

PLANNING PROPOSAL APPLICATION

FOR

BATHURST REGIONAL LOCAL ENVIRONMENTAL PLAN 2014 (20.00289)

Blue Ridge LEP Extension

Lot	DP	Address	
14	1050220	3991 O'Connell Road KELSO	
1	867504	4031 O'Connell Road KELSO	

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HOB_011G	Height of Buildings Map	1

List of Attachments

Attachment Number	Name
1	Blue Ridge LEP Extension – Supporting Information
2	Submission from OEH
3	Submission from RMS
4	Submission from CASA

Relevant Planning Authority Details

Relevant Planning Authority:	Bathurst Regional Council	
Contact Person:	Ms Janet Bingham Manager Strategic Planning, Environmental Planning and Building Services	
Contact Phone Number:	02 6333 6214	
Contact email address:	Janet.bingham@bathurst.nsw.gov.au	

Introduction

Bathurst Regional Council has received a rezoning application to rezone the following properties from RU1 Primary Production to R5 Large Lot Residential under Bathurst Regional Local Environmental Plan 2014:

Lot 14 DP 1050220, 3991 O'Connell Road KELSO NSW 2795 and Lot 1 DP 867504, 4031 O'Connell Road KELSO NSW 2795

Supporting Information has been prepared to demonstrate the suitability of the subject land for the rural residential development (refer to <u>attachment 1</u>).

The Planning Proposal will enable the land to be developed for rural residential development in a manner similar to the adjoining land (ie fully serviced with minimum lots of 4000m²).

The Planning Proposal has been prepared in accordance with Section 55 of the Environmental Planning and Assessment Act 1979 (the Act) and the relevant Department of Planning Guidelines, including A Guide to Preparing Local Environmental Plans and A Guide to Preparing Planning Proposals.

Part 1 Objectives or intended outcomes

The Blue Ridge LEP Extension Planning Proposal involves an amendment to the Bathurst Regional Local Environmental Plan 2014 ("the LEP"), to:

a) Rezone the land from RU1 Primary Production to R5 Large Lot Residential

The subject land comprises:

Lot 14 DP 1050220, 3991 O'Connell Road KELSO NSW 2795 and Lot 1 DP 867504, 4031 O'Connell Road KELSO NSW 2795.

The total area of the combined sites is 29.4hectares with Blue Ridge Drive dissecting the centre of the site. A heritage item of local significance, 'Littlebourne' is located on 4031 O'Connell Road KELSO. Land in this locality has previously been used for orcharding.

The land is located approximately 4.6km south east of the Bathurst CBD and is immediately adjacent to the existing rural residential 'Blue Ridge Estate.'



Part 2 Explanation of Provisions

The Blue Ridge LEP Extension Planning Proposal involves an amendment to the Bathurst Regional Local Environmental Plan 2014 ("the LEP"), to:

Rezone the land from RU1 Primary Production to R5 Large Lot Residential

This is to be achieved by:

- a) Amending the Land Zoning Map (tile LZN_011F and LZN_011G) under Bathurst Regional Local Environmental Plan 2014.
- b) Amending the Lot Size Map (tile LSZ_011F and LSZ_011G) under Bathurst Regional Local Environmental Plan 2014.
- c) Amending the Height of Building Map (tile HOB_011F and HOB_011G) under Bathurst Regional Local Environmental Plan 2014.

Council <u>does not</u> propose to amend the Urban Release Area map as it is estimated that the rezoning will yield less than 50 lots and will therefore not have an impact on State Infrastructure.

Council <u>does not</u> propose the amend the Heritage map to ensure a merit based assessment of future buildings can be made in relation to the significance of the Heritage item 'Littlebourne.'

Part 3 Justification

Section A Need for the Planning Proposal

1. Is the Planning Proposal a result of any strategic study or report?

Yes. Bathurst Region Rural Strategy (2008) identified land adjoining the existing Blue Ridge Estate as having development potential for the creation of future lots and recommended a R5 Large Lot Residential zone for this locality. The proposed rezoning will allow for those to be created and is consistent with the recommendations contained in the Rural Strategy.

2. Is the Planning Proposal the best means of achieving the objectives or intended outcomes, or is there a better way?

The Planning Proposal is the best means of achieving the development and intended outcomes of the Planning Proposal. The only avenue available to Council to rezone the land is via a Planning Proposal.

Section B Relationship to strategic planning framework

3. Is the Planning Proposal consistent with the objectives and actions of the applicable regional or sub-regional strategy (including the Sydney Metropolitan Strategy and exhibited draft strategies)?

The following table addresses the evaluation criteria for the consistency of the Planning Proposal with the regional and sub-regional strategies, as required by the guidelines for preparing a Planning Proposal.

Evaluation criteria	Y/N	Comment
Does the proposal have strategic merit and: ◇ Is consistent with a relevant local strategy endorsed by the Director General; or ◇ Is consistent with the relevant regional strategy or Metropolitan Plan; or ◇ Can it demonstrate strategic merit, giving consideration to the relevant section 117 directions applying to the site and other strategic considerations (e.g. proximity to existing urban areas, public transport and infrastructure accessibility, providing jobs closer to home	Yes	The Planning Proposal is consistent with the Bathurst Region Rural Strategy 2008 which recommended the zoning of this locality for rural residential purposes. There are no relevant regional strategies relevant to the Bathurst Regional LGA. The Planning Proposal is not inconsistent with the Draft Central West and Orana Regional Plan. The Planning Proposal is consistent with the relevant Section 117 directions of the Minister. They are explained later in this Planning Proposal documentation.
etc) Does the proposal have site specific merits and is it compatible with the surrounding land uses, having regard to the following: The natural environment (including known significant environmental values, resources or hazards) and The existing uses, approved uses and likely future uses of the land in the vicinity of the proposal; and The services and infrastructure that are or will be available to meet the demands arising from the proposal and any proposed financial arrangements for infrastructure provision.		The subject land is approximately 29.4hectares in area and is located 4.6km from Bathurst CBD. The rezoning of the land would permit further subdivision of the site. This is consistent with land immediately adjacent the western boundary of the site, 'Blue Ridge Estate.' The site is not known to have any environmental constraints and the site is not bush fire prone land. Notwithstanding, supporting information has been prepared to investigate make recommendations on any environmental or other safeguards, or conditions which should be imposed on the development.

4. Is the Planning Proposal consistent with a Council's local strategy or other local strategic Plan?

The Bathurst Region Rural Strategy 2008 recommended a R5 Large Lot Residential zone for this locality. Therefore the Planning Proposal is consistent with the strategy. The land in its current form has little or no agricultural potential and is situated adjacent to an existing rural residential estate.

5. Is the Planning Proposal consistent with applicable State Environmental Planning Policies?

Council has undertaken a review to determine whether or not the Planning Proposal is consistent with the State Environmental Planning Policies. See the table below.

