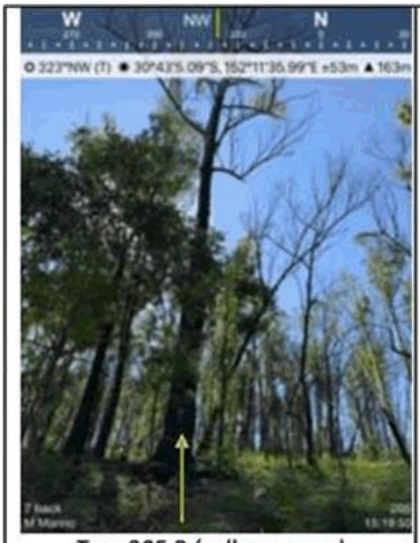
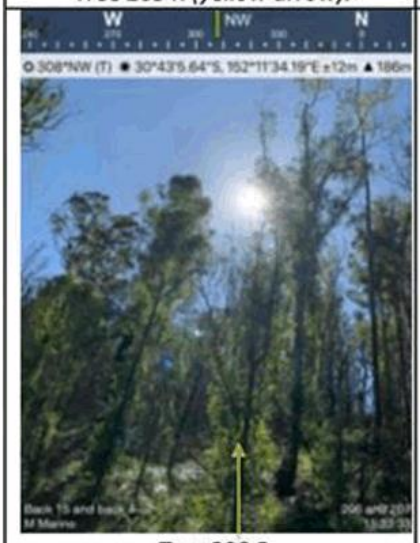


Tree 205 R (yellow arrow).

Tree 206 R (yellow arrow).

Tree 207 R (yellow arrow).



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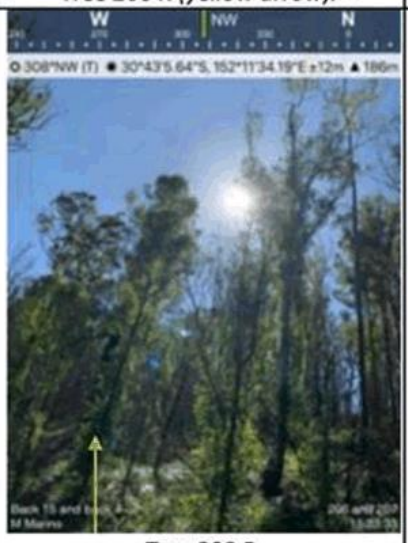

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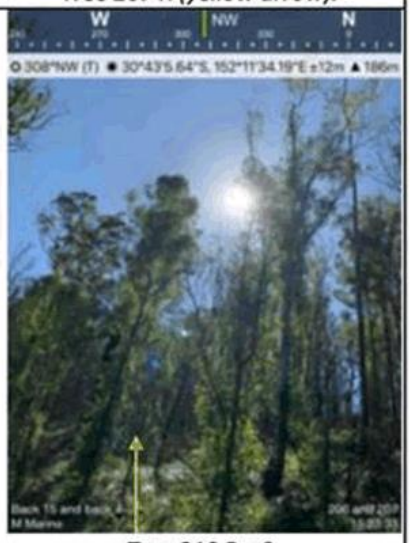

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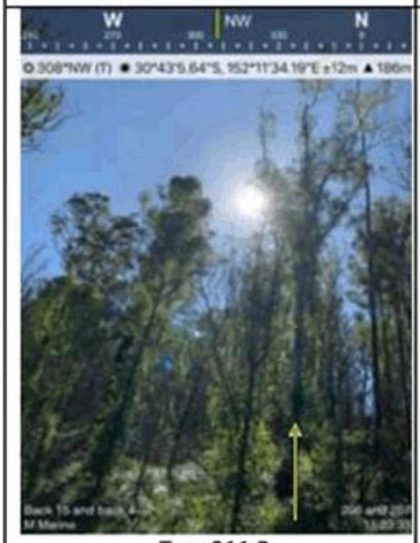

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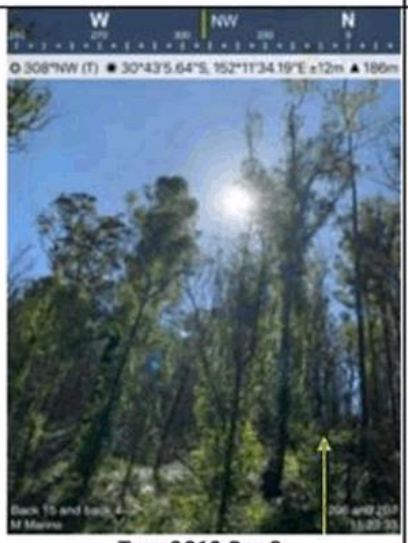
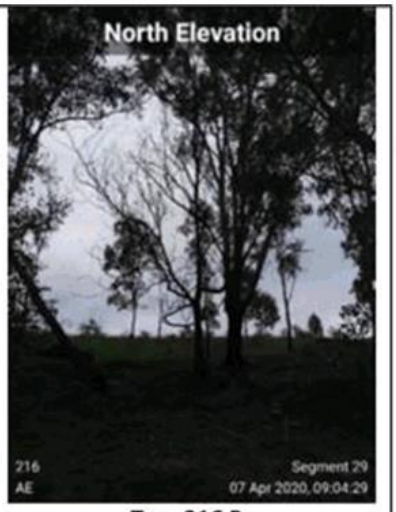


Tree 2012 R x 2

Tree 213 R

Tree 214 R

Tree 215 R



Tree 216 R

Tree 217 R

Tree 218 R

Tree 219 R

Tree 220 R

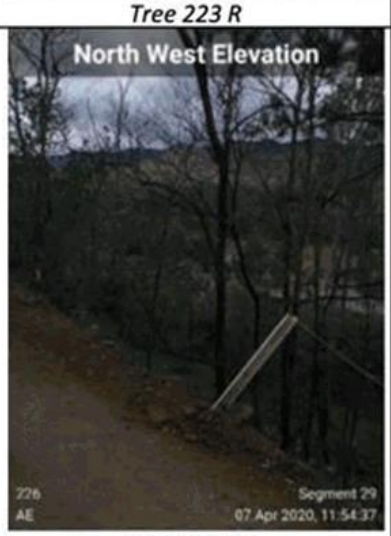
Tree 221 R

Tree 222 R

Tree 223 R

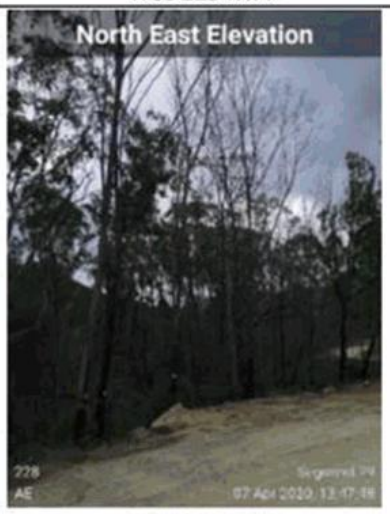
Tree 224 R

Tree 225 R x 4



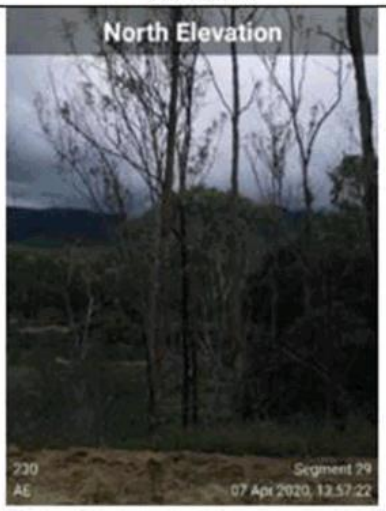
Tree 226 R x 6

Tree 227 R



Tree 228 R x 4

Tree 229 R x 3



Tree 230 R x 3

Tree 231 R x 3

Tree 232 R x 3

Tree 233 R x 3

Tree 234 R x 2

Tree 235 R

Tree 236 R/

Tree 237 R

Tree 238 R

Tree 239 R

Tree 240 R

Tree 241 R x 2

Tree 24 2R

Tree 243 R x 2

Tree 244 R

Tree 245 R x 2

Tree 246 R

Tree 247 R

Tree 248 R X 2

Tree 249 R x 2

Tree 250 R

Tree 251 x 8

Tree 252 R

Tree 253 R

Tree 254 R

Tree 255 R

Tree 256R

intentionally Blank

11.0 CONCLUSION

11.1 The site inspection has determined that only part of the remediation's of hazardous trees has been completed, there are approximately 5 new items included(impacted by erosion or flood damage) into the tree survey table, no tags were allocated but the GPS location (excluding 1item) is entered into the table between the respective tree numbers. GPS locations are approximate only and tree description and markers will assist with identifying the specified tree.
Some trees are double taped with red and white stripe and also plain pink tape, this indicates trees that require action urgently, using the risk matrix Very Likely x Frequent use = High 1.

1. Priority work is governed by the degree of risk: HIGH 1 Risk = Action within 1. This time frame was from the date of the original report dated 7th May 2020 which has now expired. The Tree Survey Table now identifies trees that have been actioned as (*completed)* in the Intervention column, the risk rating has been reduced to ALARP.

2. Trees assessed and marked with double tape attached to the tree indicates that requires action as soon as possible as fail potential has been assessed using the risk matrix Very Likely x Frequent use= High 1. These trees should be completed first as soon as possible and given first priority.

3. Trees Assessed with Medium Risk require action within 3 months.

4. The site is dynamic and unstable , environmental factor will continue to create stability related problems with the trees.

12.0 RECOMMENDATION

12.1. Monitoring the quality of the contractor selected to undertake the work in accordance with AS 4743-2007.

12.2 ARC should engage an Arborist contractor who holds Arboricultural Industry License and minimum qualification **AQF 3 Arboriculture,** hold relevant Tree Amenity Insurances Consistence Safe Work NSW Engaging a Contractor, a search of contractors from the following Associations as a starting point:

TCAA – Tree Contractors Association of Australia AA –
Arboriculture Australia

12.3 Priority work is governed by the degree of risk. This assessment recommends that the work be undertaken within 1 month and priority given to trees identified by double tape, these trees should be actioned as soon as possible.

12.4 Following inspections must be undertaken in 14 days of remediation and because the site is dynamic the risk management of the road a drive by inspection and record of such inspection maintained every 3 months is highly recommended.

12.5 **Remediation work to be undertaken outside of the specifications of this report, must be in consultation with the AQF5 consulting arborist.**

13.0 GLOSSARY

Crown: The width of the foliage in the upper canopy of the assessed tree to the four cardinal points. Crown lifting means the removal of the lower branches of the tree

Crown thinning means the portion of the tree consisting of branches and leaves and any part of the stem from which branches arise.

Drip line: Where the canopy releases water shed from the foliage during precipitation.

DBH/Diameter: Diameter of trunk at 1.4meters in height of assessed tree.

Dead wooding means the removal dead branches from a tree.

Dieback: Tree deterioration where the branches and leaves die.

Flush cut: A cut that damages or removes the branch collar or removes the branch and stem tissue and is inconsistent with the branch attachment as indicated by the bark branch ridge.

Genus/ Species: The Genus and species of each tree has been identified using its scientific name. Where the species name is not known the letters, species is used. The common name for trees may vary considerably in each area of geographical differences and so will not be used in the field survey.

Height: Height has been estimated to + / - 2 metres.

ISA: International Society of Arboriculture.

Maturity: Tree maturity has been assessed as over mature (last one third of life expectancy), mature (one third to two thirds life expectancy) and semi mature (less than one third life expectancy).

Remedial (restorative) pruning: includes: Removing damaged, dead wood; trimming diseased or infested branches. Trimming branches back to undamaged tissue in order to induce the production of shoots from latent or adventitious buds, from which a new crown will be established.

SRZ- Structural Root Zone: An area within the trees root zone in which roots stabilize the tree. Roots cut in this zone can cause instability and lead to anchorage loss.

Structural Integrity: Describes the internal supporting timber. (Substantial to frail)

TULE- Tree Useful Life Expectancy: An estimation of the trees useful life expectancy using appropriate industry methods.

TPZ- Tree Protective Zone: This zone should be considered as optimal for tree growth and sustainability however the size of the zone is subjective and should be reassessed when individual design and construction methods are being discussed.

Tree Age: Trees have either been assessed as mature, immature or semi-mature.

Tree Numbering: All trees listed in the tree survey have been numbered and plotted

Vigor: This is an indication of the tree health. Trees have either been assessed as Good Vigor, Normal Vigor or Low Vigor

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WEBSITE

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www.environment.nsw.gov.au/soils/ www.dpi.nsw.gov.au

https://www.rfs.nsw.gov.au

APPENDIX A TREE USEFUL LIFE EXPECTANCY - TULE

Adapted from Jeremy Barrell (SULE) 2014 for TCAA Consultant Arborists						
	1 Long TULE Trees that appeared to be retainable at the time of assessment for more than 40 years with low level of risk.	2 Medium TULE Trees that appeared to be retainable at the time of assessment for 15 to 40 years with and with low to medium level risk.	3 Short TULE Trees that appeared to be retainable at the time of assessment for 5 to 15 years with medium to high level of risk.	4 Remove Trees that should be removed within the next 5 years High to Very high level of risk.	5.No Potential for Retention REMOVE IMMEDIATELY Trees that must be removed immediately. Very High to Extreme level of risk.	6 Small, Young or Regularly clipped Trees that can be easily transplanted or replaced.
A	Structurally sound trees located in positions that can accomMediumate future growth.	Trees that may only live for between 15 and 40 more years.	Trees that may only live for between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Dead, dying or declining trees diseased or inhospitable conditions.	Small trees less than 5 metres in height.
B	Trees that could be made suitable for retention in the long term by Intervention Works.	Trees that may live for more than 40 years, but would need to be removed for safety or Nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees.	Dangerous trees through instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5 metres in height.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.	Trees that may live for more than 40 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control growth.
D		Trees that could be made suitable for retention in the medium term by Intervention Works.	Trees that require substantial Intervention Works, and are only suitable for retention in the short term.	Damaged trees that are clearly not safe to retain.	Damaged trees that are clearly not safe to retain and must be removed immediately.	
E				Trees that may live for more than 5 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	High Toxicity Allegan trees, asthmatic and poisonous trees and must be removed immediately.	
F				Trees that may cause damage to existing structures within 5 years.	OTHER, with legitimate explanation to be removed immediately.	
G				Trees that will become dangerous after removal of other trees for reasons given in 1A-1F.		
INSPECTION FREQUENCY	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-3 years by competent inspector unless event monitored.	Inspection frequency to 1 year by competent inspector unless event monitored.	1-7 days by competent inspector and event monitored.	Inspection frequency Biannually by competent inspector.

APPENDIX B HEALTH & STRUCTURAL CONDITION OF TREE - VISUAL

KEY	Health & Structural Condition of Tree	
1.	Maturity: J - Juvenile; IM - Immature; SM - Semi-Mature; M - Mature	
2.	Excellent Condition	
3.	Good Condition but Poor Development	3b Moderate
4.	Dieback is more than 20%.	4b Epicormics
5.	Sparse Foliage Crown	5b Unbalanced Canopy
6.	Physical Damage	
7.	Insect Damage	7b Borers
8.	Fungal Attack	
9.	Cavity	
10.	Termite Damage Inclusions	
11.	Lean	
12.	Heavily Pruned	12b Dying
13.	Damage to roots	13b Encroachment
14.	Parasitic Vine Present	
15.	Damage by Climbing Plant	
16.	Inclusions	
17.	Habitat Tree	
18.	Endangered Species	

McArdle & Sons Arboricultural Service Pty Ltd
Developed by Claus Mattheck in: *The Body Language of Trees(*1994) which have adapted versions from Hornsby Shire Council.