State Environmental Planning Policy (SEPP)	Compliance (Yes/No or Not Relevant)
SEPP No 14 – Coastal Wetlands	Not Relevant
SEPP No 15 – Rural Landsharing Communities	Not Relevant
SEPP No 19 – Bushland in Urban Areas	Not Relevant
SEPP No 21 – Caravan Parks	Not Relevant
SEPP No 26 – Littoral Rainforests	Not Relevant
SEPP No 29 – Western Sydney Recreation Area	Not Relevant
SEPP No 30 – Intensive Agriculture	Not Relevant
SEPP No 32 – Urban Consolidation (Redevelopment of Urban Land)	Not Relevant
SEPP No 33 – Hazardous and Offensive Development	Not Relevant
SEPP No 36 – Manufactured Home Estates	Not Relevant
SEPP No 39 – Spit Island Bird Habitat	Not Relevant
SEPP No 44 – Koala Habitat Protection	Not Relevant
SEPP No 47 – Moore Park Showground	Not Relevant
SEPP No 50 – Canal Estate Development	Not Relevant
SEPP No 52 – Farm Dams and Other Works in Land and	Not Relevant
Water Management Plan Areas	
SEPP No 55 – Remediation of Land	A Contamination Report was prepared by Barnsons (Dec 2015) in accordance with the EPA 'Guidelines for Consulting Reporting on Contaminated Sites.' The report indicates that additional information is required on 'Littlebourne.' Council's recommendation is that given the findings of the report these investigations can occur at subdivision stage, consistent with Council's current

	DCP provisions (refer to attachment 1 which includes the Contamination Report).
SEPP No 59 – Central Western Sydney Regional Open	Not Relevant
Space and Residential	
SEPP No 60 – Exempt and Complying Development	Not Relevant
SEPP No 62 – Sustainable Aquaculture	Not Relevant
SEPP No 64 – Advertising and Signage	Not Relevant
SEPP No 65 – Design Quality of Residential Flat	Not Relevant
Development	
SEPP No 70 – Affordable Housing (Revised Schemes)	Not Relevant
SEPP No 71 – Coastal Protection	Not Relevant
SEPP (Affordable Rental Housing) 2009	Not Relevant
SEPP (Building Sustainability Index: BASIX) 2004	Not Relevant
SEPP (Exempt and Complying Development Codes) 2008	Not Relevant
SEPP (Housing for Seniors or People with a Disability)2004	Not Relevant
SEPP (Infrastructure) 2007	Not Relevant
SEPP (Kosciuszko National Park – Alpine Resorts) 2007	Not Relevant
SEPP (Kurnell Peninsula) 1989	Not Relevant
SEPP (Major Development) 2005	Not Relevant
SEPP (Mining, Petroleum Production and Extractive	Not Relevant
Industries) 2007	
SEPP (Penrith Lakes Scheme) 1989	Not Relevant
SEPP (Rural Lands) 2008	The Planning Proposal is supported by the Bathurst Region Rural Strategy 2008
SEPP (SEPP 53 Transitional Provisions) 2011	Not Relevant
SEPP (State and Regional Development) 2011	Not Relevant
SEPP (Sydney Water Drinking Catchment) 2011	Not Relevant
SEPP (Sydney Region Growth Centres) 2006	Not Relevant
SEPP (Three Ports) 2013	Not Relevant
SEPP (Urban Renewal) 2010	Not Relevant
SEPP (Western Sydney Employment Area) 2009	Not Relevant
SEPP (Western Sydney Parklands) 2009	Not Relevant

6. Is the Planning Proposal consistent with applicable Ministerial Directions (s. 117 directions)?

Council has undertaken a review to ensure the planning proposal is consistent with all relevant Section 117 Ministerial Directions issued by the Minister for Planning to relevant planning authorities under section 117(2) of the Environmental Planning and Assessment Act 1979.

All relevant Section 117 Ministerial Directions are considered in the following table.

Section 117	Consistency		
Ministerial	Consistency		
Direction			
1. Employment and resources			
1.1 Business	Not applicable.		
and Industrial	Council is satisfied that the planning proposal is consistent with the		
Zones	requirements of the direction.		
1.2 Rural	The rezoning of the land from a rural zone to a rural residential zone is		
Zones	supported by the Bathurst Region Rural Strategy 2008.		
1.3 Mining,	The site does not contain any potential mineral resources as identified		
Petroleum	by the Mineral Resource Audit 2014.		
Production and			
Extractive			
Industries			
1.4 Oyster	Not applicable.		
Aquaculture	Council is satisfied that the planning proposal is consistent with the		
	requirements of the direction.		
Protection			
Conservation			
0.4 Description			
venicie Areas			
ZUNES			
3.2 Carayan			
	requirements of the direction.		
	Not applicable		
	• •		
1.4 Oyster Aquaculture 1.5 Rural Lands 2. Environment 2.1 Environment Protection Zones 2.2 Coastal Protection 2.3 Heritage Conservation 2.4 Recreation Vehicle Areas	Council is satisfied that the planning proposal is consistent with the requirements of the direction. The rezoning of the land from a rural zone to a rural residential zone is supported by the Bathurst Region Rural Strategy 2008.		

Section 117 Ministerial	Consistency		
Direction			
	requirements of the direction.		
3.4 Integrating			
Land Use and	Council is satisfied that the planning proposal is consistent with the		
Transport	requirements of the direction.		
3.5	The proposal does not alter or remove a provision relating to land in the		
Development	vicinity of a licensed aerodrome.		
Near Licensed	Council is satisfied that the planning proposal is consistent with the		
Aerodromes	requirements of the direction.		
3.6 Shooting	The proposal does not affect land adjacent or adjoining an existing shooting		
Ranges	range.		
	Council is satisfied that the planning proposal is consistent with the requirements of the direction.		
4. Hazard and F			
4.1 Acid	The Bathurst Region does not include any land identified on Acid Sulfate Soils		
Sulfate Soils	Planning maps held by the Department.		
	Council is satisfied that the planning proposal is consistent with the		
	requirements of the direction.		
4.2 Mine	The Bathurst Region does not include any land identified as within a Mine		
Subsidence	Subsidence District proclaimed under the Mine Subsidence Compensation Act		
and Unstable	1961.		
Land	Council is satisfied that the planning proposal is consistent with the		
	requirements of the direction.		
4.3 Flood	The Planning Proposal does not include any land which is identified as being		
Prone Land	flood liable land as identified either by Council's computer based flood model		
	or the Bathurst Floodplain Management Policy.		
	Council is satisfied that the planning proposal is consistent with the requirements of the direction.		
4.4 Planning	The Planning Proposal does not include any land which is identified as being		
for Bushfire	Bushfire Prone Land.		
Protection	Council is satisfied that the planning proposal is consistent with the		
	requirements of the direction.		
5. Regional Pla	nning		
5.1	No regional or sub-regional strategy applies to the Bathurst Region.		
Implementation	Council is satisfied that the planning proposal is consistent with the		
of Regional	requirements of the direction.		
Strategies			
5.2 Sydney	The Bathurst Region is outside the identified Sydney Drinking Water		
Drinking Water	Catchment area.		
Catchments	Council is satisfied that the planning proposal is consistent with the requirements of the direction.		
5.3 Farmland	Does not apply to the Bathurst Region. No farmland of State or Regional		
of State and	significance is located within the Bathurst Region.		
Regional	Council is satisfied that the planning proposal is consistent with the		
Significance on	requirements of the direction.		
the NSW Far	-		
North Coast			
5.4	Does not apply to the Bathurst Region.		
Commercial	No regional or sub-regional strategy applies to the Bathurst Region.		
and Retail;	Council is satisfied that the planning proposal is consistent with the		
Development	requirements of the direction.		
along the			

Section 117	Consistency	
Ministerial		
Direction		
Pacific		
Highway, North		
Coast	De se net empli, te the Dethinet Design	
5.8 Second	Does not apply to the Bathurst Region.	
Sydney Airport:	No regional or sub-regional strategy applies to the Bathurst Region.	
Badgerys	Council is satisfied that the planning proposal is consistent with the	
Creek	requirements of the direction.	
5.9 North West	Does not apply to the Bathurst Region.	
Rail Link	Council is satisfied that the planning proposal is consistent with the	
Corridor	requirements of the direction.	
Strategy		
6. Local Plan M		
6.1	The Planning Proposal does not affect development application provisions and	
Approval and	does not propose any referral provisions relating to this land.	
referral	Council is satisfied that the planning proposal is consistent with the	
Requirements	requirements of the direction.	
6.2	The Planning Proposal does not relate to reserving land for public purposes.	
Reserving land	Council is satisfied that the planning proposal is consistent with the	
for Public	requirements of the direction.	
Purposes		
6.3	The Planning Proposal does not relate to a particular development to be	
Site Specific	carried out on a specific site.	
Provisions	Council is satisfied that the planning proposal is consistent with the	
	requirements of the direction.	
7. Metropolitan Planning		
7.1	Does not apply to the Bathurst Region.	
Implementation	Council is satisfied that the planning proposal is consistent with the	
of the	requirements of the direction.	
Metropolitan		
Strategy		

Section C Environmental , social and economic impact

7. Is there any likelihood that critical habitat or threatened species, populations or ecological communities, or their habitats, will be adversely affected as a result of the proposal?

Council is satisfied that, as a result of the Planning Proposal, critical habitat, threatened species, populations or ecological communities will not be adversely affected by the re-zoning. The subject site does not provide habitat for vulnerable or endangered species.

8. Are there any other likely environmental effects as a result of the Planning Proposal and how are they proposed to be managed?

Council considers that there are no likely environmental effects as a result of the Planning Proposal. The Planning Proposal aims to re-zone the land from RU1 Primary Production to R5 Large Lot Residential to allow for future development of the site. Supporting documentation has been prepared to investigate the appropriateness

of the rezoning proposal (refer to attachment 1). These investigations have identified a preferred development strategy for which future growth of the area will be guided by.

9. Has the Planning Proposal adequately addressed any social and economic effects?

Social Impacts

It is considered that as a result of the Planning Proposal there are no social impacts that need to be addressed. The Planning Proposal is supported by the Bathurst Region Rural Strategy 2008.

Economic Impacts

It is considered that as a result of the Planning Proposal there are no economic impacts that need to be addressed. The Planning Proposal is supported by the Bathurst Region Rural Strategy 2008.

Section D State and Commonwealth interests

10. Is there adequate public infrastructure for the Planning Proposal?

Yes. Council has undertaken detailed investigations during 2013 into the availability of water and sewer to service possible future development. The report concluded that the subject area is able to be serviced by sewer, albeit with some upgrades to infrastructure required. The report also concludes that the land above the 708m contour cannot be serviced by water by gravity. It is Council's current position that water should be supplied to properties connected to Council's reticulated water supply by gravity (not via a pumped system) which excludes part of Lot 14 DP 1050220, 3991 O'Connell Road KELSO.

The accompanying DCP provisions will limit development above the 708m contour. The DCP amendment is included as part of attachment 1.

11. What are the views of State and Commonwealth Public Authorities consulted in accordance with the Gateway Determination?

The Planning Proposal was forwarded to the following agencies for consultation:

- Roads and Maritime Services
- Essential Energy
- Telecommunications provider
- CASA
- OEH

A submission was received from the Office of Environment and Heritage (OEH) raising concern regarding the proposed minimum lot size and reduction in curtilage to 'Littlebourne' homestead. The Submission is at <u>attachment 2</u>. Council's Heritage Advisor has reviewed the Planning Proposal, the Statement of Significance and Heritage Impact Statement both undertaken by OzArk in relation to the comments received by the OEH and generally concurs with the Planning Proposal and the recommendations of the OzArk report and suggested a number of minor changes. The final DCP Map No. 14 has been amended in relation to the advice to including:

- Relocating the indicative road layout to better protect the heritage curtilage; and
- Increasing the Heritage Buffer to include all of the proposed lot that 'Littlebourne' Homestead is to be located on and increasing the minimum lot size to prevent future subdivision.

No objection has been raised from RMS or CASA (<u>attachments 3 and 4</u>). No response received from Essential Energy or the Telecommunications provider.

Part 4 Mapping

The Blue Ridge LEP Extension Planning Proposal involves an amendment to the Bathurst Regional Local Environmental Plan 2014 ("the LEP"), to:

Rezone the land from RU1 Primary Production to R5 Large Lot Residential

This is to be achieved by:

- a) Amending the Land Zoning Map (tile LZN_011F) under Bathurst Regional Local Environmental Plan 2014.
- b) Amending the Land Zoning Map (tile LZN_011G) under Bathurst Regional Local Environmental Plan 2014.
- c) Amending the Lot Size Map (tile LSZ_011F) under Bathurst Regional Local Environmental Plan 2014.
- d) Amending the Lot Size Map (tile LSZ_011G) under Bathurst Regional Local Environmental Plan 2014.
- e) Amending the Height of Building Map (tile HOB_011F) under Bathurst Regional Local Environmental Plan 2014.
- f) Amending the Height of Building Map (tile HOB_011G) under Bathurst Regional Local Environmental Plan 2014.

Part 5 Community Consultation

Council exhibited the draft Local Environmental Plan Amendment and Development Control Plan amendment concurrently from 25 June 2016 until 23 July 2016. Notification was placed in the Western Advocate and Councils website. Adjoining landowners and White Rock Progress Association were notified in writing. No submissions were received.

Part 6 Project timeframe

The following table outlines Council's anticipated timetable for the completion of the Planning Proposal.

Step	Criteria	Project timeline
1	Anticipated commencement date (date of	May 2015
	Gateway determination)	
2	Anticipated timeframe for the completion of	June 2015 – May 2016
	required technical information	
3	Timeframe for government agency consultation	June 2015 – May 2016
	(pre and post exhibition as required by	
	Gateway determination)	
4	Extension granted from DoP	May 2016
5	Commencement and completion dates for	July 2016
	public exhibition period	
6	Dates for public hearing (if required)	July 2016
7	Timeframe for consideration of submissions	July 2016
8	Timeframe for the consideration of a proposal	September 2016
	post exhibition	
9	Date of submission to the department to	September 2016
	finalise the LEP	
10	Anticipated date RPA will make the plan (if	November 2016
	delegated)	
11	Anticipated date RPA will forward to the	December 2016
	department for notification.	

Appendix 1

Schedule of Maps

Environmental Planning and Assessment Act 1979

Bathurst Regional Local Environmental Plan 2014 (Amendment No 3)

Bathurst Regional Council
158 Russell Street
Private Mail Bag 17
BATHURST NSW 2795

Map Cover Sheet

The following map sheets are revoked:

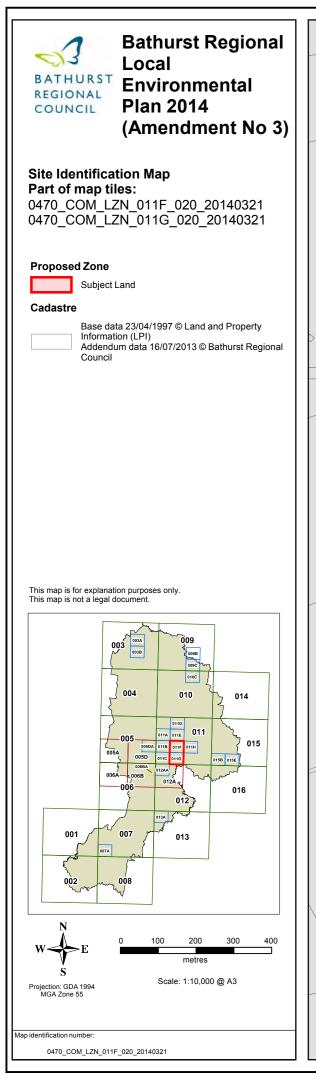
Map Sheet	Map Identifier	
Land Zoning Map		
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LZN 011G	0470_COM_LZN_011G_020_20150416	
Lot Size Map		
LSZ 011F	0470 COM LSZ 011F 020 20150416	
LSZ 011G	0470 COM LSZ 011G 020 20150416	
Height of Buildings Map		
HOB 011F	0470 COM HOB 011F 020 20150416	
HOB 011G	0470 COM HOB 011G 020 20150416	