APPENDIX C TREE HAZARD & SITE ASSESSMENT FOR PRESERVED TREES – VISUAL

McArdle & Sons Arboricultural Service Pty Ltd
Adapted from ISA Hazard Checklist

Adapted from ISA Hazard Checklist

SIGNED:	**SITE:** **ARC Back Kempsey Rd** **Fire erosion flood**	**DATE:** ***16 July 2020***
1. SITE		
Underground service, Overhead power lines, High / low voltage, winds direction, Building within 3m, Uneven terrain, Electrical lines to property, Telephone and cable lines, Streetlights, Vehicle & Pedestrian traffic.		
2. ROOT ZONE		
Compaction, Damaged Roots, Exposed Roots, Girdling, Close to kerb, Soil Level Raised/ Lowered, In Garden Bed /Mulched Paving/ Concrete/ Bitumen, Roots Pruned, Fungal Growths At Base		
3. TRUNK		
○ Dead ○ Severe decline(<20% Dead wood) ○ Declining (20-60% twig & branch dieback) ○ Average/ low vigour (60-90% twig dieback) ○ Good (90-100% little or no dieback or visual defects)		
4. BRANCH		
Lean, Cavities / cracks, Splits / cracks, Physical damage, Insects/ parasites/ borers / termites, Hangers, Condition of bark, Disease, Decay, Previous failures, Inclusion.		
5. BRANCH UNIONS		
Dead branches, Branch clusters, Pockets of decay, Leaves colour		
6. VIGOUR & VITALITY - Crown		
Branch unions, Storm damage, Heavily pruned		

APPENDIX D TREE RISK ASSESSMENT MATRIX

McArdle & Sons Pro Tree Service Categories and Sub-Categories

		RISK TARGET RATING				
		OCCASIONAL USE	INTERMITTENT USE	FREQUENT USE	CONSTANT USE	CONTINUAL USE
FAILURE POTENTIAL	VERY LIKELY Almost certain to occur in most circumstances	Medium	High 1	High 1	High 2	High 3
	LIKELY May occur frequently	Medium	Medium	High 1	High 2	High 3
	SOMEWHAT LIKELY Possible and likely to occur at some time	ALARP	Medium	High 1	High 1	High 2
	UNLIKELY Not likely to occur but could happen	ALARP	ALARP	Medium	Medium	Medium
	HIGHLY UNLIKELY May occur in rare and exceptional circumstance	ALARP	ALARP	ALARP	ALARP	ALARP

Table: Risk Matrix Adapted with permission Bill Sullivan 2019 for TCAA licensed climbing Arborists.

The risk rating score is determined after assessing the Failure Potential and Target Rating of an identified hazard tree. The determination of these calculations will indicate a priority and course of action when implementing the risk reduction measures.

Failure Potential x Target Rating = Risk Assessment.

FAILURE POTENTIAL	
Very Likely	Partial or whole tree failure is imminent e.g. cavity in excess of 50% of the trunk. Major bark inclusions, dead limbs, leaning tree with lifting root plate, roots/trunk decayed or damaged, Toxins, HOSTING BEES (other).
Likely	Defects that could cause structural failure of the tree within the next 6 months.
Somewhat likely	Defects present that could cause portions of the tree to fail.
Unlikely	Defects are minor and not likely to cause significant harm.
Highly unlikely	Tree is healthy with no obvious defects.
TARGET RATING	
1. Occasional use	1.Surburban Park Quite Street, Restricted Area, etc. Intermittent use
2. Intermittent use	2. Parking lot, Ovals, play area in park, etc.
3. Frequent use	3. Busy street adjacent, school yard, child care center.
4. Constant use	4. Occupied buildings, residences, CBD, etc.
5. High 1 Continual use	5.Hospitals, emergency services, High 1 Voltage power lines, busy High 1way

Priority work is governed by the degree of risk asfollows;

TARGET RATING	PRIORITY TIMEFRAME	RECOMMENDED CONTROL MEASURES & TREE AT ALARP
ALARP	n/a	no work required
Medium	Within 3 months	Recommended Control Measure can mean isolating a tree until work can be done
High 1	Within 1 month	
High 2	Within 7 days	
High 3	Within 24 hours	

APPENDIX E DISCLAIMER

McArdle and Sons Arboricultural Services Pty Ltd does not assume responsibility for liability associated with the tree on or adjacent to this project site, their future demise and/or any damage, which may result therefrom. Any legal description provided to McArdle and Sons Arboricultural Services Pty Ltd is assumed to be correct. Any titles and ownerships to any property are assumed to be good and sound. McArdle and Sons Arboricultural Services Pty Ltd undertakes care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

McArdle and Sons Arboricultural Services Pty Ltd reports and recommendations shall not be viewed by others or for any other reason outside its intended target, either partially or whole, without the prior written consent of the consultant. Unauthorised alteration or separate use of any section of the report invalidates the whole report. McArdle and Sons Arboricultural Services Pty Ltd cannot be held responsible for any consequences as a result of work carried out outside specifications, not in compliance with Australian Standards or by inappropriately qualified staff.

Sketches, diagrams, graphs, GPS and photographs in this report, being intended as visual aids, are not necessarily to scale or accurate. All recommendations contained within this report represent the current industry best practice methods of inspection. McArdle and Sons Arboricultural Services Pty Ltd shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

LIMITS OF OBSERVATION

McArdle and Sons Arboricultural Services Pty Ltd makes every effort to accurately identify current tree health and safety issues. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure. Not all these symptoms are visible. There can be hidden defects that may result in a failure even though it would seem that other, more obvious defects would be the likely cause of failure.

All standing trees have an element of unpredictable risk. McArdle and Sons Arboricultural Services Pty Ltd endeavour's to identify the risk that the tree represents; however, a level of risk associated with every tree will remain. McArdle and Sons Arboricultural Services Pty Ltd does not provide any warranty or guarantee that problems, deficiencies or failures with regard to the plant/s, property or building/s will not arise in the future.

Ongoing monitoring may foresee deterioration of a tree and allow remedial action to be taken to prevent injury or damage. The timing for re-inspection on individual trees is subjective and will vary however an annual inspection is advisable for trees in subsequent years.

FURTHER RESEARCH The report does not cover threatened, heritage or existing trees in relation to remnant forest. Further reporting may be considered as part of the relevant RISK ASSESSMENT.

LIMIT OF OBSERVATIONS BY RODNEY M. PAGE

"There are many factors that may contribute to limb or total tree failure. Factors include, decay (in the trunk, crown or branch junctions), external damage to branches leading to decay, poor branch taper, included bark, root rot/ decay. Not all these symptoms are visible i.e. internal decay; of these some external symptoms may indicate the presence of Dead wood but not the extent of decay. The most solid looking piece of timber may be riddled with breaks in continuity of growth caused by insect damage or poor pruning practices or other physical damage caused many years previous. Trees don't heal; they simply box in the damaged area ((CODIT) Compartmentalization of Decay In Trees.) and continue to expand in girth, completely disguising the fact that the branch or trunk has a hollow or decayed section. Having said this, not all areas, of decay past or present suggest a point of failure." In addition to this information, other variables that can contribute to limb or total tree failure are tree species, wood densities, weight, age, location, exposure to the elements, soil types, disease and pests, birds using trees as habitat and food sources, termites causing structural problems and human influences such

McArdle and Sons
Arboricultural Services

Tree Contractors Association
Australia Inc.
T C A A

A National Tree Amenity
Industry Body

Tree Assessment Report

PREPARED FOR
Armidale Regional Council

SECTION 2
Kempsey Road Segment 18-1 ARC

Project Manager: Sreejan Tarafder Email:
Starafder@armidale.nsw.gov.au
Mobile: 0448 557 603

Inspection Date: 7th to 9th April 2020
Report Date: 7th May 2020 (Version 10)
Reviewed Date: 21st July 2020

Amended GPS: 9 November 2020 (version 16)

PREPARED BY
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License No: TCAA 99/1003/19

Table of Contents

1.0 INTRODUCTION

1.1 An Arborist Inspection was commissioned by Armidale Regional Council in relation to the Back Kempsey Road Segment 1-19 covering approximately 16.5 kilometers of fire, erosion and flood affected trees adjacent the road carriage way.

2.0 SUMMARY

2.1 Armidale Regional Council has commissioned a Review of Tree Assessment Report to include erosion, flood and fire damaged trees located in SECTION 2 (Segments 18-1) from Lower Creek Village to the Armidale Kempsey council boundary.

2.2 This inspection included trees approximately 30m from the road edge of the both sides of the Back Kempsey Rd. (SEGMENT 18-1).This review and audit was completed on the 21st July 2020

2.3 McArdle and Sons Arboricultural Services Pty Ltd prepared the report. AQF Level 5 Arborists, Dan McArdle, Aaron Erbacher and Rohen Bainbridge conducted the inspections and data collection based on using Visual Tree Assessment (VTA) method and best industry practices.

3.0 AIMS The aim of this report is to:

- To inspect fire damage trees both side of the Back Kempsey Rd and document trees that pose a risk of failure impacting the carriage way and give a professional opinion and management of these trees to reduce the risk to as low as reasonably possible(ALARP).
- Retaining habitat tree where possible by remedial action that cost effective.
- Indicate specific trees that require urgent remediation of the hazard.
- Review trees impacted by soil erosion and flood.(new inclusion)
- Audit remediation's recommendations.(new inclusion)

4.0 IN BRIEF

4.1 This report covers approximately 16.5 km of roadside trees from the Village of Lower Creek to the Armidale Council boundary identified as Section 2. Trees that have been impacted by the fire were inspected for structural damage and now includes erosion and flood damage that may be a hazard to the carriage way and users.(There has been no new inclusions of affected tree entered into this report)

4.2 The initial inspection was completed between the 7th and 9th April 2020 and remediation actions are listed in the Tree Survey Table. A review was conducted on the 21st July 2020 and this report updated.

4.3 Each tree assigned a tag and number, GPS located, pink tape was used to identify the trees, where **trees identified as urgent a second red and white tape** was placed around the trunk, the data is documented in the Tree Survey of this report. (*These trees required to be actioned as soon as possible and recommending 14 days).*

4.4 Remediation actions of hazards that has been determined to cause a potential risk to the carriage way and users are recommended to be undertaken within 30 day.
All tree identification numbers run in consecutive order from start SEG 38 Water Fall Way end travelling east direction. The reference to **Left** or **Right** side is also indicated in the tree survey and photo plates.

4.5 Habitat hollows have been noted in trees and identified for possible retention where practical and this is dependent on the work method the contractor will use to conduct safeoperations.
Tree species has been generalized as Eucalyptus Species only.

4.6 Conclusions/Recommendations (page 20) Priority work is governed by the degree of risk specified and time frames for remediation work to be completed. To date none of the remediation specified have been completed. This review that forms part of the recommendations made in the Report dated 7th May 2020.

Please contact our office on 67 69 0372 or our mobile 0418165650 for any further information regarding this report.

Regards
Dan McArdle
AQF 5 Arborist Dip. Arb & Dip. Ag

5.0 LIMITS OF THIS REPORT

The inspection was conducted from the ground, visual observation only with no testing undertaken other than described in the Inspection Methodology, where trees have been observed to contain cavities or structural related problems I have used my best judgment based on 30 years of tree working experience to decide the appropriate remediation action as opposed to utilizing expensive testing equipment such as radar imaging or *Resistograph IML* drilling technology.

Identification of the different species has been made difficult with the fire damage, I have concluded that using *Eucalyptus Species* as means of conserving time during the process of inspection. Under normal circumstances I would positively identify and use the Botanical names of each species.
Photos have been taken and included in this report, some trees may not be included due to focus issues.

The day of the inspections the skies were overcast and some visual canopy faults may have been overlooked.

This report is relevant to the date of the inspection undertaken and would suggest reviewing the site in several month time or after significant rainfall events.
Tree Risk Assessment (TRA) rating has been documented in the TRA in the Tree Assessment Table for the trees inspected, the structural condition was the focus from fire damage, however I have used this principle (Appendix D) to ascertain the tree's potential of failure as a basis of my remediation action recommended.

Habitat trees are described as indicator by existing hollows and any positive identification would require the Ecologist to verify if required.

Ground that was to unstable to gain access to the trees was experienced in Segment 11, trees in the segment was reliant on visual aids from the road and assist marking with White Paint dot on the bank with also ribbon indicator.
Trees indicated as urgent have been identified with red/white and pink tape including a white dot on the bank, these are temporary markers and life limited.

6.0 INSPECTION METHODOLOGY

6.1 The collection of data is performed in the field by an AQF Level 5 arborist. The level 3 assessment summaries the species, height and diameter, the trees health and structural condition for each tree's hazards, Tree's useful life expectancy and retention categories were assigned to each tree.

6.6 Testing on site may include:
Mallet sounding, and non- invasive testing for hollows, probing cavities, white ant infestation.
All testing is ground based. It should be noted that this Tree Assessment Report cannot be considered final until all aerial inspections have been completed if specified, as these may reveal further defects. This data was recorded in a Tree Survey Table

1. ***Tree Useful Life Expectancy*** *(TULE) (Burrell Approved TCAA use 2014).* The rating of the expected life span of the tree and takes into account age, life span of the species, local environmental conditions, location, and tree safety.

2. ***Health & Structural Condition of Tree Assessment.*** This describes the vigour and vitality of the tree.
3. ***Tree Hazard & Site Assessment.*** This assessment identifies structural defects that predispose a tree to failure located near a target. It is a useful WH&S requirement.

4. Some trees have special restrictions including cultural, historical or threatened category and may be reviewed as part of this report or further reporting.

5. ***Tree Risk assessment tools*** (Appendix D) to determine a risk rating applied to the specific tree location.

7.0 SITE DESCRIPTION (SECTION 2 / SEGMENT 18-1).

7.1 Approximately 16.5 km of road side trees impacted by fire along both sides of the Back Kempsey Rd, the inspection included trees approximately 30m from the road edge.

7.2 (SECTION 2 segment 18) starts from Lower Creek Village to the Armidale/ Kempsey council boundary sign. Terrain is steep, land slide, rock falls and soil erosion in cuttings such as (SEG 11) cause considerable concern for tree stability.

7.3 Ground vegetation has been destroyed by fire and added to the unstable nature of soil surface on the steep terrain. Several hazards are present from fallen trees or suspended tree stumps exposed by erosion and storm water.
Most trees producing active epicormics growths regenerating others are dead trees.

To assist with identifying the location of the trees assess a white paint marker on the cutting wall and some cases a ribbon also as a highlighter.