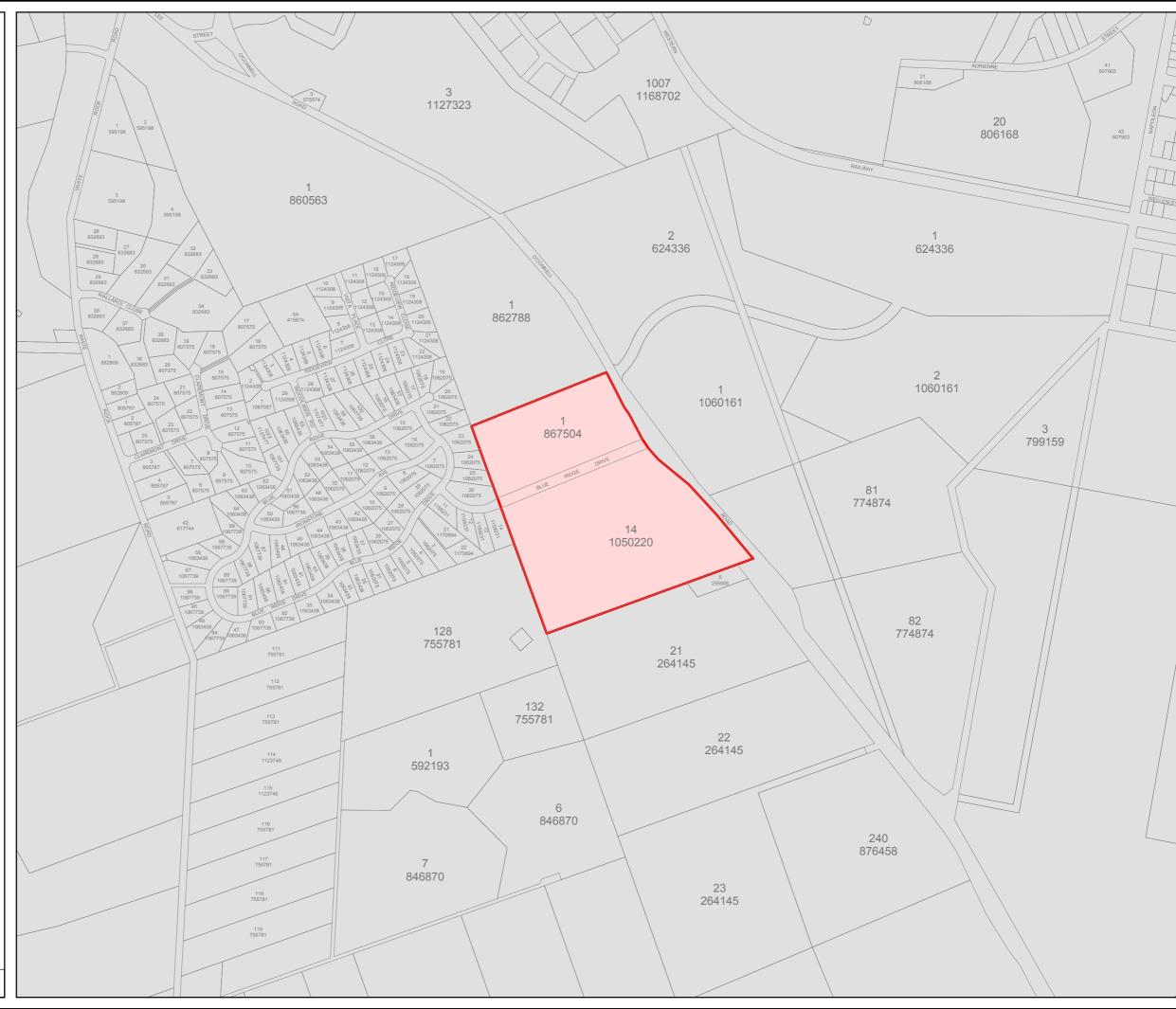
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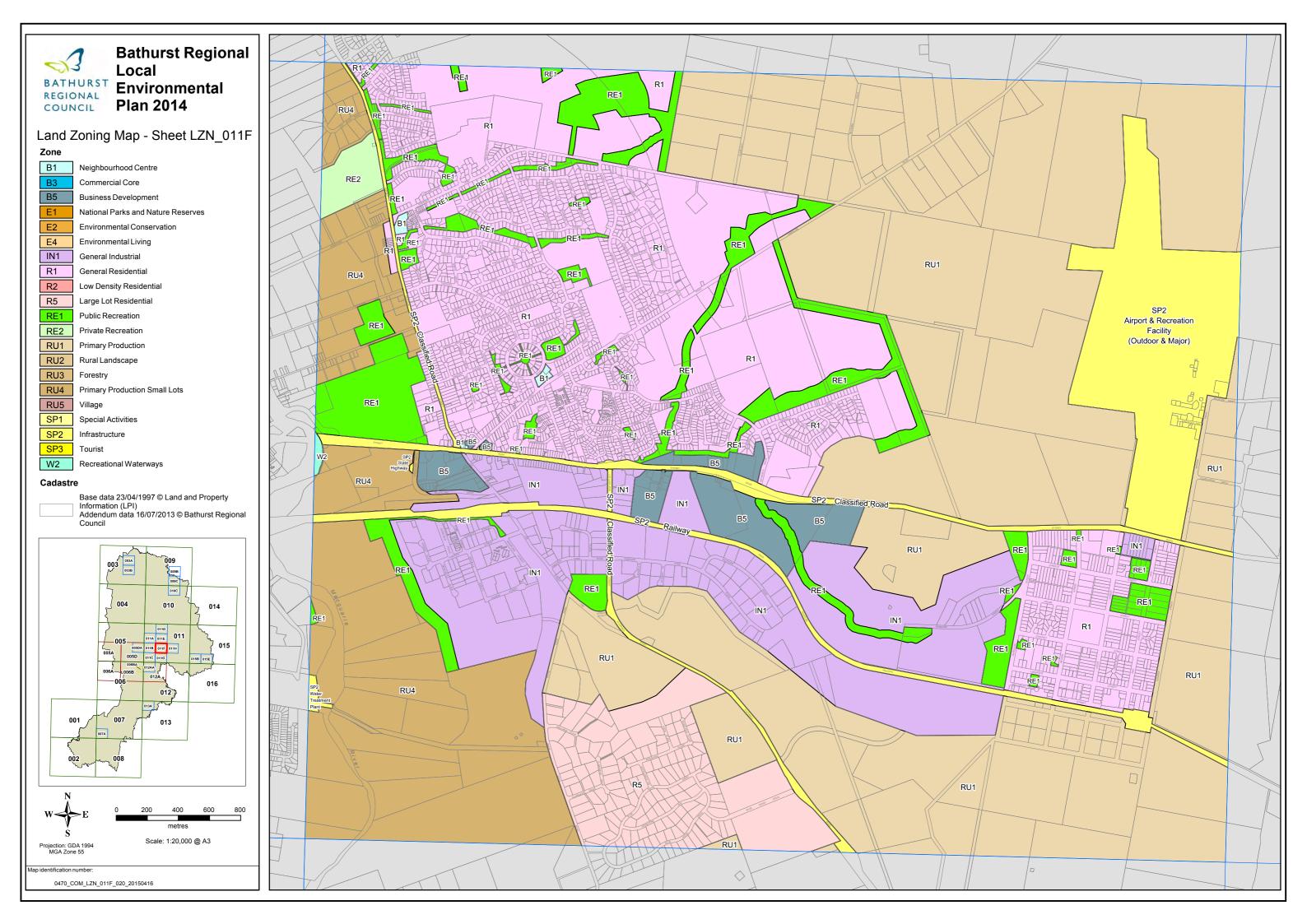
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Land Zoning Map		
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LZN 011G	0470_COM_LZN_011G_020_20140321	
Lot Size Map		
LSZ 011F	0470_COM_LSZ_011F_020_20140320	
LSZ 011G	0470_COM_LSZ_011G_020_20140320	
Height of Buildings Map		
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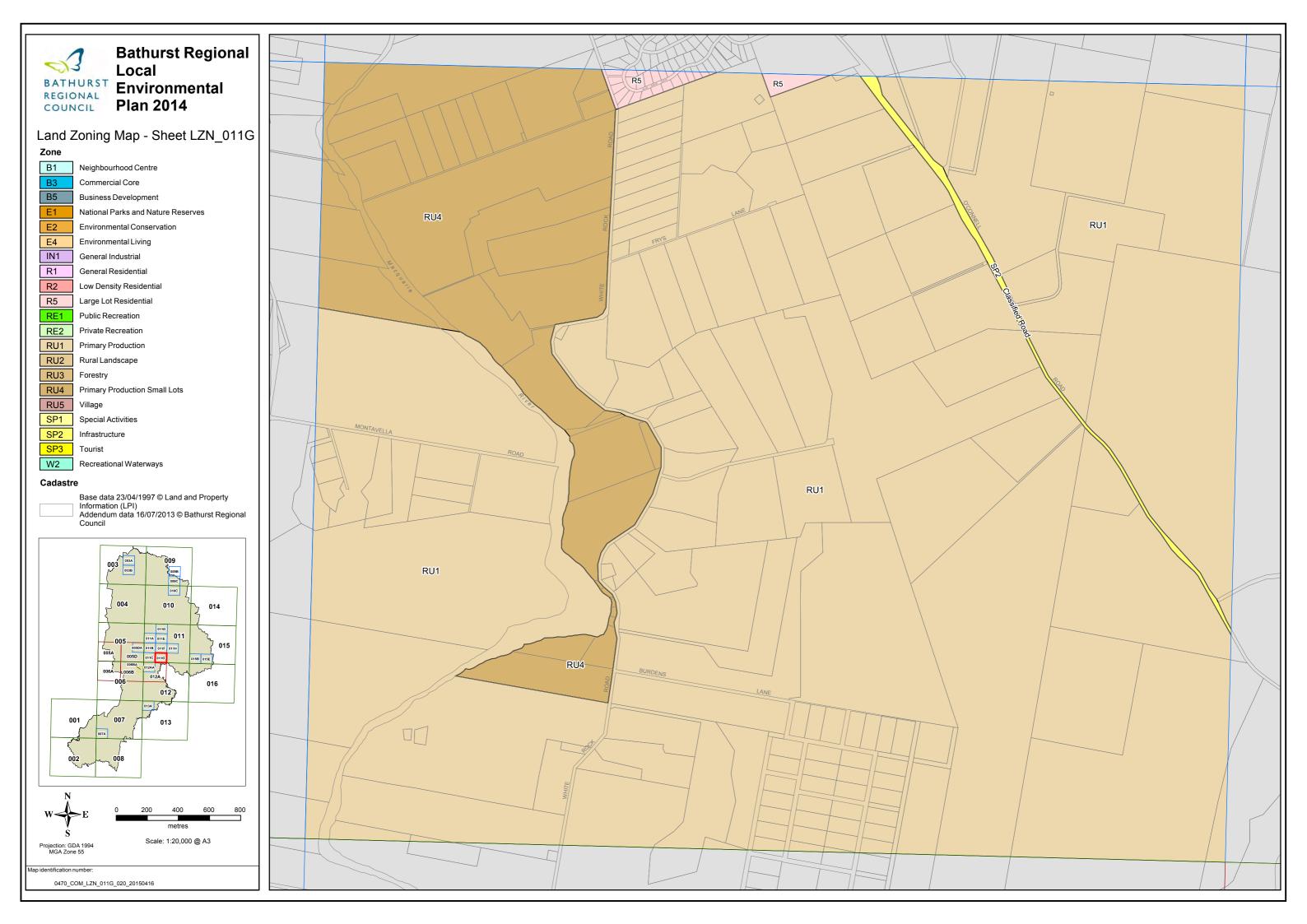
Certified

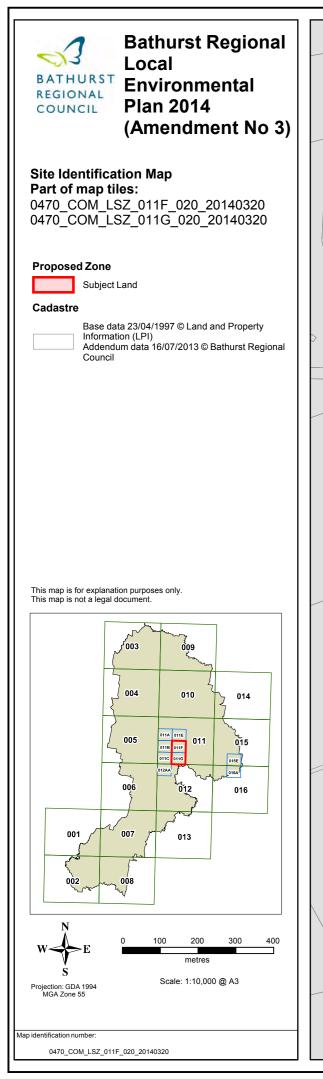
[Title of Council Delegate] [Date] Minister for Planning and Infrastructure [Date]

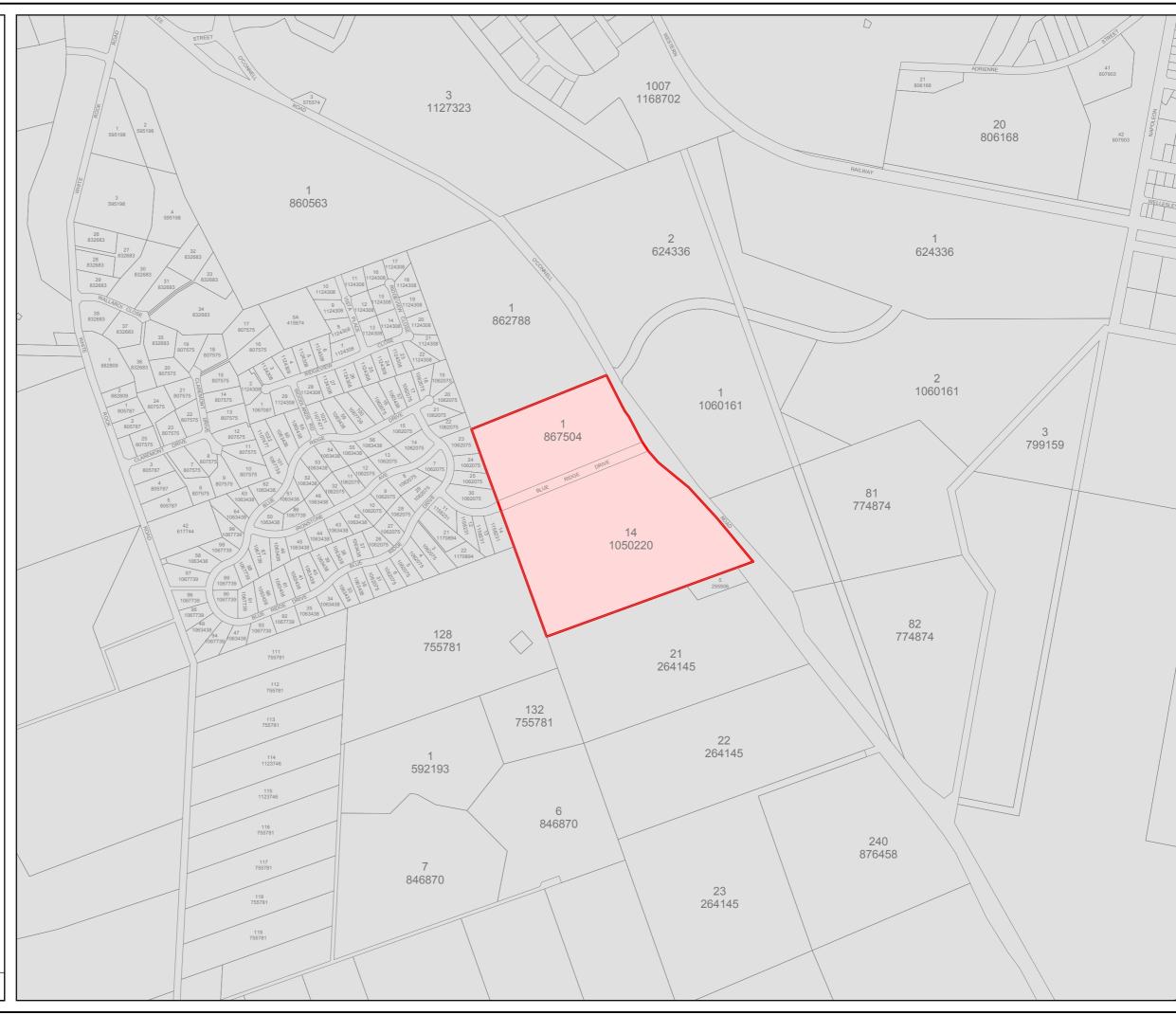


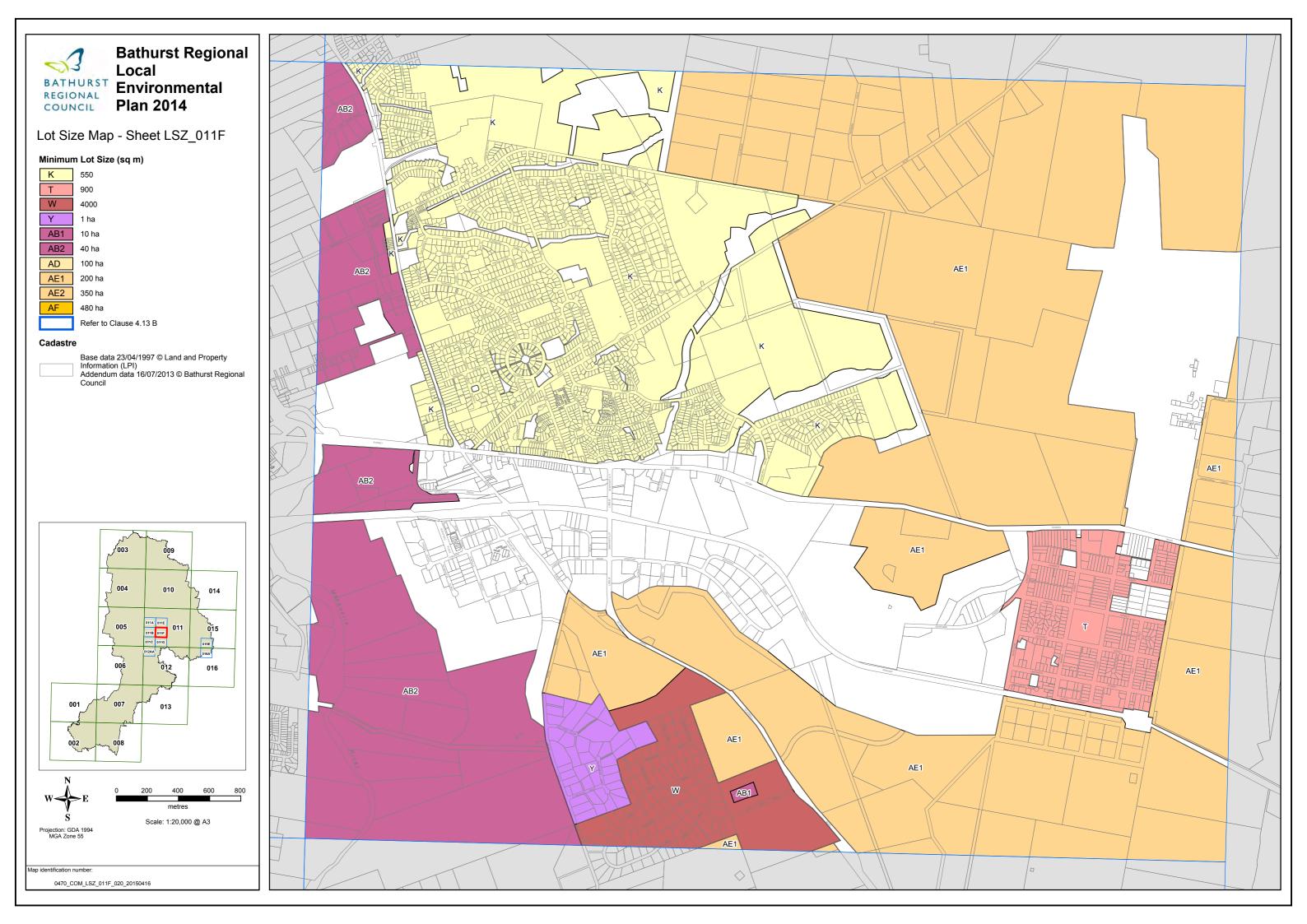


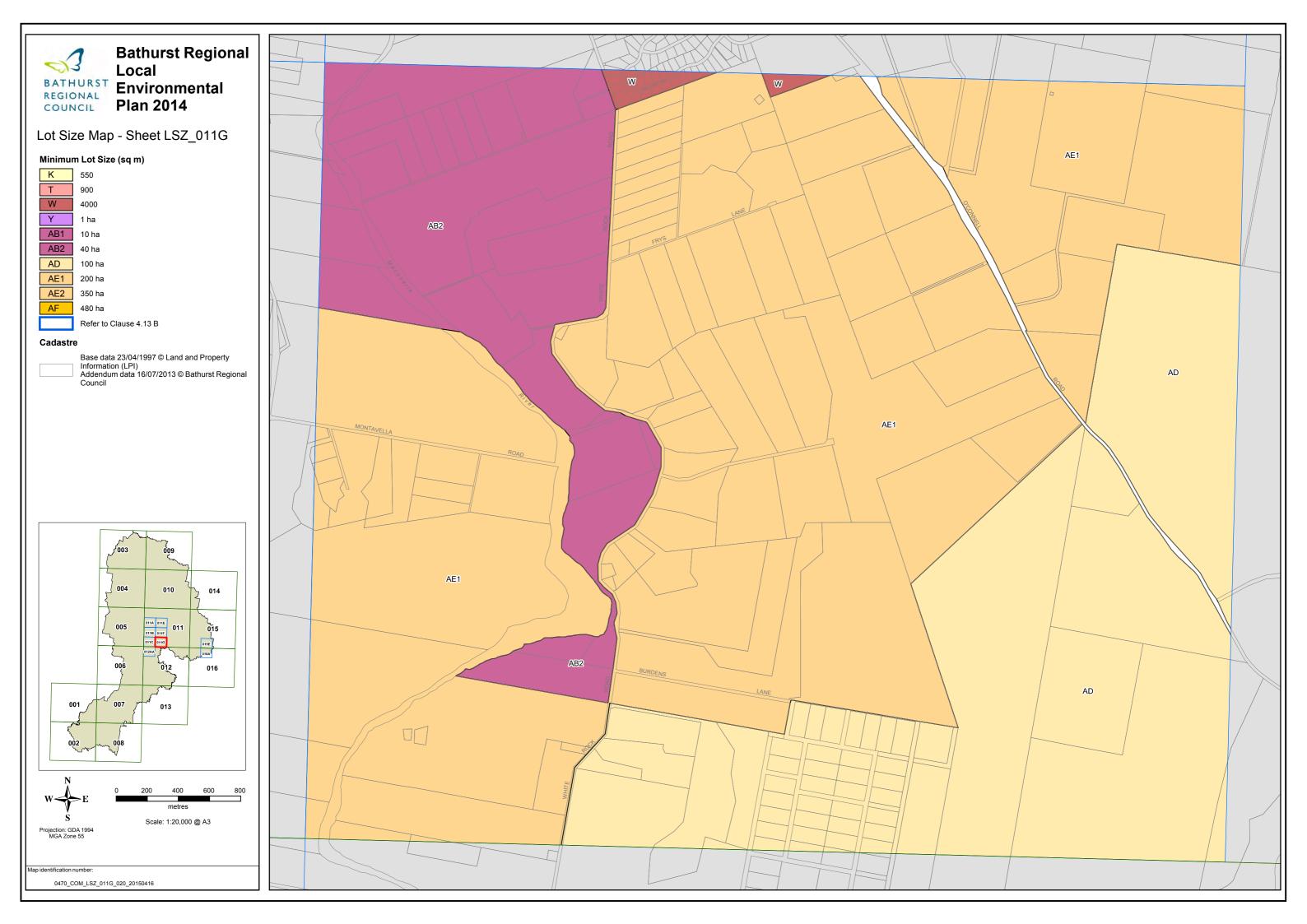


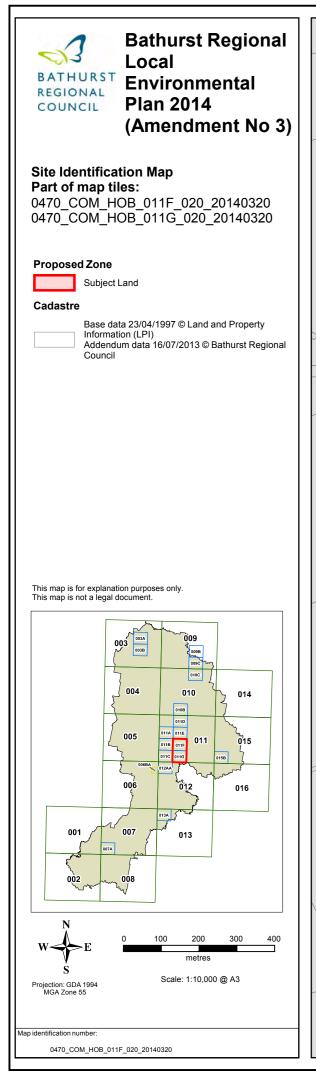


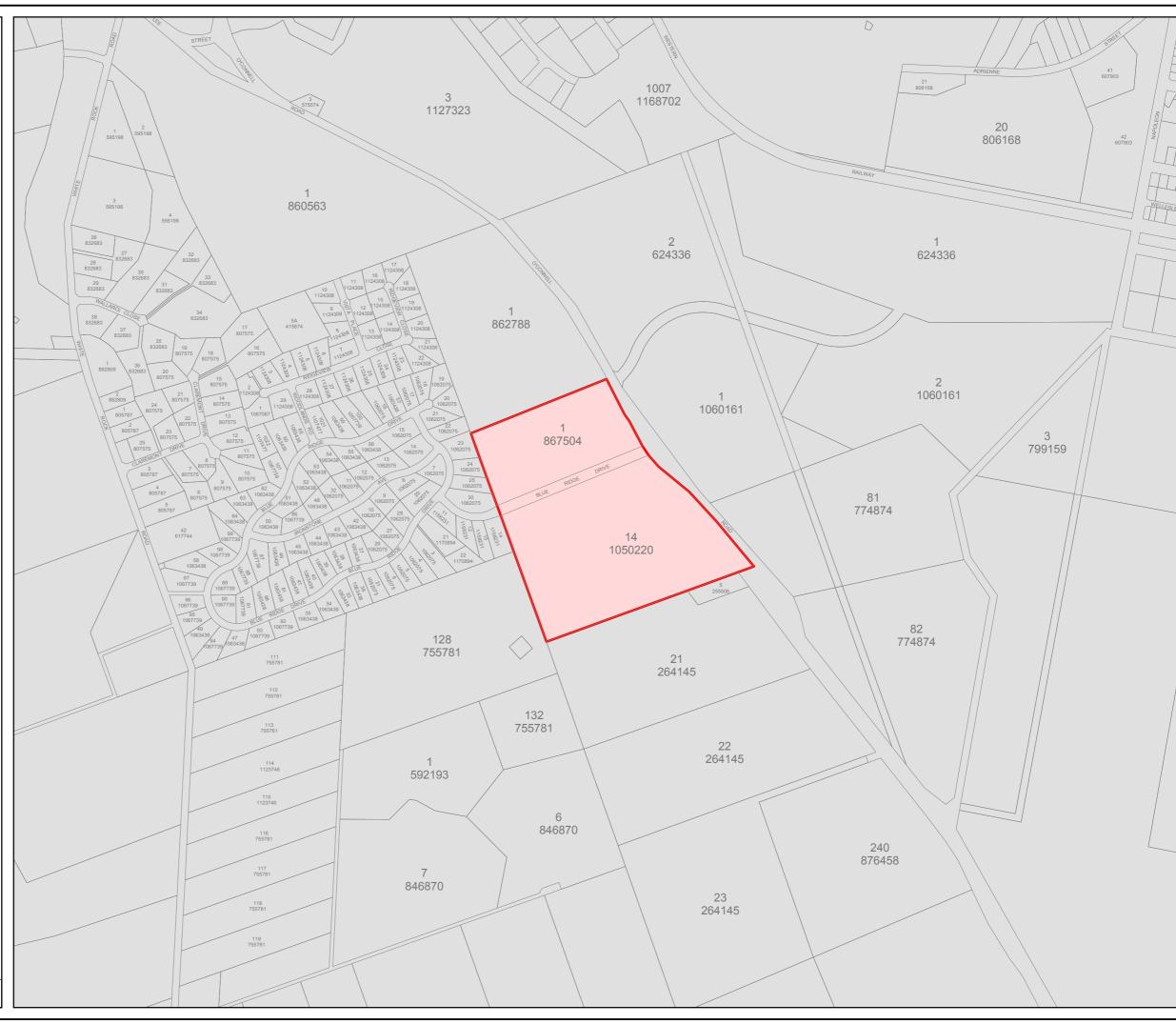


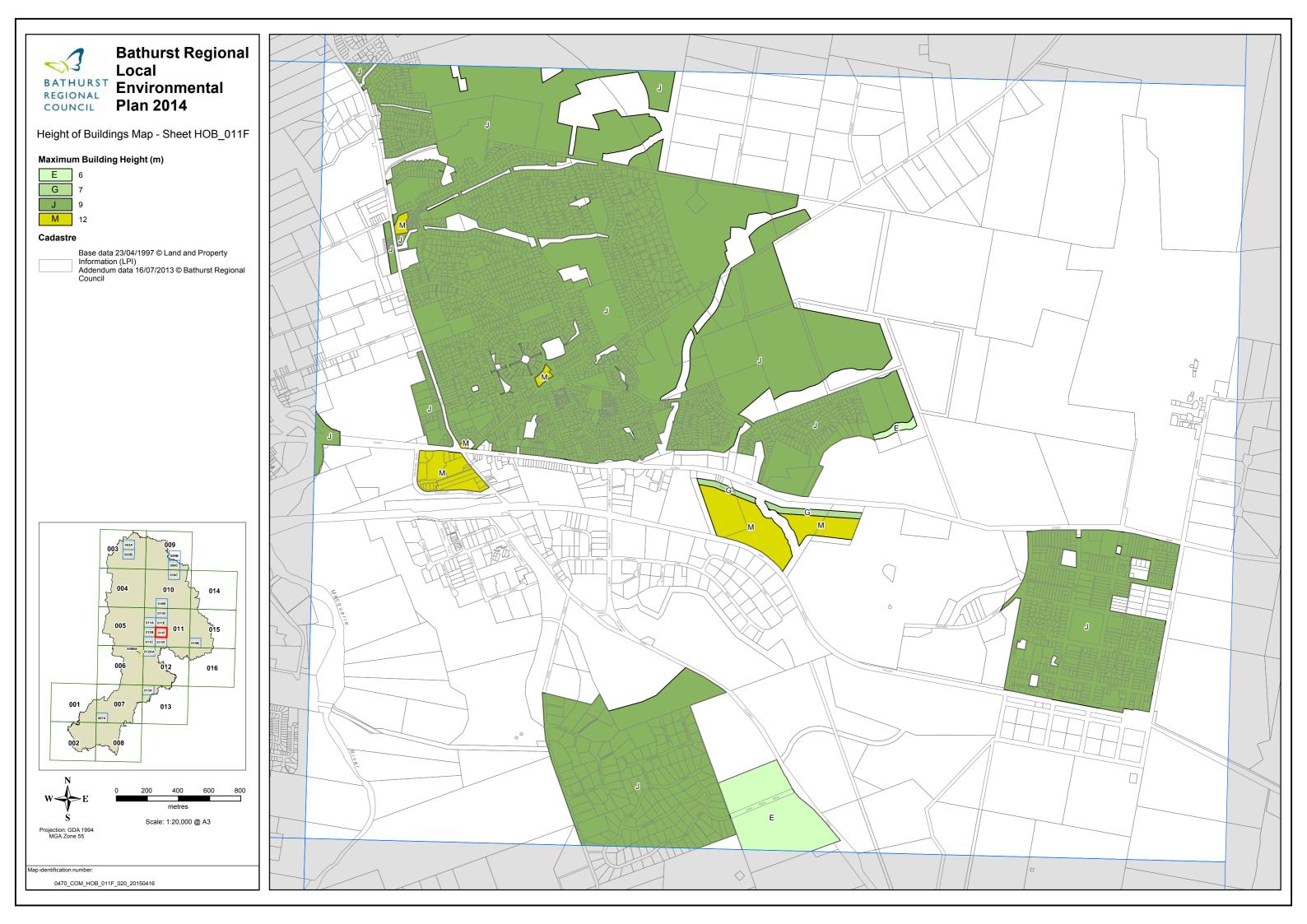


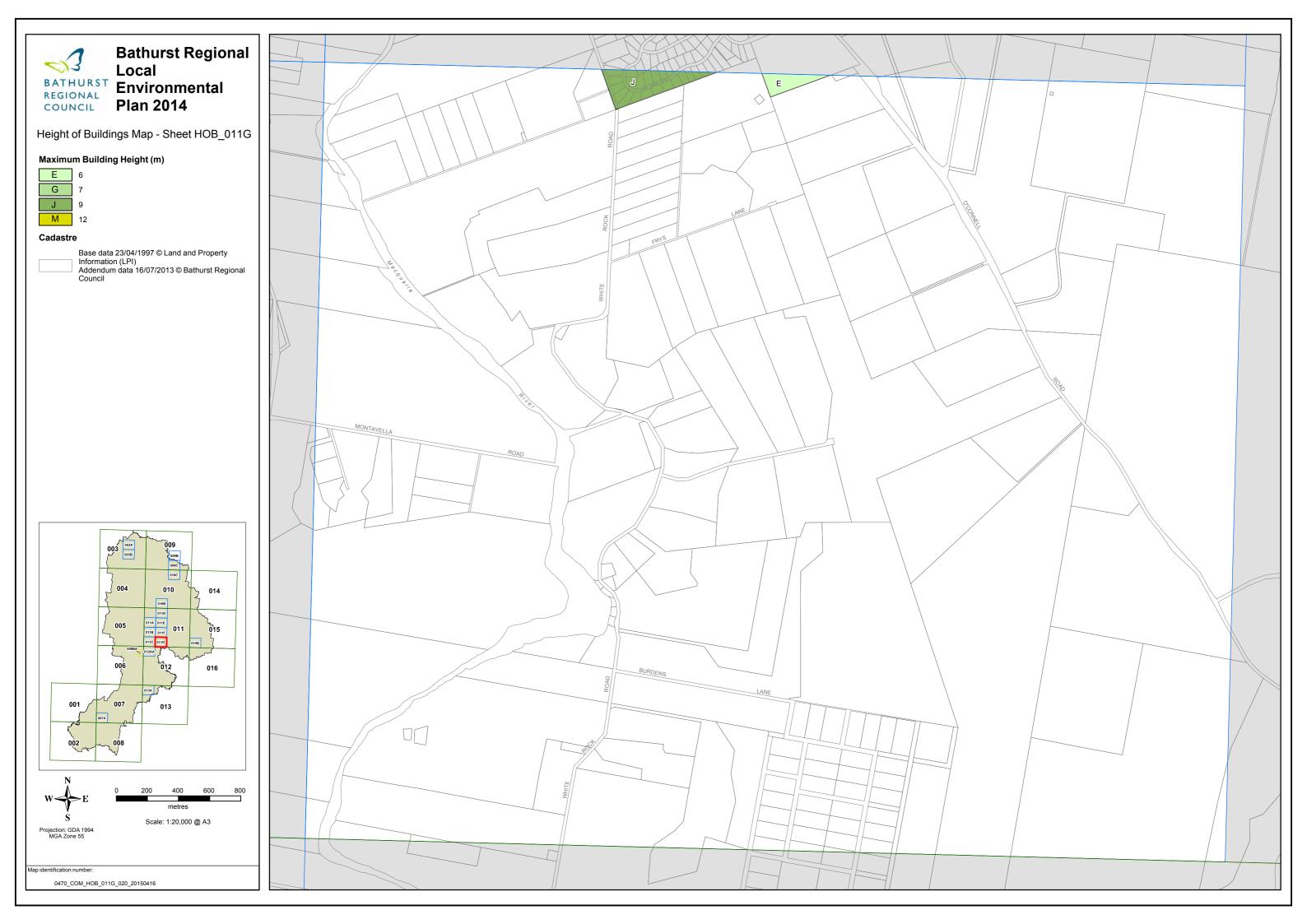














Blue Ridge LEP Extension Supporting Information

(20.00289)

Lot	DP	Address
14	1050220	3991 O'Connell Road KELSO
1	867504	4031 O'Connell Road KELSO



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LIST OF ATTACHMENTS

Attachment Number	Name
1	Department of Planning – Gateway Provisions (dated 22/5/2015)
2	Contamination Report prepared by Barnsons (dated Dec 2015)
3	Aboriginal Heritage Assessment prepared by OzArk (dated Nov 2015)
4	Statement of Significance and Heritage Impact Statement prepared by OzArk (dated Jan 2016)