8.0 TREE SURVEY TABLE
SECTION TWO LEFT SIDE

(DMS) -30° 43' 30.84" S ; 152° 15' 32.82" E
(DD) LAT/LON -30.725233 S; 152.259117 E

SEGMENT 17, 16, 15 & 14

Tree no.	GPS Location (DMS)	Scientific& Common name	Segmrnt (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	Risk	Intervention (Specification)
130L	- -30° 43 514' 152° 15 547'	*Eucalyptus obliqua* Stringy bark	1 7	5	16	35	Mature, structural damage at base on lean	No	C4	HIGH 1	Urgent 30m off edge
131L	-30° 43 472' 152° 15 623'	*Eucalyptus Sp.* Group x4	1 6	5	10	25	Semi mature, dead and 1x fallen tree	No	C4	Medium	Remove
132L	-30° 43 676' 152° 16 180'	*Eucalyptus Sp.*	1 5	2	9	40	Dead with cavity at base	No	C4	HIGH 1	Urgent removal
133L	-30° 43 769' 152° 16 219'	*Eucalyptus Sp.* Group x2	1 5	3	10	30	2x dead trees	No	C4	Medium	Remove
134L	-30° 43 800' 152° 16 220'	*Angophora costata* Smooth-bark Apple	1 5	3	9	30	Semi mature, root plate eroded and a hanging branch in the canopy	No	C4	Medium	Remove
135L	-30° 43 905' 152° 16 214'"	*Eucalyptus Sp.*	1 5	4	10	20 25	Semi mature, dead tree	No	C4	Medium	Remove
136L	-30° 44 061' 152° 16 225'	*Eucalyptus Sp.*	1 5	5	10	30	Dead tree with cavity at base through 50% of the stem	No	C4	HIGH 1	Remove
137L	-30° 44 110' 152° 16 215'	*Eucalyptus Sp.* Group x2	1 4	1	6	20	Dead tree	NO	C4	HIGH 1	Remove
138L	-30° 44 138' 152° 16 213'	*Eucalyptus Sp.*	1 4	2	8	20	Semi mature, cavity at base, structural damage, cavity at base through 85% of the stem	No	C4	HIGH 1	Remove
139L	-30° 44 198' 152° 16 208'	*Eucalyptus Sp.* Group x2	1 4	10	16	90	Mature, dead	No	C4	HIGH 1	Prune off road, remove adjacent small tree

140L	152° 16 208' 152° 16 202'	*Eucalyptus Sp.* Group x2	1 4	9	12	60	Mature, dead	No	C4	HIGH 1	

SEGMENT 15, 14, 13, 12, 11, 10 & 9

Tree no.	GPS Location (DMS)	Scientific& Common name	Seg't (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	Risk	Intervention (Specification)
141L	-30° 44 262' 152° 16 200'	*Eucalyptus Sp.*	1 5	9	10	60 30	Mature, poor condition	No	D3	HIGH 1	Prune leader towards road off at base
142L	-30° 44 339' 152° 16 225'	*Eucalyptus Sp.*	1 4	9	9	60	Dead stag	No	D4	HIGH 1	Remove
143L	-30° 44 716' 152° 17 117'	*Eucalyptus Sp.* Group x2	1 3	10	16	80	Mature, poor condition, structural damage at base over 80% of the canopy	No	C3	HIGH 1	Remove urgent, prune adjacent branch
144L	-30° 44 699' 152° 17 212'	*Eucalyptus Sp.* Group x2	1 2	1	9	25	Dead	No	C3	HIGH 1	Remove
144aL	-30° 45 146' 152° 17 693'	*Eucalyptus Sp.* Group x2	1 1	3	8	25	Semi mature, root plate erosion, structural damage	No	C3	HIGH 1	Remove
145L	-30° 45 167' 152° 17 689'	*Eucalyptus Sp.*	-	3	8	25	Semi mature, root plate erosion	No	C3	HIGH 1	Remove
146L	-30° 45 752' 152° 17 960'	*Eucalyptus Sp.*	1 0	6	10	100	Mature, dead tree	YES	C3	HIGH 1	Prune 15% off, reduce height and retain
147L	-30° 45 876' 152° 18 141'	*Eucalyptus Sp.*	9	3	8	30	2x dead trees	No	C3	HIGH 1	Remove
148L	-30° 45 970' 152° 18 232'	*Eucalyptus Sp.*	9	6	12	60+40	2x dead trees with fire damage	No	C3	HIGH 1	Remove
149L	-30° 46 073' 152° 18 335'	*Eucalyptus Sp.*	9	6	9	30	Semi mature, root plate damaged and eroded	No	C3	HIGH 1	Remove, urgent
150L	-30° 46 126' 152° 18 401'	*Eucalyptus Sp.* Group x2	9	10	25	60	Dead, structural damage, through 85% of the stem	No	C4	HIGH 1	Remove, urgent
151L	-30° 46 167' 152° 18 458'	*Eucalyptus Sp.* Group x3	9	10	12	90	Dead structural damage, fire damage over 80%	No	C4	HIGH 1	Remove

SEGMENT 8, 7, 6 & 5

Tree no.	GPS Location (DMS)	Scientific& Common name	Seg't (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	Risk	Intervention (Specification)
152L	-30° 46 217' 152° 18 977'	*Eucalyptus Sp.*	8	52	10	40	Dead tree	No	C4	HIGH 1	Remove
153L	-30° 46 245' 152° 19 150'	*Acacia Sp.*	7	5	9	30	Dead tree	No	C4	HIGH 1	Remove
154L	-30° 46 271' 152° 19 487'	*Eucalyptus Sp.* Group x2	7	10	12	80	Mature, dead tree	No	C4	HIGH 1	30cm back of edge, urgent removal and prune adjacent tree's crown
155L	-30° 46 279' 152° 19 531'	*Eucalyptus Sp.*	7	-	-	-	Fallen log	No	C4	HIGH 1	Remove urgent
156L	-30° 46 286' 152° 19 589'	*Eucalyptus Sp.* Group x2	7	8	14	60	Mature, root plate damage	No	C4	HIGH 1	Remove urgent, located on edge + branch 100m further uphill
157L	-30° 46 360' 152° 19 760'	*Acacia Sp.*	6	2	9	20	Dead tree	No	C4	HIGH 1	Remove
158L	-30° 45 876' 152° 20 399'	*Eucalyptus Sp.*	5	8	16	110	Dead tree	YES	C4	HIGH 1	Prune to reduce height 30%, urgent prune only
159L	-30° 45 653' 152° 20 422'	*Acacia sp.*	5	5	8	30	Dead tree	No	C4	HIGH 1	Remove
160L	-30° 45 653' 152° 20 443'	*Eucalyptus Sp.*	5	10	12	60	Dead tree	No	C4	HIGH 1	Remove 30m off edge
161L	-30° 45 657' 152° 20 473'	*Eucalyptus Sp.*	5	5	8	30	Dead tree	No	C4	HIGH 1	Remove
162L	-30° 45 605' 152° 20 486'	*Acacia Sp.*	5	2	8	25	Dead tree	No	C4	HIGH 1	Remove

SEGMENT 3

Tree no.	GPS Location (DMS)	Scientific& Common name	Seg't (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	Risk	Intervention (Specification)
163L	-30° 45 398' 152° 20 912'	*Eucalyptus Sp.*	3	1	8	20 10	Dead tree	No	C4	HIGH 1	Remove
164L	-30° 45 434' 152° 20 942'	*Eucalyptus Sp.*	3	2	8	25	Semi mature, root plate erosion	No	C4	HIGH 1	Remove
165L	-30° 45 459' 152° 20 974'	*Eucalyptus Sp.*	3	5	10	30	Mature, root plate erosion	No	C4	HIGH 1	Remove
166L	-30° 45 530' 152° 21 118'	*Eucalyptus Sp.*	3	8	10	40	Semi mature, dead tree	No	C4	HIGH 1	Remove
-Armidale + Kempsey boundary											

SECTION TWO RIGHT SIDE

SEGMENT 14, 13 & 11

Tree no.	GPS Location (DMS)	Scientific& Common name	Seg't (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	Risk	Intervention (Specification)
257R	-30° 44 253' 152° 16 198'	*Eucalyptus Sp.*	1 4	8	1 6	35	Dead tree, lean over roadway, 4m from road	No	C4	HIGH 1	Urgent removal
258R	-30° 44 701' 152° 17 013'	*Eucalyptus Sp.*	1 3	6	2 0	60	Dead tree, 3m from road	No	C4	HIGH 1	Prune high
259R	-30° 44 732' 152° 17 331'	*Eucalyptus Sp.*	1 3	8	1 4	30	Root damage, 2m from road	No	C4	HIGH 1	Remove
260R	-30° 45 360' 152° 17 694'	*Eucalyptus Sp.*	1 1	4	1 2	60	Lean, dead tree, 2m from road	No	C4	HIGH 1	Prune high

SEGMENT 7, 6, 5 & 4

Tree no.	GPS Location (DMS)	Scientific& Common name	Seg't (m)	Crown Spread (m)	Height (m)	Diam (cm)	Condition of Tree & Failure Potential (Health & Structure) (Defects and Measurements)	Habitat	TULE	Risk	Intervention (Specification)
261R	-30° 46 348' 152° 19 720'	*Eucalyptus Sp.* Group x2	7	6	9	20	Dead trees, 4m from road	No	C4	HIGH 1	Remove
262R	-30° 46 460' 152° 20 152'	*Populous Sp.* Poplar Group x3	6	6	10	40	Poor condition, dieback at 20%, 2m from road	No	C4	HIGH 1	Prune off road
263R	-30° 46 303' 152° 20 325'	*Poplar Sp.* Group x4	6	8	20	50	Poor condition, dieback at 20%, 2x dead, 2m from road	No	C4	HIGH 1	Remove
264R	-30° 46 042' 152° 20 372'	*Casuarina glauca* She-Oak Group x2	5	6	18	20	Dead tree, 4m from road	No	C4	HIGH 1	Remove
265R	-30° 46 020' 152° 20 373'	*Poplulous Sp.* Poplar	5	6	15	40	Dead tree 4m from road	No	C4	HIGH 1	Remove
266R	-30° 45 672' 152° 20 468'	*Eucalyptus Sp.*	5	1	12	30	Dead tree 2.5m from road	No	C4	HIGH 1	Remove
267R	-30° 45 384' 152° 20 695'	*Eucalyptus Sp.*	4	20	35	300	Prune back from tree, 1m from road	No	C4	HIGH 1	Prune
268R	-30° 45 550' 152° 21 261'	*Casuarina glauca* She oak	4	3	12	30	Prune back from road, 5m from road	No	C4	HIGH 1	Prune

*No action required for segment 2 and 1

9.0 FINDINGS

Photographic Observations.

SECTION TWO LEFT SIDE

SECTION TWO LEFT SIDE Segment 17, 16, 15 & 14

Tree 130

Tree 131 x 4

Tree 132

Tree 133 x 2

Tree 134

Tree 135

Tree 136

Tree 137

Intentionally Blank

Segment 17 -14

Tree 138

Tree 139

Tree 140 x 2

Tree 140 x 2

Tree 141

Tree 142

SEGMENT 15, 14, 13, 12, 11, 10 & 9

(tree 141-151)

Tree 143 x 2

Tree 144 x 2 (segment 12)

Tree 144 x 2 (segment 11)

Tree 144 x 2 (segment 11)

Tree 144 x 2 (segment 11)

Tree 144 x 2 (segment 11)

 Tree 144 x 2 (segment 11)	 Tree 144 x 2	 Tree 145 x 2
 Tree 146	Tree 147 x 2 Has been Removed	Tree 148 x 2 Has been Removed
 Tree 149	 Tree 150 x 2	Intentiionally blank

Tree 151 x3

Tree 152

Tree 153

Tree 154

Tree 155

Tree 156 x 2

SEGMENT 8, 7, 6 & 5

Tree 157

Tree 158

Tree 159

Tree 160

Tree 161

Tree 162

SEGMENT 3

Tree 163

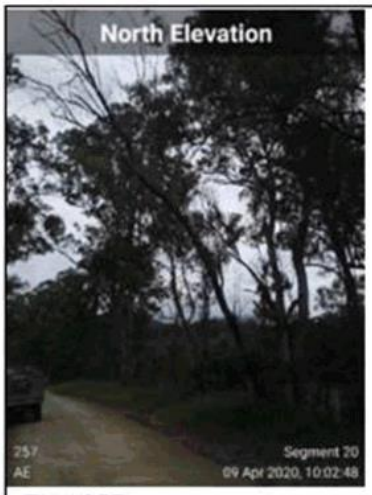
Tree 164 x 3

Tree 165 x 2

Tree 166

SECTION TWO RIGHT SIDE

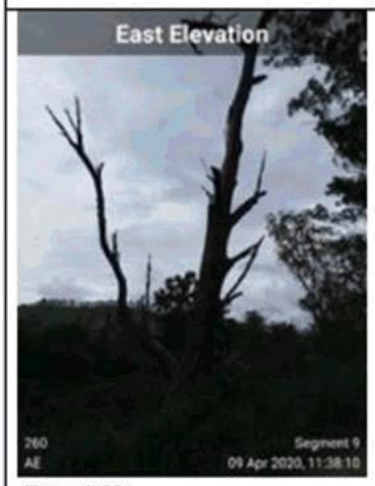
SEGMENT 14, 13 & 11



Tree 257

Tree 258

Tree 259



Tree 260

Tree 261

Tree

SEGMENT 7, 6, 5 & 4

Tree 261

Tree 262

Tree 263

Tree 264

Tree 265

Tree 266

Tree 267

Tree 268

10.0 CONCLUSION

10.1 The ARC is required to engage Industry Licensed qualified **AQF 3 Arborist Contractors** to remove or prune the trees as specified in the Tree Survey Assessment Table of thisreport.
Priority work is governed by the degree of risk: This review has determined that the remediation actions have not be undertaken as recommended in the report dated 7th may 2020.

- Trees assessed HIGH 1 Risk: (require action within 1 month), **where a red and white tape** is attached to the tree this indicates trees that requires action as soon as possible as fail potential has been assessed as Very Likely. (Recommending 14 days)
- Trees Assessed with Medium Risk require action within 3 months.

11.0 RECOMMENDATION

11.1 Monitoring the quality of the contractor selected to undertake the work in accordance with AS 4743-2007.

11.2 ARC should engage an Arborist contractor who holds Arboricultural Industry License and minimum qualification **AQF 3 Arboriculture,** hold relevant Tree Amenity Insurances Consistence Safe Work NSW Engaging a Contractor, a search of contractors from the following Associations as a starting point:

TCAA – Tree Contractors Association of Australia and
AA – Arboriculture Australia

11.3 Priority work is governed by the degree of risk. This assessment recommends that the work be undertaken within 1 month**. Trees marked with red and white tape is an indication that the trees requires urgent action.(Recommending 14 days).**

11.4 Following inspections must be undertaken in 14 days of remediation and because the site is dynamic the risk management of the road a drive by inspection and record of such inspection maintained every 3 months is highly recommended.

11.5 All remediation work to be undertaken outside of this report, must be in consultation with the AQF5 consulting arborist. All remediation work must be audited within 14 days.

12.0 GLOSSARY

Crown: The width of the foliage in the upper canopy of the assessed tree to the four cardinal points. Crown lifting means the removal of the lower branches of the tree

Crown thinning means the portion of the tree consisting of branches and leaves and any part of the stem from which branches arise.

Drip line: Where the canopy releases water shed from the foliage during precipitation.

DBH/Diameter: Diameter of trunk at 1.4meters in height of assessed tree.

Dead wooding means the removal dead branches from a tree.

Dieback: Tree deterioration where the branches and leaves die.

Flush cut: A cut that damages or removes the branch collar or removes the branch and stem tissue and is inconsistent with the branch attachment as indicated by the bark branch ridge.

Genus/ Species: The Genus and species of each tree has been identified using its scientific name. Where the species name is not known the letters species is used. The common name for trees may vary considerably in each area of geographical differences and so will not be used in the field survey.

Height: Height has been estimated to + / - 2 metres.

ISA: International Society of Arboriculture.

Maturity: Tree maturity has been assessed as over mature (last one third of life expectancy), mature (one third to two thirds life expectancy) and semi mature (less than one third life expectancy).

Remedial (restorative) pruning: includes: Removing damaged, dead wood; trimming diseased or infested branches. Trimming branches back to undamaged tissue in order to induce the production of shoots from latent or adventitious buds, from which a new crown will be established.

SRZ- Structural Root Zone: An area within the trees root zone in which roots stabilize the tree. Roots cut in this zone can cause instability and lead to anchorage loss.

Structural Integrity: Describes the internal supporting timber. (Substantial to frail)

TULE- Tree Useful Life Expectancy: An estimation of the trees useful life expectancy using appropriate industry methods.

TPZ- Tree Protective Zone: This zone should be considered as optimal for tree growth and sustainability however the size of the zone is subjective and should be reassessed when individual design and construction methods are being discussed.

Tree Age: Trees have either been assessed as mature, immature or semi-mature.

Tree Numbering: All trees listed in the tree survey have been numbered and plotted

Vigor: This is an indication of the tree health. Trees have either been assessed as Good Vigor, Normal Vigor or Low Vigor

13.0 BIBLIOGRAPHY

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WEBSITE

www.treesaregood.com/treecare/hazards www.safeworkaustralia.gov.au

www.environment.nsw.gov.au/soils/ www.dpi.nsw.gov.au

https://www.rfs.nsw.gov.au

APPENDIX A TREE USEFUL LIFE EXPECTANCY - TULE

Adapted from Jeremy Barrell (SULE) 2014 for TCAA Consultant Arborists						
	1 Long TULE Trees that appeared to be retainable at the time of assessment for more than 40 years with low level of risk.	**2 Medium TULE** Trees that appeared to be retainable at the time of assessment for 15 to 40 years with and with low to medium level risk.	**3 Short TULE** Trees that appeared to be retainable at the time of assessment for 5 to 15 years with medium to high level of risk.	**4 Remove** Trees that should be removed within the next 5 years High to Very high level of risk.	**5.No Potential for Retention REMOVE IMMEDIATELY** Trees that must be removed immediately. Very High to Extreme level of risk.	**6 Small, Young or Regularly clipped** Trees that can be easily transplanted or replaced.
A	Structurally sound trees located in positions that can accommodate future growth.	Trees that may only live for between 15 and 40 more years.	Trees that may only live for between 5 and 15 more years.	Dead, dying, suppressed or declining trees through disease or inhospitable conditions.	Dead, dying or declining trees diseased or inhospitable conditions.	Small trees less than 5 metres in height.
B	Trees that could be made suitable for retention in the long term by Intervention Works.	Trees that may live for more than 40 years, but would need to be removed for safety or Nuisance reasons	Trees that may live for more than 15 years, but would need to be removed for safety or nuisance reasons	Dangerous trees through instability or recent loss of adjacent trees.	Dangerous trees through instability or recent loss of adjacent trees.	Young trees less than 15 years old but over 5 metres in height.
C	Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.	Trees that may live for more than 40 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Trees that may live for more than 15 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.	Trees that have been regularly pruned to artificially control growth.
D		Trees that could be made suitable for retention in the medium term by Intervention Works.	Trees that require substantial Intervention Works, and are only suitable for retention in the short term.	Damaged trees that are clearly not safe to retain.	Damaged trees that are clearly not safe to retain and must be removed immediately.	
E				Trees that may live for more than 5 years, but should be removed to prevent interference with more suitable individuals or to provide space for new planting.	High Toxicity Allegan trees, asthmatic and poisonous trees and must be removed immediately.	
F				Trees that may cause damage to existing structures within 5 years.	OTHER, with legitimate explanation to be removed immediately.	
G				Trees that will become dangerous after removal of other trees for reasons given in 1A-1F.		
INSPECTION FREQUENCY	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-5 Years by competent inspector unless event monitored.	Inspection frequency 1-3 years by competent inspector unless event monitored.	Inspection frequency to 1 year by competent inspector unless event monitored.	1-7 days by competent inspector and event monitored.	Inspection frequency Biannually by competent inspector.

APPENDIX B HEALTH & STRUCTURAL CONDITION OF TREE - VISUAL

KEY	Health & Structural Condition of Tree	
1.	Maturity: J - Juvenile; IM - Immature; SM - Semi-Mature; M - Mature	
2.	Excellent Condition	
3.	Good Condition but Poor Development	3b Moderate
4.	Dieback is more than 20%.	4b Epicormics
5.	Sparse Foliage Crown	5b Unbalanced Canopy
6.	Physical Damage	
7.	Insect Damage	7b Borers
8.	Fungal Attack	
9.	Cavity	
10.	Termite Damage Inclusions	
11.	Lean	
12.	Heavily Pruned	12b Dying
13.	Damage to roots	13b Encroachment
14.	Parasitic Vine Present	
15.	Damage by Climbing Plant	
16.	Inclusions	
17.	Habitat Tree	
18.	Endangered Species	

McArdle & Sons Arboricultural Service Pty Ltd
Developed by Claus Mattheck in: *The Body Language of Trees(*1994) which have adapted versions from Hornsby Shire Council.

APPENDIX C TREE HAZARD & SITE ASSESSMENT FOR PRESERVED TREES – VISUAL

McArdle & Sons Arboricultural Service Pty Ltd
Adapted from ISA Hazard Checklist

Adapted from ISA Hazard Checklist

SIGNED:	**SITE: SECTION 2 Segments 18-1** **ARC Back Kempsey Rd** **Fire erosion flood**	**DATE:** ***16 July 2020***
1. SITE		
Underground service, Overhead power lines, High / low voltage, winds direction, Building within 3m, Uneven terrain, Electrical lines to property, Telephone and cable lines, Streetlights, Vehicle & Pedestrian traffic.		
2. ROOT ZONE		
Compaction, Damaged Roots, Exposed Roots, Girdling, Close to kerb, Soil Level Raised/ Lowered, In Garden Bed /Mulched Paving/ Concrete/ Bitumen, Roots Pruned, Fungal Growths At Base		
3. TRUNK		
○ Dead ○ Severe decline(<20% Dead wood) ○ Declining (20-60% twig & branch dieback) ○ Average/ low vigour (60-90% twig dieback) ○ Good (90-100% little or no dieback or visual defects)		
4. BRANCH		
Lean, Cavities / cracks, Splits / cracks, Physical damage, Insects/ parasites/ borers / termites, Hangers, Condition of bark, Disease, Decay, Previous failures, Inclusion.		
5. BRANCH UNIONS		
Dead branches, Branch clusters, Pockets of decay, Leaves colour		
6. VIGOUR & VITALITY - Crown		
Branch unions, Storm damage, Heavily pruned		

APPENDIX D TREE RISK ASSESSMENT MATRIX

McArdle & Sons Pro Tree Service Categories and Sub-Categories

		RISK TARGET RATING				
		OCCASIONAL USE	INTERMITTENT USE	FREQUENT USE	CONSTANT USE	CONTINUAL USE
FAILURE POTENTIAL	VERY LIKELY Almost certain to occur in most circumstances	Medium	High 1	High1	High 2	**High 3**
	LIKELY May occur frequently	Medium	Medium	High1	High 2	High 3
	SOMEWHAT LIKELY Possible and likely to occur at some time	ALARP	Medium	High1	High1	High 2
	UNLIKELY Not likely to occur but could happen	ALARP	ALARP	Medium	Medium	Medium
	HIGHLY UNLIKELY May occur in rare and exceptional circumstance	ALARP	ALARP	ALARP	ALARP	ALARP

Table: Risk Matrix Adapted with permission Bill Sullivan 2019 for TCAA licensed climbing Arborists.

The risk rating score is determined after assessing the Failure Potential and Target Rating of an identified hazard tree. The determination of these calculations will indicate a priority and course of action when implementing the risk reduction measures.

Failure Potential x Target Rating = Risk Assessment.

FAILURE POTENTIAL	
Very Likely	Partial or whole tree failure is imminent e.g. cavity in excess of 50% of the trunk. Major bark inclusions, dead limbs, leaning tree with lifting root plate, roots/trunk decayed or damaged, Toxins, HOSTING BEES (other).
Likely	Defects that could cause structural failure of the tree within the next 6 months.
Somewhat likely	Defects present that could cause portions of the tree to fail.
Unlikely	Defects are minor and not likely to cause significant harm.
Highly unlikely	Tree is healthy with no obvious defects.
TARGET RATING	
1. Occasional use	1.Surburban Park Quite Street, Restricted Area, etc. Intermittent use
2. Intermittent use	2. Parking lot, Ovals, play area in park, etc.
3. Frequent use	3. Busy street adjacent, school yard, child care center.
4. Constant use	4. Occupied buildings, residences, CBD, etc.
5. High 1 Continual use	5.Hospitals, emergency services, High 1 Voltage power lines, busy High 1way

Priority work is governed by the degree of risk asfollows;

TARGET RATING	PRIORITY TIMEFRAME	RECOMMENDED CONTROL MEASURES & TREE AT ALARP
ALARP	n/a	no work required
Medium	Within 3 months	Recommended Control Measure can mean isolating a tree until work can be done
High 1	Within 1 month	
High 2	Within 7 days	
High 3	Within 24 hours	

APPENDIX E DISCLAIMER

McArdle and Sons Arboricultural Services Pty Ltd does not assume responsibility for liability associated with the tree on or adjacent to this project site, their future demise and/or any damage, which may result therefrom. Any legal description provided to McArdle and Sons Arboricultural Services Pty Ltd is assumed to be correct. Any titles and ownerships to any property are assumed to be good and sound. McArdle and Sons Arboricultural Services Pty Ltd undertakes care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.

McArdle and Sons Arboricultural Services Pty Ltd reports and recommendations shall not be viewed by others or for any other reason outside its intended target, either partially or whole, without the prior written consent of the consultant. Unauthorised alteration or separate use of any section of the report invalidates the whole report. McArdle and Sons Arboricultural Services Pty Ltd cannot be held responsible for any consequences as a result of work carried out outside specifications, not in compliance with Australian Standards or by inappropriately qualified staff.

Sketches, diagrams, graphs, GPS and photographs in this report, being intended as visual aids, are not necessarily to scale or accurate. All recommendations contained within this report represent the current industry best practice methods of inspection. McArdle and Sons Arboricultural Services Pty Ltd shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.

LIMITS OF OBSERVATION

McArdle and Sons Arboricultural Services Pty Ltd makes every effort to accurately identify current tree health and safety issues. Results may or may not correlate to actual tree structural integrity. There are many factors that may contribute to limb or total tree failure. Not all these symptoms are visible. There can be hidden defects that may result in a failure even though it would seem that other, more obvious defects would be the likely cause of failure.

All standing trees have an element of unpredictable risk. McArdle and Sons Arboricultural Services Pty Ltd endeavour's to identify the risk that the tree represents; however, a level of risk associated with every tree will remain. McArdle and Sons Arboricultural Services Pty Ltd does not provide any warranty or guarantee that problems, deficiencies or failures with regard to the plant/s, property or building/s will not arise in the future.

Ongoing monitoring may foresee deterioration of a tree and allow remedial action to be taken to prevent injury or damage. The timing for re-inspection on individual trees is subjective and will vary however an annual inspection is advisable for trees in subsequent years.

FURTHER RESEARCH The report does not cover threatened, heritage or existing trees in relation to remnant forest. Further reporting may be considered as part of the relevant RISK ASSESSMENT.

LIMIT OF OBSERVATIONS BY RODNEY M. PAGE

"There are many factors that may contribute to limb or total tree failure. Factors include, decay (in the trunk, crown or branch junctions), external damage to branches leading to decay, poor branch taper, included bark, root rot/ decay. Not all these symptoms are visible i.e. internal decay; of these some external symptoms may indicate the presence of Dead wood but not the extent of decay. The most solid looking piece of timber may be riddled with breaks in continuity of growth caused by insect damage or poor pruning practices or other physical damage caused many years previous. Trees don't heal; they simply box in the damaged area ((CODIT) Compartmentalization of Decay In Trees.) and continue to expand in girth, completely disguising the fact that the branch or trunk has a hollow or decayed section. Having said this, not all areas, of decay past or present suggest a point of failure." In addition to this information, other variables that can contribute to limb or total tree failure are tree species, wood densities, weight, age, location, exposure to the elements, soil types, disease and pests, birds using trees as habitat and food sources, termites causing structural problems and human influences such.

ARMIDALE Regional Council

REVIEW OF COUNCIL COMMITTEES

David Ackroyd – November 2020

Unleash the opportunities

www.armidaleregional.nsw.gov.au

TRIM:

Armidale Regional Council

Review of Council Committees

November 2020

2020 11 17

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Acknowledgements

Armidale Regional Council would like to thank all of the groups and their members who provided their time in the preparation of this report – for your ideas and inspiration, Thank You.

Abbreviations

ACHAC – Arts Culture and Heritage Advisory Committee

AAC – Access Advisory Committee

ARAAC – Armidale Region Aboriginal Advisory Committee

ARC – Armidale Regional Council

ARIC – Audit Review and Improvement Committee

ARYAC – Armidale Regional Youth Advisory Committee

BAC – Business Advisory Committee

CSP – Community Strategic Plan

CWAC – Community Wellbeing Advisory Committee

ESAC – Environmental Sustainability Advisory Committee

LAC – Local Area Committee (Villages)

RGPAAC – Regional Growth and Place Activation Advisory Committee

Review Date - 2020 11 15

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Contents

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1.0 Executive Summary

In September 2020 Armidale Regional Council (ARC) considered that its Community Advisory Committees were failing to hear the voices of many local residents, and that instead they were paying more attention to the people with the 'loudest voices in the room'. David Ackroyd was engaged to perform a review of the Community Advisory Committees and this report is the deliverable of the project.

The purpose of the review was to document and analyse the current Advisory Committee structure and recommend a contemporary means of enabling residents to contribute to ARC's strategic decision making. A key objective of the project was to listen to the voices of both current and past members of the Advisory Committees together with key business groups and the residents in the villages that surround the city of Armidale and township of Guyra. This involved engagement with:

- Committees focussed on the Environmental, Social and Economic themes aligned to the Community Strategic Plan (CSP)
- Village based advisory groups
- Local business groups

Whilst there was some variation in the overall perceptions of the work undertaken by the Advisory Committees, common themes tended to focus negatively on their operations and outcomes:

Listening

- Council has its own agenda
- Council doesn't listen – 'We are advised committees not advisory'
- Committees are a 'tick box' exercise, not genuine engagement
- Little commitment from Council to embrace anything but their own ideas
- 'Having a committee that you take no notice of is worse than having no committees at all'

Communication

- Poor communication around the roles and expectations of the committees
- Feedback is rarely provided to close the loop in the engagement process

Volunteers

- Volunteers are not valued or respected
- Council fails to harness the potential that volunteers bring to the committees

Management

- Top down approach
- Inconsistencies in management styles across the committees
- Administration can be overly bureaucratic
- Poor / disruptive chairing of the committees by Councillors

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Community Strategic Plan (CSP)

- Vision is very generic and does not inspire
- The translation of the goals of the CSP to the Advisory Committees' Terms of Reference (ToR) is not outcome focussed, resulting in a lack of accountability and achievement
- There is a need for clearer links between the work of the Advisory Committees and the operational budget streams that are linked to the CSP

Local Area Committees (LAC)

The Local Area Committees did see significant value in their role of providing advice to ARC and fostering a greater understanding of the opportunities and challenges that present themselves in the village communities. Themes around listening, feedback and harnessing the capacity of volunteers to make a real difference in people's lives were common. There was a feeling that, until recent visits by the Interim Administrator, there had been a sustained absence of a 'face' from council at meetings for several months, which had impacted on their perception of connection to the broader region.

Business Groups

Consultations focussed on 4 business groups that have had a strong relationship with ARC over many years

- The Armidale and Guyra Business Chambers
- Locals 4 Locals
- Renew Armidale

These groups expressed some frustration with changes in direction relating to them joining together as a single voice, and concerns relating to the focus and management of the Regional Growth and Place Activation Committee. The lack of feedback and/or the failure to demonstrate progress with projects that volunteers had devoted significant time to were also raised.

From Committees to Partnerships - A Refreshed Approach

This report proposes a new approach to engagement, that seeks to develop genuine partnerships with the local community, together with significantly improved communication and feedback from Council that values the commitment of volunteers.

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The proposed structure is outlined in the following table:

1. Community Strategic Panels	
Purpose	Broad Community Involvement in shaping the social cultural and economic life of the Armidale Region
Structure and Membership	2 X Panels of approximately 20 people meeting immediately after the next election, open to residents from Armidale, Guyra and the villages, together with business / community / cultural / recreation groups
	Members should be selected through an expression of interest process (EOI) which is widely promoted throughout the community. Members of existing community panels and previous advisory committees should be encouraged to apply and invited to submit an EOI
2. Partnership Panels	
Purpose	Panels providing advice and input on areas required by legislation or of ongoing strategic and operational importance
Structure and Membership	Partnership Panels covering region: • Partnership Panel – Economic Development & Tourism • Partnership Panel – Environment • Partnership Panel – Sports • Partnership Panel – Arts, Culture & Heritage • Specialist Partnership Panel – Aboriginal Community • Specialist Partnership Panel – Access and Inclusion • Specialist Partnership Panel – Youth The roles, membership and meeting structure of each panel should be clearly set out in a charter adopted by ARC at the beginning of each Council term, and published on ARC's Website. On formation, the Panels should identify 3 agreed SMART (Specific, Measurable, Achievable, Relevant and Time-bound) priorities to focus the wok of the group in the first 12 months. 9 X Local Advisory Panels Membership should be drawn from the local villages. The charter and membership of the panels should be published on ARC's website

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1.1 Recommendations

Recommendation – Community Strategic Plan Review

1. Subsequent to the election of a new council in 2021, invite participation in 2 Community Strategic Planning Panels of 20 people that bring local community leaders (from community, business, education and the region's villages) together to work on developing a refreshed and inspiring Community Strategic Plan, that clearly articulates the needs and aspirations of the Armidale Region

Recommendations – A Refreshed Approach – Partnership Panels

2. Move away from 'Committee' terminology to the concept of Partnership Panels
3. Implement a 'back to basics' name for each of the Partnership Panels
4. Create refreshed charters to reflect the key priorities of the new Panels
5. Aim to create Panels with a minimum of 8 and no greater than 12 members
6. Seek to recruit members who represent professional groups with a significant interest a Panel's topic area (members of the Access Partnership Panel may be an exception to this rule)
7. A council staff member should chair the Partnership Panels' meetings
8. Provide opportunities for leadership training to staff who will chair or support the chair of the Partnership Panels
9. Move administrative matters from the Panel Charters to a separate manual that applies to all panels, to ensure greater consistency in their management
10. In partnership with the newly formed Panels, set three goals to be achieved in the first 12 months
11. Resist the creation of working groups that potentially raise expectations that cannot be delivered, and divert resources away from a core Partnership Panel's prioritised work plan
12. Celebrate the successes with the Panels' members and the broader community as they occur, and provide ongoing feedback on progress towards goals
13. Include as a mandatory or desirable qualification, skills and/or experience in working with Partnership Panels, in the position descriptions of staff who will undertake the role of chairing or supporting their chair
14. Introduce performance measures in annual appraisals so that staff can be supported to improve their skills in engagement and leadership if necessary

Recommendations – Local Advisory Panels – Currently LACs

15. Retain the existing structure of the LAC's, however, change their title to Local Advisory Panel (LAP) to bring consistency across the refreshed Advisory Panel structure
16. Promote the use of the electronic logging of customer requests (Report It and Snap, Send, Solve), so that they can be easily tracked on-line, and escalated to responsible managers when standards are not met
17. Provide information and data on works programs to the LAPs where it is available, so that they can advocate for Council and better demonstrate the equity in funding to village residents
18. Consider creating a roster for senior council staff to visit 1 - 2 of the LAP meetings each year
19. Consider an Engineer being allocated to visit each LAPs on an annual basis to listen to and explain responses to road / grading issues

20. Create a single point of contact within Council for the LAPs (see also recommendations 24 & 25).

21. Consider including a member drawn from the LAPs on the Environment & Economic Development and Tourism Partnership Panels

22. Where LAPs have transactional relationship with Council, LAPs should be required to be Incorporated Not For Profit Associations

23. Annual acquittals of the funds supplied by Council to the LAPs should be made to Council together with copies of the LAPs' Annual Reports (including financial reports) supplied to the NSW Department of Fair Trading

Recommendation – Business Groups

24. Create a single point of contact within Council for the Business Groups (see also Recommendation 20 & 25)

Recommendation – Community Engagement

25. Consider centralising accountability for community engagement activities under the auspices of a single team where advanced skills and the application of differing approaches to engagement can be nurtured (see also recommendations 20 and 24)

Recommendation – Audit Review and Improvement Committee

26. The Audit Review and Improvement Committee (ARIC) be expanded to include membership of an experienced and skilled community engagement professional

Recommendations - Volunteers

27. Celebrate the achievements of the volunteer Partnership Panels wherever possible

28. Ensure feedback is provided to volunteers on how their input has influenced decision making and, if not, provide background for reasons why, thus ensuring that members are better informed of constraints they may need to consider when providing further advice

Recommendation Section 355 / 356 Delegation

29. Subject to the adoption of the proposed new model, the Partnership Panel - Sports be provided with a Section 355 / 356 delegation enabling the group to levy a charge on behalf of Council

Recommendation – Financial Support

30. That a review of the financial support provided to the former Advisory Committees be undertaken with a view to standardising governance procedures in grant making, ensuring transparency in its allocation, accountability in its application and greater recognition of Council' support under the new Partnership structure.

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2.0 Introduction

2.1 Background

Armidale Dumaresq and Guyra Councils were merged to form the Armidale Regional Council in 2016. The local government area (LGA) is centred around Armidale and, 37kms to the north, the town of Guyra (population 2000). A number of small villages form an arc around these centres. The distance from Armidale to Ebor in the east of the region is some 70kms along the Waterfall Way. The isolated settlement of Lower Creek, almost 100kms distant, a drive of almost 2 hours, is some 850 metres in elevation below Armidale, accessible only by a narrow and in places steeply sloping (the Big Hill).

The geography of the area undoubtedly provides some challenges in relation to maintaining effective connections with the village communities.

The main campus of the University Of New England (UNE) is situated just 5km northwest of the centre of Armidale.

There is a thriving community spirit in the region that has resulted in the growth of many special interest / community groups that:

- Seek to preserve the built heritage of the area - the court building in the centre of the town for example
- Promote the New England Conservatorium of Music and Regional Art Museum and support the refugee Yazidi population that has settled in the region in recent years
- Address the challenge of global climate change through sustainable living groups that focus on wildlife and transport to combatting the problems caused by wood smoke

Aboriginal Land Councils have a strong presence in the area and local Aboriginal people are actively engaged in preserving and promoting culture and heritage. The diversity of the region and its passion to be involved in community life is a significant asset.

Armidale Regional Council is currently governed by an Interim Administrator who was appointed in June 2020.

2.2 Reynolds Report - Advisory Committee Review

Council Decision 24 June 2020

The decision of the Council meeting of 24 June 2020 is as follows:

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a) That Council notes:

i. That suspended former Councillors will not form part of the Advisory Committees of which they were previously members, in any capacity;

ii. That the external members of each Advisory Committee remain members;

iii. That each Advisory Committee elect a Chairperson from its members;

iv. That the Interim Administrator attends the meetings of each Advisory Committee when available.

b) That Council receives the Review of Council Committees report ("Reynold's Report") prepared March 2019.

c) That Council retain the following Advisory Committees:

i. The Environmental Sustainability Advisory Committee ("ESAC");

ii. The Traffic Advisory Committee;

iii. The Arts, Cultural & Heritage Advisory Committee ("ACHC");

iv. The Sports Council Committee;

v. The Community Wellbeing Advisory Committee (CWAC)

vi. Regional Growth and Place Activation Advisory Committee (RGPAAC);

and review the Terms of Reference of each considering the recommendations of the Reynolds Report.

d) That Council:

i. Undertake a review of the Charter of the Audit, Risk and Improvement Committee ("ARIC") in light of changes to the Local Government Act relating to ARIC Committee functions;

ii. Review and if necessary, refresh the membership of the ARIC Committee to address expertise shortfalls in light of the new requirements.

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2.3 September 2020 - A Further Committee Review

Subsequent to the Council decision on 24 June 2020, the Interim Administrator believed the Advisory Groups and Terms of Reference agreed by Council were not working. This concern also extended to the Local Area Committees (LAC's – village based advisory groups).

There is concern that, due to myriad of community groups, it is impossible for Council to hear all voices, and it appears that the loudest have the ear of Council and the Administration. It was considered that the residents 'not in the room' had been failed by the elected body and staff were, on occasions, second-guessing needs and priorities.

Concerns with the LAC model focussed on the process of accountability back to Council. This was further complicated in some of the villages that also have Progress Associations and Committees who manage assets, such as showgrounds.

The brief for the project included:

- Formal meetings with all advisory groups and committees on a group basis
- Formal meetings with all groups prior to the introduction of the new arrangements
- A Public Meeting at the Bowling Club in Armidale and also in Guyra for 50 people who are not in the above and are not former Councillors
- A meeting in each of the Villages with the LACs and Progress Associations, RFS etc. We need a better way for LACs to work and be coordinated / facilitated by all from a central point.

Specifically, the brief required:

- Meeting with commercial/retail groups with a view to forming one organisation
- Understanding the "Reynolds Report"
- Face to face meetings with members of each Committee to obtain their views
- Meeting with the Council staff who support the Committees
- Holding discussions with others who may assist you in forming your views, particularly those groups which existed prior to the new arrangements
- Meeting in each of the Villages with LACs and Progress Associations, the RFS etc.
- Attending and participating in a public meeting chaired by the Interim Administrator
- Preparing a Report for consideration by the Interim Administrator and Acting General Manager

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2.4 The Foundation and Principles of Public Participation in Local Government

The Local Government Act 1993

The importance of the Community Strategic Plan and Community Engagement is stated in Section 402 of the Local Government Act 1993 which states (in part):

Section 402 Community Strategic Plan

(1) Each local government area must have a community strategic plan that has been developed and endorsed by the council. A community strategic plan is a plan that identifies the main priorities and aspirations for the future of the local government area covering a period of at least 10 years from when the plan is endorsed.

(3) The council must ensure that the community strategic plan-

> *(a) Addresses civic leadership, social, environmental and economic issues in an integrated manner, and*
>
> *(b) Is based on social justice principles of equity, access, participation and rights, and*
>
> *(c) Is adequately informed by relevant information relating to civic leadership, social, environmental and economic issues, and*

*(4) The council must establish and implement a strategy (its **"community engagement strategy"**), based on social justice principles, for engagement with the local community when developing the community strategic plan.*

Armidale Regional Council's Community Engagement Policy

Armidale Regional Council's Community Engagement Policy (adopted 28/06/17) can be found in Council's Policy Register and can be viewed at the following web address:

https://epathway.newengland.nsw.gov.au/ePathway/Production/Web/Common/Files/OpenUncFile.asx?FileKey=1

The Community Engagement Policy provides a framework for a consistent and best practice approach to engaging with the community across the entire Armidale Regional Council (ARC) area and its functions. The policy makes reference to the International Association for Public Participation (IAP2) Australasia. The key values of the IAP2 approach are:

1. Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process.
2. Public participation includes the promise that the public's contribution will influence the decision.

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3. Public participation promotes sustainable decisions by recognising and communicating the needs and interests of all participants, including decision makers.
4. Public participation seeks out and facilitates the involvement of those potentially affected by or interested in a decision.
5. Public participation seeks input from participants in designing how they participate.
6. Public participation provides participants with the information they need to participate in a meaningful way.
7. Public participation communicates to participants how their input affected the decision.

TRIM:

3.0 Review of Community Advisory Committees

3.1 The Engagement Process

The process for undertaking the review has included:

- A review of the Reynold's Report and its outcomes
- 4 Forums which included members drawn from the core Advisory Committees created under the structure proposed by the Reynold's Report that relate directly to the pillars of the Community Strategic Plan (CSP).
    - Regional Growth and Place Activation Advisory Committee (RGPAAC)
    - The Community Wellbeing Advisory Committee (CWAC)
- Members of the following groups were also invited to the consultation forums:
    - The Sports Council
    - Members of the former Youth Advisory Committee (ARYAC)
    - Members of the Arts, Culture and Heritage Committee (ACHAC)
- 2 topic specific forums were convened for the:
    - Environmental Sustainability Advisory Committee (ESAC) together with members drawn from the Climate Emergency Working Group – a sub-committee of ESAC
    - Members of the former Access Advisory Committee (AAC)
- A meeting with the:
    - Armidale Region Aboriginal Advisory Committee (ARAAC) was attended covering the themes discussed in the broader forums above
- Meetings with the 4 key business groups
    - Armidale Chamber of Commerce
    - Guyra & District Chamber of Commerce
    - Locals 4 Locals
    - Renew Armidale
- Interviews were conducted with the key Council staff who support the operation of the Advisory Committees
- 2 individual interviews were undertaken with prominent community members
- The regular meetings of both the Regional Growth and Place Activation Committee (RGPAAC) and the Community Wellbeing Advisory Committee (CWAC) were attended

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3.2 The Reynolds Report – Review of Recommendations and Outcomes

The Reynolds Report proposed the following recommendations:

- Enhance the transparency of Committee operations by having Committees and their responsibilities clearly set out on the web site
    - The three core committees (ESAC, CWAC & RGPAAC) are aligned to the Strategic Plan, are listed on Council's web site and their responsibilities outlined
- Integrate Council's Strategic Planning processes (e.g. CSP) to achieve best practice.
    - Whilst the titles of the three core Committees differ slightly from the pillars of the CSP, there is a strong alignment in their activities (Environmental, Economic and Social).
    - The Leadership pillar in the of the CSP is paired with the Audit Risk and Improvement Committee (ARIC). Similar to the Floodplain Management Committee and Traffic Committee, all Councils are required to constitute these groups. Whilst they are advisory groups, the members are mainly drawn from skilled professionals, providing high level specialised technical advice to Council.
- Committee processes need to be as efficient as possible to contain the impact on staff resources whilst not constraining the ability of the committee to meet as necessary.
    - A generic Terms of Reference template was developed for the Committees in an endeavour to provide greater consistency in Council's approach to the effective and efficient management of each of the groups.
    - ESAC and RGPAAC have both applied the generic format to their Terms of Reference (ToR)
- Achieve enhanced results by having Committees co-operate on common issues
    - There is little evidence that any mechanisms have been established to systematically foster cooperation between committees on issues of common interest
- Amalgamate Committees to secure efficiencies and enhance effectiveness where appropriate
    - Amalgamation of a number of committees did occur.
        - ESAC became the peak group with an intention of forming working groups relating to air quality, water quality, and terrestrial habitat issues.
        - The RGPAAC evolved from the amalgamation of the Business Advisory Committee and the Regional Growth Advisory Committee, with the intention of establishing working groups to consider Infrastructure growth, tourism, clustering and business retention strategies, and business attraction strategies
        - Restructuring of CWAC did not occur and it continues to function as a group with a very broad remit, where the primary responsibility for direct service delivery lies with other levels of government, and Council's role is limited to the provision of some infrastructure and lobbying support with other levels

of government. CWAC has seen steadily declining attendance at its meetings.

- Despite close alignment with mandate of the CWAC, the Reynolds Report recommended that three Advisory Committees, the Armidale Regional Youth Advisory Committee, the Arts, Culture and Heritage Advisory Committee, and the Sports Council were viewed as having a 'specific focus'; that they were working appropriately and recommended no changes being warranted.
    - The Sports Council continues to operate successfully with the support of a dedicated staff member
    - The Arts, Culture and Heritage Committee is currently meeting with limited support of a council staff member, however, there is some concern relating to Council's ongoing commitment to supporting the Arts sector
    - The Armidale Regional Youth Advisory Committee no longer meets following to the resignation of the dedicated staff member who has not yet been replaced.
- The Armidale Region Aboriginal Advisory Committee had been recently reviewed and was not included in the considerations of the Reynolds Report or recognised in Council's resolution of 24 June 2020

TRIM:

4.0 Feedback from the Advisory Committees

4.1 Advisory Committee Forums

Four community forums were conducted that brought together a mix of members from Community Wellbeing Advisory Committee, the Regional Growth & Place Activation Advisory Committee, the Arts, Culture & Heritage Advisory Committee and the former Armidale Regional Youth Advisory Committee.

Common Themes Identified in the Forums

Strengths

- The diversity of the groups and individuals involved in the committees. Members bring in different ideas, values, views and abilities, with huge potential if it can be harnessed
- The depth of knowledge across the topic applied specifically to benefit the region
- Motivating - volunteers devote many hours to the work of the committees
- Ability to take ideas back to local communities and groups they represent to implement
- Councillor participation could be good, but also resulted in directions and personal agendas, rather than leading discussion and listening to feedback from participants

Communication

- Council doesn't really listen, the approach is very 'top down'
- There is no willingness to talk about issues that are 'operational' even when they relate to the strategic direction of the operational arms of Council
- There is no real intent to actively engage with the community – 'We are not Advisory Committees, we are Advised Committees'
- Not enough listening and respect paid to committee members
- We have so much potential to work in a strategic partnership with Council, but our ideas are simply dismissed

Feedback

- Any questions that cannot be addressed fall into a void and are never answered. We don't even get a 'no'
- Council does consult but it appears it is simply 'ticking a box', so that they can report they are engaging with the local community. Nothing ever happens with the ideas presented and we never get any feedback
- There is no transparency in how ideas generated by the committees is utilised
- Having a committee that you take no notice of is worse than having no committee at all

TRIM:

Committees' Relationship to Strategic Direction

- The Community Strategic Plan does not have a vision that forcefully engages with the community and reflects what makes us different from adjoining areas. It is very much a generic 'template' taken from other areas
- The Community Strategic Plan and its translation to the committee Terms of Reference needs reviewing to provide greater opportunity to develop SMART (Smart, Measurable, Achievable, Realistic & Time bound) goals for the committees. This would empower them to remain focussed on priorities and improve the transparency in the operation of both Council and the Committees
- The relationship between the various strategic documents produced by Council (e.g. Community Strategic Plan, Delivery Program, Master Plans and the Local Strategic Planning Statements) is confusing and difficult to reconcile
- The Committees Terms of Reference need refining and agreed upon, in conjunction with the committees, to better reflect the current challenges faced by the local community
- There is a need for clearer links between the work of the Advisory Committees and the operational budget streams that are linked to the CSP

Administration

- Inconsistent support from staff – there are regular changes to the staff members who support the chair, and different people, and different approaches across the committees in their administration and management
- Bureaucratic processes take up too much time in the meeting agenda, diverting attention from the real work of the committee
- Frequently late circulation of minutes and agendas
- Committees seem to have evolved to an 'Us and Them' contest rather being seen as a partnership
- Some Councillors who chaired the committees, politicised the meeting and came with their own agendas, in one case replacing the published meeting agenda with their own at the meeting
- Attendance became increasingly inconsistent with the groups struggling to achieve a quorum
- Needs to be a single point of contact for the Committees in Council

4.2 Comments relating to Specific Committees

Regional Growth and Place Activation Advisory Committee

- In recent months COVID-19 seems to have been the sole focus of the committee – this has been good and bad; supporting small business mainly in Armidale, but it has further eroded the capacity of the committee to focus on its core objective of creating sustainable growth
- Council does not use the committee to focus on strategic issues when growth opportunities occur – e.g. tourism from NSW when state borders are closed and the potential to create an 'affordable working from home city'
- Failed to take advantage of attracting grants to assist with growth

TRIM:

Community Wellbeing Advisory Committee

- There was no real structure to the meetings
- Potential attendance could be almost 50 people – too big to manage
- Simple outcomes could take years to achieve (lighting of cycle path) – sapped motivation

4.3 Specialist Committees

In addition to committees required by legislation (Audit, Risk and Improvement Committee, Traffic Advisory Committee and the Floodplain Management Advisory Committee) council continues to support (or formerly supported) a number of specialist committees. These can be categorised under two headings, population / age groupings (Aboriginal people, people with disabilities and young people), and areas of activity where Council has significant investment in infrastructure (playing fields, amenity buildings, libraries and cultural facilities)

The Armidale Region Aboriginal Advisory Committee

The Armidale Region Aboriginal Advisory Committee (ARAAC) had been recently reviewed prior to the drafting of the Reynolds Report. As a result, the Committee was not specifically referenced in the Reynold's Report recommendations or the structure adopted by Council on the report's presentation. In line with the prior review recommendation, the ARAAC has continued to meet and provide advice to Council.

This committee is supported by the Aboriginal Community Development Officer based in the Communities area of Council. This position has a key role to play in being accountable for and further developing productive relationships with the Aboriginal Land Councils and cultural organisations, driving agreements that can assist in achieving goals related to Australia's *Closing the Gap* objectives at a local level.

Council does provide varied levels of financial support to Aboriginal groups as determined through the community grants process (total $20,000 in 20/21). The committee provides advice to Council on the allocation of these funds. (see recommendation 30)

The Access Advisory Committee

The Armidale Regional Access Advisory Committee (AAC) was not considered by the Reynolds Report, and the committee has not met for some time. Former members of the AAC have expressed concern about their exclusion from the advisory committee structure.

People with disabilities have a unique capacity to apply their knowledge and experiences in the urban environment, and ensure it is accessible to all. It was noted that the ARC had been subject to

a complaint to the Human Rights and Equal Opportunities Commission that could have been avoided had the AAC been consulted early in the design of upgrades to the urban infrastructure.

The committee also has a unique capacity to engage with members of their community, assisting in raising awareness of physical works that may cause short term access issues for people with disability.

The Armidale Regional Youth Advisory Committee (ARYAC)

The Armidale Regional Youth Advisory Committee ceased to meet following resignation of the Youth Officer in 2019. Many Council's do support Youth Councils or Committees and recognise the value the youth perspective they provide to Council, which is often missing from committees and with elected councillors. In addition, the Committee format provides an opportunity for young people to gain valuable experience and skills in democratic structures, which can provide benefits that last a lifetime – to the young person and the broader community.

The Sports Council

The Sports Council provides a conduit for the combined sporting codes to provide a single voice to Council. The partnership:

- Provides advice on ground maintenance and renovation priorities
- Prioritises the need for new ancillary facilities and upgrades
- Partners with council to secure grants
- Makes a modest levy on players on behalf of Council that is used to offset costs of new / upgraded facilities (this makes it the only Advisory Committee of Council that requires a delegation to charge a fee under Sections 355/356 of the NSW Local Government Act 1993).

A council officer provides dedicated support to the Sports Council, and has developed an excellent working relationship with the group, and is the single contact point that liaises with other groups across Council as required. This is a model that works well and assists greatly in equitably managing the distribution of significant Council resources across the sporting codes

Council's financial contribution to the maintenance of grounds and amenity buildings is substantial and forms part of the operational budget.

Council allocated $10,000 to a sporting grant program in the 20/21 budget the allocation of which is informed by the Sports Council. (see recommendation 30)

Arts, Culture and Heritage Advisory Committee (ACHAC)

The Arts Culture & Heritage Committee has continued to meet and was provided with limited administrative support post Reynolds. Arts, Culture & Heritage are as significant to the wellbeing of

a community, as participation is in active sports. The Arts & Culture Strategic Plan 2017 – 2022 (https://www.armidaleregional.nsw.gov.au/community/arts-and-culture) clearly highlights the number of residents that are engaged in the arts, in a volunteer and paid capacity, and the economic value of the industry. The region has significant investment in arts and cultural infrastructure (libraries, museums galleries, theatres and public art), which could have a far greater presence in promoting tourism to the region. With the strategic plan this could be a Specialist Panel that could quickly progress actions and demonstrate the value of the partnership approach.

A small $20,000 grant program was created in 2019 / 2020 with the aim of the committee advising Council on how these funds should be allocated. (See recommendation 30)

4.4 Local Area Committees (LACs)

The Village based, Local Area Committees form an arc of communities around the hubs of Armidale and Guyra. Many have historical or locational significance, and are linked to areas of outstanding natural beauty. Indeed, the villages are often referred to as the 'Treasures' of the New England region.

Ebor is a distance of some 70kms to the east of Armidale and is the entry point to the New England Region along the scenic Waterfall Way. Wollomombi is in close proximity to one of the tallest waterfalls in Australia. Hillgrove is also in close proximity to the Wollomombi Falls, the Metz Gorge and Bakers Creek Falls, and has a rich history of gold mining and a local museum. Ben Lomond to the North is the location of what was once the highest passenger railway station in Australia, and boasts the longest hand-cut railway cutting in NSW. There is growing interest in the 'Dark Sky' at Ben Lomond which is increasingly attracting international attention and visitors from overseas for astronomical investigation. Lower Creek lies in a stunning hidden valley over 800 vertical metres below Armidale at the base of the 'Big Hill' on the Kempsey Road, which was once a cattle droving route providing access to Armidale from the rich pastures in the valley.

Many of the villages have been seriously impacted by the recent drought and bush fires, and some have been flood affected in recent months. The COVID pandemic has had a wide impact on business and communities across the region. Whilst largely negative, the closure of state borders has had the benefit of increasing the visitor numbers from across NSW to some of the villages.

Strengths of the Local Advisory Committees

- All the committees see great value in continuing to meet and providing information to Council from the individual villages on the challenges they face and the opportunities they are seeking to develop.

Communication

- Many of the committees relate back to times when a Council engineer would regularly visit their meetings and provide updates on what programs were scheduled to happen in the

village, and take concerns back to Council. These visits frequently followed action or, at a minimum, feedback on the issues raised

- Communication with many of the villages has significantly declined in recent years which have impacted on the relationship with Council.
- There is concern that state and commonwealth grant funding has not found its way to the local villages, who were most impacted by drought and bushfire. Recent visits by the newly appointed Interim Administrator suggest this may be changing, and some funding is now being allocated to priority projects. However, concerns remain that there was little communication / consultation with the villages in relation to the allocation of State and Commonwealth grants. The perception is that the majority of grant expenditure is focussed on Armidale.
- There is a strong feeling that the Local Area Committees are increasingly being isolated from the regional centre of Armidale, and that some Council staff are losing touch with this important aspect of the broader region.

Feedback

- The closing of the feedback loop is a common concern across all committees and applies equally to many individuals who provided personal evidence of letters and emails written to Council that had not received a response
- The lack of feedback results in repeated calls for information which some residents believes leads to a perception that council staff view residents in local villages are 'whingers'

Relationship to Strategic Direction – Council's Core Business and Tourism

- The skills, motivation and involvement of the individual committees with Council varies greatly. Each of the LAC's do have a strong focus on the core responsibilities of Council (roads, rates and rubbish) in particular on the grading and safety of roads, together with the maintenance of a small community facility / fire shed, and/or mowing of sporting fields and cemeteries
- A number of the LAC's comprise highly motivated individuals and groups who have innovative ideas around further developing the tourism potential of the villages that could create growth opportunities for the entire region. These include the development of a 'Dark Sky' experience at Ben Lomond, and taking advantage of the growing interest trout fishing competitions around the river in Ebor. Expanding opportunities for overnight stays to cater for the increasing numbers of 'grey nomads' and RV vehicles has been recognised in several villages. In many instances these projects could be driven almost entirely by the local community, and the level of Council support required could be no more than providing letters of support to differing levels of government and providing basic guidance. Committees point out that these projects align directly with the Economic Development goals of the CSP.
- There is a perception that Council's approach in meeting its tourism / economic development goals is too focussed on Armidale, and is dismissive of opportunities that could be created in the villages
- Many of the village committees have developed strategic plans that broadly align with the Community Strategic Plan, and have prioritised and scaled projects should grant funding become available at short notice.

Administration

- Several of the key issues raised by the village committees focussed on Council's core responsibilities of maintaining / grading roads, rates and rubbish.

  - There is widespread concern and confusion about why rates are levied when few or even no services are provided
  - Council does not reply when requests for information on works programs are made, or issues arise after projects are completed e.g., flooding caused as a result of road grading
  - Basic projects can take many years to be completed, leaving, for example, a tennis court unable to be used for 5 years
- There is little awareness of the capacity to log requests with Council on the 'Report It' function linked to Council's web site, and no recognition of the App based 'Snap Send Solve' function. This results in difficulty for LACs and individuals in tracking where requests have been allocated and how, and if they have been resolved
- Two of the villages have negotiated arrangements with Council to share in the purchase of a lawn mower and be reimbursed for mowing some council assets in a village. These arrangements appear to work well and benefit both Council and the local community, creating an ownership of the assets (sporting grounds and cemeteries) and responsiveness to mowing needs in times of high growth, or in preparation for planned events. There is some concern about the sustainability of these arrangements, as residents undertaking these tasks age, and are not easily replaced by others in the local community
- Many of the village committees are incorporated as Not for Profit Community Organisations and are legal entities in their own right. Incorporated groups are required to provide returns to the NSW Department of Fair Trading on an annual basis. The committees regularly provide minutes of their meetings to Council in an endeavour to provide information on activities and transparency in their use of funds
- All committees identified a need for a single point of contact in Council for general advice, direction and support
- A system needs to be implemented to ensure that, when a staff member is on leave, requests are answered / triaged and that invoices are promptly processed

Financial Support from Council

- On application, Council provides a small grant of $3,600 annually to each of the Local Area Committees aimed at facilitating minor upgrades to infrastructure, paying insurance and bringing the community together to celebrate days such as Christmas. Not all LAC's take advantage of this grant (see recommendation 30).

TRIM:

4.5 Local Business Groups

There are four locally focussed business groups meeting in the region:

- Armidale Business Chamber
- Guyra Business Chamber
- Locals 4 Locals
- Renew Armidale

Meetings were held with each of these groups. At each meeting, the idea of consolidating to form a single group / voice to Council was canvassed in the discussion.

Consolidation to Form One Voice

- Each group advised that the idea of consolidation had been floated in the past and that progress to this goal with the formation of the Business Alliance had been made. Problems arose with perceived inequities in funding to the individual groups. Communication from Council to the group was poor. Council's focus at the time was developing a 'Masterplan' and almost all decisions put forward by the Alliance at that time were deferred pending adoption of the Master Plan

- It was pointed out that it was Council who had 'torn up' the agreement with the Business Alliance resulting in the group dissolving

- Each of the 4 organisations expressed concerns with the idea of a moving to a single group due to their differing goals and the differing profiles / locations of member businesses:
    - Locals 4 Locals focus is small business – hairdresser and coffee shop, small scale but important in the region's economy
    - Armidale Chamber has more of a focus on larger retail outlets and corporate entities, together with education, conferences and awards type activities
    - The Guyra Chamber has strong connections with the local community and endeavours to tailor events and activities to reflect the culture of the town. The significantly higher fees to join the Armidale Chamber were a further barrier with the Guyra chamber reducing fees from $90 to $25 during the drought, recognising the hardships confronting the community at that time
    - Renew Armidale is focussed on the Beardy St Mall area, and is involved in activities and events that endeavour to enliven the public domain together with attracting new business to vacant shops

- There is a fear that the creation of single group will result in a loss of identity and the focus on the key reason for the establishment of the individual groups

- The groups overall doubted it would be possible to create single voice at this time and that the move was a top down approach to creating a structure that Council had not supported in the past

- Armidale Chamber suggested that the only way to achieve a single voice would be through the employment of an Executive Officer who would have the time to support each aspect of

the differing groups, ensuring that the focus of each was not lost in a merger. This position was advertised by the Chamber and was to be based in the ARC Business Hub. The business hub did not proceed and gaining support for funding of the position in partnership with other business groups was not forthcoming

- Rather than a single voice, the idea of a single point of contact in Council, and short monthly or bimonthly meetings / catch ups with the 4 groups was a preferred alternative

Communication

- Council itself needed to demonstrate it was willing to listen and improve its own communication with the local business community

Feedback

- No feedback was ever received on the concepts presented by the Business Alliance. Locals 4 Locals had given some considerable time to participating in a traffic study for Armidale which was undertaken by a consultant and published. No feedback on its implementation has been received to date, and no thanks ever given to volunteers who devoted time to the project

- The consensus was that Council itself needed to demonstrate it was willing to listen and improve feedback to each of the differing groups, prior to pushing them to move in a direction that had been tried and failed.

Groups' Relationship to Strategic Direction

- Growth and Economic Development is a key pillar of the Community Strategic Plan

Administration

- The Armidale Chamber noted that past meetings of the RGPAAC had been chaotic and largely negative and perceived this to be a reflection on the operation of Council as a whole. This led the Chamber to resign from the committee and align its activities with the UNE and its business promotions.

- No thanks for volunteer participation had ever been received, even on resignation

- Needs to be a single point of contact in Council for the business groups

Financial Support from Council

- Over the two year period (2017 - 2019) that the Business Alliance met $20,000 was provided as a contribution to support its operations. This support was to be spread between the two business chambers and Locals 4 Locals. Several other ad hoc amounts have been provided to support activities from time to time. (see recommendation 30)

TRIM:

4.6 Engagement with Staff Who Support the Committees

The views of staff interviewed for this project were consistent across the committee structure.

Councillor Involvement

- Inappropriate behaviour by Councillors that staff struggled to manage was destructive
- Councillors unaware of their role in chairing a committee or unwilling to implement them
- Involvement by Councillors (potentially as chair) can be beneficial as conduit between the committee and Council.

Lack of Consistent Oversight Provided by Staff

- Staff supporting the committees have differing levels of skills and perceptions about their role on the committee
- More consistent support staff skilled in governance support could greatly assist in effectively managing committees

Valuing Volunteer Commitment

- Cultivate cooperative working relationship (not us v them) for benefit of community.
- Need to focus on identification and delivery of a small number of agreed priorities consistent Council strategic planning documents and the committee ToR – 'Do Less Better'

Council Management

- Establish a process that ensures that new projects align with the Community Strategic Plan, and are costed and prioritised for consideration in the preparation of the Operational Plan or longer-term Delivery Program

Terms of Reference

- Reinforce the role as *advisory* committees, i.e. not directing the allocation of Council resources nor staff activities
- Standardise template for all committees and working groups

Membership

- Review and confirm existing membership
- Consider whether membership is based on peak body representation (preferred) or whether individuals who are experts in their field will be allowed to fill some positions.

Administration - Back Office Preparation to Ensure Seamless Operation

- Confirm meeting frequency
- Implement meeting calendar linked to Council meeting dates.
- Organise processes (e.g. agenda preparation) and meetings to align with Council's meeting calendar as far as possible

TRIM:

5.0 Analysis and Recommendations

5.1 Refreshing the Community Strategic Plan (CSP)

The Community Strategic Plan provides the foundation for every Council's engagement architecture.

The Armidale Region's *Community Strategic Plan* contains several references to engaging the local community including:

Environment and Infrastructure

The community can participate in initiatives which contribute to a sustainable lifestyle

Leadership for the Region

The community is engaged and has access to local representation

Council demonstrates sound organisational health and has a culture which promotes action, accountability and transparency

Council has the strategic capacity to understand the key issues for the region both now and in the future

The Local Government Act 1993 Section 402 (5) requires that:

(5) Following an ordinary election of councillors, the council must review the community strategic plan before 30 June following the election. The council may endorse the existing plan, endorse amendments to the existing plan or develop and endorse a new community strategic plan, as appropriate to ensure that the area has a community strategic plan covering at least the next 10 years.

A review of the Community Strategic Plan would normally commence with an assessment of achievements over the Council term, just prior to or immediately after the new Council has been elected. Newly elected Councillors would then be engaged in its final drafting following the election.

2021 / 2022 will see this process happening across all NSW councils and will be required in the Armidale Region. Several members of the Advisory Committees, business leaders and individuals have indicated an interest in reviewing and renewing the CSP and using the engagement process to draft a new and inspiring vision for the region.

TRIM:

The review of the CSP and engaging with communities and business leaders is the key building block to a re-invigorated positive engagement with residents in the city of Armidale, the township of Guyra and the village communities. The critical factor is to ensure that the region's diverse voices are heard and translated into a vision that clearly articulates what makes the Region special. These distinct and unique characteristics need to drive the social, environmental and economic goals of the Plan, ensuring that its initiatives are inclusive of diverse nature of the New England Region, of Armidale, Guyra and its villages. A skilled facilitator with knowledge of the region, its geography and its population would greatly assist this process.

Workshops held in both Armidale and Guyra would maximise the potential for residents from the surrounding villages to attend and develop complementary initiatives that bring the diverse communities together in a strong and resilient partnership.

Recommendation

1. Subsequent to the election of a new council in 2021, invite participation in 2 Community Strategic Planning Panels of 20 people that bring local community leaders (from community, business, education and the region's villages) together to work on developing a refreshed and inspiring Community Strategic Plan, that clearly articulates the needs and aspirations of the Armidale Region

5.2 Current Engagement Infrastructure / Practices

The Reynolds Report contrasted the number of community committees operating within the ARC to those other regional areas. Armidale Regional Council (population 30,0000) hosts 6 broadly issue based committees and 9 local - village - area committees. Orange City Council (popln 40,000) has 26 advisory committees; the city of Wagga Wagga (popln 65,000) hosts 18 Advisory Committees / Panels / Working Groups. In the smaller adjoining area of Bellingen (popln 13,000), Council hosts 23 Advisory Committees, the majority of which focus on specific buildings and parks (termed Section 355 Committees).

Whilst raw numbers of committees provide an indicator with which to compare ARC's engagement with the local community, there are significant differences in the roles and responsibilities of committees across councils. Numbers (high or low) do not translate to an example of best practice. The Reynold's Report notes that the key is that a council's committee architecture reflects the needs and aspirations of the community, and that each has a strong link to the Community Strategic Plan.

From an administration and governance perspective the Reynolds Report made a number of recommendations which have, by and large, been implemented. The governance practices are consistent with policies and procedures implemented across local government. The newly adopted Terms of Reference for each committee strongly relate to the Community Strategic Plan. However, back of house organisation of the committee process needs improvement to make it more seamless,

and the feedback loop and management of expectations within the Committees does needs attention.

The behaviour of Councillors in Advisory Committee meetings has clearly had a negative impact on their operation. In addition, there is a perspective that administrative processes have been overly bureaucratic and wasted time in meetings. The willingness of Council to take on ideas, provide feedback on them, and how and if those ideas have influenced plans and policies has been very limited.

Overall, there is general consensus across committee members and council staff that the Community Advisory Committee structure is failing. This does provide an opportunity to adopt a new approach.

5.3 From Committees to Partnerships - A Refreshed Approach

Partnership Panels

Council should consider discarding the 'Committee' terminology that has increasingly come to represent an 'us and them' battle and move to one of building productive partnerships (Partnership Panels) that benefit the participants, Council and the local community.

The current branding of the 3 core committees does reflect the pillars of the CSP. However, simplifying the names of the core committees to reflect their core purpose should give them more meaning and clearer direction.

A number of the existing advisory committees fit within the scope of the Community Wellbeing Advisory Committee's (CWAC) Terms of Reference. The CWAC has a large membership comprising some 28 members, although attendance in recent months has declined significantly. The committee operates very much in the space of a generalist interagency type model, that promotes information sharing and the development of projects that are largely the domain of State or Commonwealth funded community organisations. These are valuable meetings that, in other regions and metropolitan Sydney, often use council infrastructure to meet, but where the meeting agendas, chairing and minuting of the meetings are rotated amongst the members. The ownership of the Interagencies by the local groups ensures their relevance to current social issues and flexibility in responding to emerging needs.

The 5 specialist Committees that have, or continue to work in the 'community wellbeing' space are:

- Armidale Region Access Advisory Committee
- Armidale Region Aboriginal Advisory Committee
- Armidale Regional Youth Advisory Committee
- Sports Council
- Arts Culture and Heritage Advisory Committee

TRIM:

The first three of these committees address Council's obligations in regard to Section 402 (3) (b) of the Local Government Act:

(3) The council must ensure that the community strategic plan-

(b) is based on social justice principles of equity, access, participation and rights,

The role of these three groups should not be seen simply as providing advice on the 'wellbeing' of the groups they represent, but rather their capacity to add significant value to work of the core advisory groups. The Specialist Partnership Panel Aboriginal Community, for example, can provide advice on attracting cultural tourism to the region and ensure that development on land with cultural significance is approached with respect and considered through appropriate channels. The Access Committee has a key role to play in ensuring the urban environment does not exclude people with disabilities from accessing facilities and services that most take for granted and the tourism potential of ageing grey nomads is increasingly becoming seen as a new market that has significant economic development potential. Accessible design is increasingly seen as 'just good design' that benefits everybody. And, young people make up a significant part of the community, yet their voice is seldom present on the broader committees.

Given the declining interest in the CWAC and the capacity of the Aboriginal, Access and Youth Panels to actively engage with Economic and Environmental issues which are fundamental to their overall wellbeing, it is suggested that the broad CWAC be dissolved. This format would result in the creation of the following Partnership Panel architecture:

- Partnership Panel – Economic Development and Tourism
- Partnership Panel – Environment
- Partnership Panel – Sports
- Partnership Panel – Arts, Culture and Heritage

- Specialist Partnership Panel – Aboriginal Community
- Specialist Partnership Panel – Access and Inclusion
- Specialist Partnership Panel – Youth

This model empowers the community to be engaged in partnership with Council focussing on the core ingredients of wellbeing; a thriving economy, a healthy environment together with an inclusive, caring, physically active and intellectually stimulated community.

Much of the work involved with the Aboriginal, Youth and Access and Inclusion Panels are the core business of the Communities area of Council and should not result in an increased need for resourcing overall.

TRIM:

This Strategy would provide for the following model:

1 Community Strategic Panels	
Purpose	Broad Community Involvement in shaping the social cultural and economic life of the Armidale Region
Structure and Membership	2 X Panels of approximately 20 people meeting immediately after the next election, open to residents from Armidale, Guyra and the villages, together with business / community / cultural / recreation groups
	Members should be selected through an expression of interest process (EOI) which is widely promoted throughout the community. Members of existing community panels and previous advisory committees should be encouraged to apply and invited to submit an EOI
2 Partnership Panels	
Purpose	Specialist panels providing advice and input on areas required by legislation or of ongoing strategic and operational importance
Structure and Membership	Single Panels covering the entire region: Partnership Panel - Economic Development and Tourism Partnership Panel - Environment Partnership Panel – Sports Partnership Panel - Arts, Culture and Heritage Specialist Partnership Panel - Aboriginal Community Specialist Partnership Panel - Access and Inclusion Specialist Partnership Panel - Youth The roles, membership and meeting structure should be clearly set out in the charter for each panel adopted by Council at the beginning of each term and published on ARC's Website. On formation each of the Panels should identify 3 agreed SMART (Specific, Measurable, Achievable, Relevant and Time-bound) priorities to focus the wok of the group in the first 12 months. 9 X Local Advisory Panels (Villages) Membership should be drawn from the local communities. The charter and membership of the panels should be published on ARC's website

TRIM:

Charters

The Panels' Terms of Reference should be changed to 'Charters' and focus on the role of the panel rather than its administration. The ToRs for each the former committees are currently heavily loaded with prescriptive administrative procedures, which focus on controlling meetings rather than seeking to mine professional expertise, skills and local knowledge.

The detailed administrative procedures are necessary at times and ensure the smooth running of challenging meetings. These rules should be placed in a manual that is common to all Panels, ensuring consistency in the approach and reducing the appearance of red tape and bureaucracy that currently dominate the ToR.

The City of Newcastle has developed a good example of such a document providing Guidelines for Meeting Practice:

https://www.newcastle.nsw.gov.au/Newcastle/media/DocumentsHYS/Documentation-Guidelines-for-meeting-practice-Advisory-Committees-V1.pdf

This document also includes a template to the report the performance of a committee / panel to Council on an annual basis.

Optimal Number of Participants

Benchmarks suggest that an optimum number of members for each panel should be in the range of 8 – 12 members. This would ensure broad enough representation of diverse views and perspectives on the topic whilst still ensuring they remain productive and manageable.

Membership

In terms of membership, it would be preferable to attract members who represent groups with a clear investment in the Panel's area of focus and its success. This would enable alternate delegates from the groups selected to attend if necessary and provide links back to the broader community that they represent. A small number of places could be made available to individuals with a detailed knowledge of, and personal commitment to the subject area. The Access and Inclusion Panel may be an exception to this rule where lived experience is a key factor that should be sought. Expressions of Interest with basic selection criteria should be called for the membership of the panels. Members should be selected based on the selection criteria by the Council member who will be responsible for the Panel, in partnership with a respected professional community member with knowledge of the panel's topic area.

Leadership & Training

A recurring theme through the engagement process was what that several Councillors used the Advisory Committees to set their own agendas, and failed in the task of providing leadership. It is likely to be some time before the elected council returns, which provides an opportunity to review who is best placed to chair the newly proposed Partnership Panels.

Undertaking the task of effectively leading and chairing an orderly, focussed meeting, bringing competing ideas together requires skill and diplomacy. The chair should also be cognisant of the resourcing boundaries that Council must consider if it is to ensure that recommendations made by the Panels raise expectations that Council cannot meet. As such it is recommended that a Council staff member chair the Panels and that they be provided with access to training to allow them to develop / refresh the skills required if the role should it be needed.

Subject to this approach being successful, it may not be necessary for Councillors to take the role of the chair in the future, and recommendations from the Partnership Panels may simply be provided directly to Council for consideration.

Should Councillors wish to be involved in the longer term, then the capacity to observe or be a member of the committees may be a way to rebuild trust in the relationship between the Partnership Panels' members and the Councillors.

Setting Goals

A common concern raised by many of the advisory committee members was a lack of achievement. To address this issue, it is suggested that at the first meeting of each of the Partnership Panels, three SMART objectives be identified as priorities to focus the work of the groups in the first twelve months. This strategy will provide an opportunity to focus on priorities, ensure achievement of the objectives and clearly demonstrate the benefits that can flow from the revised partnership approach.

Working Groups

A number of working groups have been established to support the work of, for example, the ESAC. These groups have produced comprehensive well researched reports with numerous recommendations. However, few of the recommendations have been progressed and little or no feedback has been provided to the volunteers who spent many hours researching and drafting them.

Whilst there is an enthusiasm within the community to address the broad issues of climate change for example, the capacity of Council to follow through and implement recommendations from the growing number of working groups is limited.

The creation of working groups can raise expectations that cannot be fulfilled. This situation results in dissatisfaction with Council, frustration on the part of volunteers who participate on these groups and who feel their work is not valued, and pressure on staff who must manage the competing

priorities of their ongoing work commitments, with that of the former Advisory Committees and its associated working groups.

In the current environment the evolution of additional working groups is not considered sustainable. As the transition to the new model proceeds, adding working groups should be resisted with a focus placed on the achieving the agreed priorities of the Partnership Panels. The hard work of these groups is valuable and should not be disregarded. Indeed, components of their reports may be identified as part of the process of identifying the top 3 priorities for the Partnership Panels as they identify the key projects they wish to pursue.

Celebrate Success and Provide Feedback

Two of the biggest causes of concern identified in the engagement process was the lack feedback on progress with initiatives and lack of achievement overall. The lack of recognition the hard work undertaken by volunteers often involving many hours work beyond simply attending meetings was raised many times.

Recognising success and celebrating it is a powerful motivator for individuals and teams. It reinforces the meaning behind why volunteers are involved and engaged in their communities, and shows appreciation for the hard work undertaken. In turn, this builds a team's self esteem and motivates the group to take the next steps in achieving subsequent goals.

Council should take every opportunity to celebrate successes, recognise it and provide feedback not simply to volunteers who make up the Panel itself, but to the broader community they represent. The aim should be to develop pride in being a member of the ARC's Partnership Panels with accomplishments driving further achievement.

Recruitment and Appraisal of Staff Who Support the Panels

The position descriptions of staff that will be performing the role of chairing or supporting the chair of a panel should include reference to this task, and desirable or even mandatory qualifications, skills and experience in working with and managing community panels should be noted. Annual appraisals should assess proficiency and achievement in this area of expertise.

Recommendations – A Refreshed Approach – Partnership Panels

2. Move away from 'Committee' terminology to the concept of Partnership Panels
3. Implement a 'back to basics' name for each of the Partnership Panels
4. Create refreshed charters to reflect the key priorities of the new Panels
5. Aim to create Panels with a minimum of 8 and no greater than 12 members
6. Seek to recruit members who represent professional groups with a significant interest a Panel's topic area (members of the Access Partnership Panel may be an exception to this rule)
7. A council staff member should chair the Partnership Panels' meetings
8. Provide opportunities for leadership training to staff who will chair or support the chair of the Partnership Panels

9. Move administrative matters from the Panel Charters to a separate manual that applies to all panels to ensure greater consistency in their management
10. In partnership with the newly formed Panels, set three goals to be achieved in the first 12 months
11. Resist the creation of working groups that potentially raise expectations that cannot be delivered and divert resources away from a core Partnership Panel's prioritised work plan
12. Celebrate the successes with the Panels' members and the broader community as they occur and provide ongoing feedback on progress towards goals
13. Include as a mandatory or desirable qualification, skills and/or experience in working with Partnership Panels in the position descriptions of staff who will undertake the role of chairing or supporting their chair
14. Introduce performance measures in annual appraisals so that staff can be supported to improve their skills in engagement and leadership if necessary

Local (Village) Area Committees (LAC)

The villages that form an arc around Armidale shape the character of the New England Region. They vary in distance from being a 15-minute drive to the Armidale centre to 70kms distant. The steep dirt road access to Lower Creek ensures a seclusion that is highly valued but creates many challenges, not least of which is ongoing maintenance to the road itself.

A number of Progress Associations have merged with or changed their titles to become Local Area Committees. Many have become Incorporated, Not for Profit, Organisations. Some of the smaller communities have decided not to take this path due to concerns about the costs and potentially onerous reporting requirements. Two of the Incorporated Associations have taken responsibility for functions traditionally performed by Council (lawn mowing), and are funded to undertake this work.

In the existing structure, these groups form half the total number of Advisory Committees. The Reynolds Report points out that the key factor in determining a council's committee structure is that it reflects the priorities and characteristics of the relevant council. The current structure of the Local Area Committees does achieve this goal.

Local residents in these communities overwhelmingly see significant value in their continuation.

Forgotten – Only Focus is Armidale

There is concern that the villages are largely forgotten by ARC, with the only resources being allocated to them being grants provided by other levels of government. Indeed there is a feeling that the Local Area Committees have been increasingly isolated from the regional centre of Armidale, and that some Council staff are losing touch with this important aspect of the broader region.

TRIM:

Single Point of Contact

Committees have expressed frustration when works / projects cause problems (flooding caused by re-grading for example) and making contact with the appropriate person when the need arises. Council itself is concerned about multiple calls being made on similar issues from different groups in the same village. Many Advisory Committees have merged with Progress Assns. to try and achieve a single voice and do endeavour to act as the focal point for the village community. In some instances, however, new groups do emerge and individuals will contact council directly.

The creation of single contact point within Council for the LACs would ensure a consistent approach to dealing with these groups, directing them back through the LACs where appropriate, or triaging the issue for allocation to staff where necessary.

The single point of contact within Council would also provide a pathway for LACs to raise diverse initiatives with the core Partnership Panels – e.g. in the area of tourism and with the Traffic Committee. Consideration of including a member from the LACs on the core Partnership Panels would add a valuable dimension to the Panels' knowledge base.

Transparency and Accountability of LACs

Where Council has a transactional relationship with a LAC it is necessary to ensure that the group is incorporated as a Not for Profit Organisation. Incorporation provides numerous legal protections to both the LACs and Council. The NSW Department of Fair Trade requires that Incorporated Organisations are properly constituted as legal entities, and are required to supply annual reports and audited financial returns. These documents should also be supplied to Council together with acquittals of funding provided to Council.

Recommendations – Local Area Committee

15. Retain the existing structure of the LAC's, however, change their title to Local Advisory Panel (LAP) to bring consistency across the refreshed Advisory Panel structure
16. Promote the use of the electronic logging of customer requests (Report It and Snap, Send, Solve), so that they can be easily tracked on-line and escalated to responsible managers when standards are not met
17. Provide information and data on works programs to the LAPs where it is available, so that they can advocate for Council and better demonstrate the equity in funding to village residents
18. Consider creating a roster for senior council staff to visit 1 - 2 of the LAP meetings each year
19. Consider an Engineer being allocated to visit each LAP on an annual basis to listen to and explain responses to road / grading issues
20. Create a single point of contact within Council for the LAPs (see also recommendations 24 & 25)
21. Consider including a member drawn from the LAPs on the Environment and Economic Development and Tourism Partnership Panels
22. Where LAPs have transactional relationship with Council, LAPs should be required to be Incorporated Not For Profit Associations

23. Annual acquittals of the funds supplied by Council to the LAPs should be made to Council together with copies of the LAPs' Annual Reports (including financial reports) supplied to the NSW Department of Fair Trading

Business Groups

A pillar of the Community Strategic Plan focuses on Growth, Prosperity and Economic Development. Council seeks to provide an environment that stimulates and supports sustainable economic growth and resilience for local business.

Its key link to local business is through its interaction with:

- Armidale Business Chamber
- Guyra Business Chamber
- Locals 4 Locals
- Renew Armidale

The nature of these groups differs significantly to the Advisory Panels considered above and their main role is to support the interests of their members. However, their interests do intersect with council's own strategic goals and an effective partnership is beneficial to both parties.

Financial support to the business groups in recent years has varied. In the two years between 2017 – 2019 when the individual organisations came together as a combined group, an amount of $20,000pa was allocated to its operations. This amount was shared between the two Business Chambers and Locals 4 Locals. $5,000 has been allocated to the Armidale Business Chamber in the 2020 / 2021 financial year.

There is a need to review the grant making process across all Council operations to ensure it has a focus on achieving outcomes aligned to the Community Strategic Plan. As far as possible, Council should not fund recurrent programs that involve an expectation of ongoing funding, but rather seek to encourage innovation through the grant making process. This concept should be applied across all areas of financial support (see recommendation 30).

The Business Alliance did participate in the Regional Growth & Place Activation Advisory Committee but resigned due to concerns with its operation. These concerns are reflected in the discussion above and recommendations relating to the broad Community Advisory Committee / Partnership Panels section of this report.

The Single Voice

The need to ensure that a 'single business voice' is presented to Council was discussed with the business groups (and, was also raised in each of the engagement forums and by the Local Advisory Committees). Whilst each of the groups understood why council saw this as a desirable goal, there was almost universal pushback to the concept. It was considered that, whilst there may be a perception within ARC that there are too many voices, groups considered that this demonstrated a

strong and motivated community, that is prepared to speak up and care about differing aspects of business, for its urban spaces, its heritage buildings and the environment.

In some instances new groups had seen a need to evolve from existing structures because they represented a different base of constituents whose needs were not met by others (Locals 4 Locals and Renew Armidale for example). It was felt that it was not for the community to stop people having a voice, but rather for council to develop strategies that can harness this passion and work with it.

Overall, it was considered that the groups had no mandate to require others to come together as one voice.

An alternative strategy to the single external voice is to create a central contact point in Council where groups can be heard. Where the interests of groups do crossover, for example, in the case of groups with an interest in the Armidale Court House, they can be encouraged to join forces and advised where like groups exist and how they can gain most traction in achieving their goal.

The single contact point within Council for enquiries may provide a more productive and strategic means of triaging requests and advising groups about others with like interests.

Recommendation – Business Groups

24. Create a single point of contact within Council for the Business Groups (see also Recommendations 20 & 25)

Community Engagement

Broad Community Engagement is a key responsibility of Council and should not rely simply of interactions with Partnership Panels. Engagement is central to making the right decisions the first time. Community Engagement in 2021 will be critical to re-building trust in the community following the period of administration.

ARC's engagement policy provides a basic commitment to engagement. Many city councils have developed Engagement Toolkits that provide clear guidance on the journey of deciding if, when and how to consult. Bendigo in Victoria has developed the following document:

https://www.bendigo.vic.gov.au/sites/default/files/2016-11/Community_Engagement_guidelines_and_toolkit_2016_ECM3377622.pdf

Blacktown Council in Sydney NSW has developed a similar document that provides easy to follow steps and work sheets that lead staff to selecting appropriate methods of engagement.

It should not be assumed that Partnership Panels are the only, or even the most appropriate form of engagement.

Given the critical ongoing role of engagement in Council's long term planning and re-building following the period of administration, ARC could consider nominating a position in the organisation that has the responsibility for driving improvement in the application of engagement tools, and mentoring the staff who support the Partnership Panels and those engaged to conduct the proposed Strategic Planning Panels in 2021.

Recommendation – Community Engagement

25. Consider centralising accountability for community engagement activities under the auspices of a single team where advanced skills and the application of differing approaches to engagement can be nurtured (see also recommendations 19 and 23)

Audit Review and Improvement Committee

Leadership is referred to in Section 402 (3) (a) of the Local Government Act and is reflected in the region's Community Strategic Plan as one of its core pillars. The only Advisory Committee noted in the Reynolds Report which addresses the concept of Leadership is the Audit Review and Improvement Committee (ARIC - one of the statutory committees of council). The ARIC charter was reviewed and revised in September 2020 by experts from within local government. Recommendation 10.4 of that review states in part:

Recommendation 10.4

The standing agenda of the ARIC be updated to reflect the ARIC Charter to ensure that at each meeting each of the following items is listed and discussed:

- Strategic Planning
- Service Delivery and Performance Measurement
- Business Improvement

Each of these areas should include consideration of the efficacy of Council's engagement processes, including its process and the outcomes achieved (in line with the IAP2 principles) ensuring that engagement is not simply the provision of an 'information giving' session. The experts who undertook the ARIC review suggested that there may be a need to expand the skills available within the ARIC, to ensure that a comprehensive assessment of the effectiveness of ARC's engagement strategies can be assured.

Recommendation – Audit Review and Improvement Committee

26. The Audit Review and Improvement Committee (ARIC) be expanded to include membership of an experienced and skilled community engagement professional

TRIM:

Valuing Volunteers

The breakdown in the effective operation of the Community Advisory Committees has led many of their volunteers to feel that little value was placed on their contributions. In some instances many hours of work was devoted to compiling complex reports which have not progressed, and on which no feedback has been given. Feedback is critical to closing the loop on consultation. Even a negative response will be accepted by most people, as long as it comes with reasons as to why ideas cannot be progressed.

There is a strong feeling by members of many of the former advisory committees that Council simply uses volunteers as a 'tick box' exercise. ARC needs to work hard to change that perception.

Recommendations – Volunteers

27. Celebrate the achievements of the volunteer Partnership Panels wherever possible
28. Ensure feedback is provided to volunteers on how their input has influenced decision making and, if not, provide background for reasons why, thus ensuring that members are better informed of constraints they may need to consider when providing further advice

Section 355 and 356 of the NSW Local Government Act 1993

Section 355 and 356 of the Local Government Act provide Councils with the capacity to delegate certain functions to local committees and, with Council resolution contribute money or otherwise grant financial assistance to persons (or levy fees from them) for the purpose of exercising its functions.

The only committee that would require this delegation is the Sports Council, which makes a levy on behalf of Council that contributes to grounds maintenance and facility upgrades. Two of the village based former LAC's are compensated for work they undertake on Council grounds, however, these are groups are Incorporated, Not for Profit, community organisations and are legal entities in their own right. In essence these funds are grants paid to the community organisations from ongoing budget provisions adopted in the annual budget. This does not require the provision of a section 355/356 delegation. However, the funds should be acquitted on an annual basis to ensure accountability and transparency in the process.

The Reynolds Report did note this issue and recommended the 'Section 355 Tag' be removed from a standard template that had been used to develop the former Committees' Term of Reference (ToR). The implementation of the new Terms of Reference developed subsequent to the Reynolds Report has seen the removal of the Section 355 reference from all of the reviewed ToRs.

The only exception in the proposed new Partnership Model would be that the Sports Panel continues to be provided with a Section 355 / 356 delegations, enabling the ongoing levy of the ground use fee.

TRIM:

Many Councils across NSW have moved away from providing delegations to advisory groups for a range of reasons including the transparency of governance, the potential for pecuniary interests impacting on decision making and an increasing move to user pays models of service delivery especially in the recreation area.

Recommendation Section 355 / 356 Delegation

29. Subject to the adoption of the proposed new model, the Partnership Panel - Sports be provided with a Section 355 / 356 delegation enabling the group to levy a charge on behalf of Council

Financial Support

Council has provided varying levels of financial support to or through the former Advisory Committees for a range of community projects. There are inconstancies in how these funds are allocated and the programs managed, the transparency of the outcomes achieved and the recognition that Council receives from providing this support.

Recommendation – Financial Support

30. That a review of the financial support provided to the former Advisory Committees be undertaken with a view to standardising governance procedures in grant making, ensuring transparency in its allocation, accountability in its application and greater recognition of Council' support under the new Partnership structure.

** END REPORT **

Record of Meeting

COMMUNITY WELLBEING COMMITTEE

Held on

Thursday, 24 September 2020
3pm

at

Function Room

PRESENT: Kye Single (AFSS) – Chair, Robbie Passmore (ANC), Chris Hietbrink (The Hub at Guyra), Maree Mackenzie (Homes North)

IN ATTENDANCE: Aimee Hutton (ARC), Darren Schaefer (ARC), David Ackroyd (ARC), Jane Davies (ARC)

1 Apologies

Nil

2 Confirmation of Previous Minutes

CONFIRMATION OF THE MINUTES OF THE COMMUNITY WELLBEING COMMITTEE MEETING HELD ON 30 JULY 2020

No quorum – therefore minutes from 30 July 2020 were not confirmed.

Minutes from meeting held 28 May 2020 also need to be confirmed.

3 Declarations of Interest

Nil

4 Business Arising

4.1 FOR INFORMATION: Local Services review of Covid impacts.

Ref: AINT/2020/32802 (ARC16/1052)

Not discussed. No detail included in the report. Item not present in the Agenda with attachments.

4.2 FOR DECISION: Revision of the CWAC Action Plan *Ref: AINT/2020/32801 (ARC16/1052)*

RECOMMENDATION:

That the Community Wellbeing Advisory Committee review and update the action plan for the committee in line with current issues and the Councils strategic planning documents.

No quorum - Action Plan not reviewed. Must align with Council's strategic planning documents.

Action plan should influence the development of Councils 21/22 operational plan actions.

ACTION: Committee to review and provide feedback to Sally for action plan to be updated.

4.3 FOR DECISION: Access Advisory Working Party Applicant assessments

Ref: AINT/2020/32805 (ARC16/1052)

RECOMMENDATION:

That the CWAC review applications to the Access Advisory Working Party and define a path for establishment of that committee.

No quorum – working party assessments not considered.

4.4 FOR DISCUSSION: Terms of Reference for the Community Wellbeing advisory Committee *Ref: AINT/2020/32804 (ARC16/1052)*

RECOMMENDATION:

That the CWAC consider the attached standardised Terms of Reference and make recommendations as to new terms of reference for this committee to council.

No quorum – no formal recommendations provided.

Discussion held with committee and ARC staff, the following suggestions were made :-

- *TOR should state a clear role and direction for the committee, and confirm their role in the community.*
- *Smaller membership base is recommended to make committee for efficient. Committee members can then be tasked with gathering and distributing information and outcomes from CWAC.*
- *Membership to be reconsidered. Representatives from a smaller number of groups. Special guests can be brought in from time to time if specialist knowledge is required.*
- *Meetings every 2 months is good. Can be more frequent if they are considering an urgent issue.*
- *Flow between CWAC and Interagencies should be formalised and strengthened. Wide reaching community input gathered this way instead of managing a large committee. Interagencies can provide information or recommendations to CWAC.*

5 Administration Reports

5.1 FOR INFORMATION: Community Meeting Minutes *Ref: AINT/2020/32799 (ARC16/1052)*

RECOMMENDATION:

i. That the Minutes from the following meetings be noted
ii. That the following recommendations from meetings be considered by the Community Wellbeing advisory Committee.

No quorum – no recommendations carried.

Interagency minutes were noted informally.

Would be helpful to committee if recommendations or notes of interest be highlighted from the minutes, so any issues can be easily identified and discussed.

6 General Business

6.1 FOR INFORMATION: Mental Health First Aid and Youth Mental Health First Aid

Ref: AINT/2020/32807 (ARC16/1052)

RECOMMENDATION:

That the members of the CWAC share the information about the mental health first aid and youth mental health first aid courses throughout the community and encourage attendance.

Kye advised the training was already full. Noted by committee informally.

6.2 FOR INFORMATION: Communicating in recovery *Ref: AINT/2020/32808 (ARC16/1052)*

RECOMMENDATION:

That members of the CWAC consider attending and encourage others in the community to attend to gain valuable skills in communicating in the recovery context.

Committee members noted the details of this training for distribution to their organisations and throughout the community.

6.3 Community Grant Funding

Darren advised the committee members that Council would be offering grants to community groups some time in October 2020. He asked if the members present would be interested in being on a review panel to assess grant applications and assist in the selection of successful applicants.
All members present agreed to assist. All preferred a grants assessment to be done collectively immediately following the next CWAC meeting to be held on 26 November 2020 at 2pm. This will be subject to any conflicts of interest committee members may have once applicants are known.

7 Correspondence

Nil

There being no further business the Chair declared the meeting closed at 4.31pm