5	Bathurst White Rock Road – Development Options Report prepared by
	Mott McDonald (dated April 2016)
6	Development Control Plan Amendment Provisions and Map



RELEVANT PLANNING AUTHORITY DETAILS

Relevant Planning Authority:	Bathurst Regional Council
Contact Person:	Ms Janet Bingham
	Manager Strategic Planning,
	Environmental Planning and Building Services
Contact Phone Number:	02 6333 6214
Contact email address:	Janet.bingham@bathurst.nsw.gov.au



BLUE RIDGE EXTENSION – LEP AMENDMENT SUPPORTING INFORMATION

I INTRODUCTION

Bathurst Regional Council (BRC) has received a rezoning application to rezone the following properties from RU1 Primary Production to R5 Large Lot Residential under Bathurst Regional Local Environmental Plan 2014:

Lot 14 DP 1050220, 3991 O'Connell Road KELSO NSW 2795 and Lot 1 DP 867504, 4031 O'Connell Road KELSO NSW 2795

This assessment was undertaken by Council's Strategic Planning Section in response to the need to provide supporting information in respect of lands proposed to be rezoned for rural residential purposes. Council's Engineering Section provided technical advice in relation to engineering issues including water and sewer servicing and land development. Consultants reports were provided from Barnsons and Ozark for matters relating to contamination and heritage respectively.

This document summarizes the assessment undertaken by Council for land identified for rezoning.

It is envisaged that if the rezoning proceeds the land would be developed for rural residential development in a manner similar to the adjoining land (ie fully serviced with minimum lots of 4000m²).

2 PROJECT SCOPE AND OBJECTIVES

This assessment has been prepared to inform the community, Council, state government agencies and other stakeholders with an understanding of the opportunities of the Study Area to enable consideration of the future land uses. The Blue Ridge LEP Extension Planning Proposal involves an amendment to the Bathurst Regional Local Environmental Plan 2014 ("the LEP"), to:

a) Rezone the land from RU1 Primary Production to R5 Large Lot Residential

The subject land comprises:

Lot 14 DP 1050220, 3991 O'Connell Road KELSO NSW 2795 and Lot 1 DP 867504, 4031 O'Connell Road KELSO NSW 2795.

The total area of the combined sites is 29.4 hectares with Blue Ridge Drive dissecting the centre of the site. A heritage item of local significance, 'Littlebourne' is located on 4031 O'Connell Road KELSO. 'Littlebourne' is currently used as a bed and breakfast with a secondary dwelling located in the oriental kitchen wing. Land in this locality has previously been used for orcharding.

The land is located approximately 4.6km south east of the Bathurst CBD and is immediately adjacent to the existing rural residential 'Blue Ridge Estate.'

3 PLANNING FRAMEWORK



Council has undertaken an assessment of the relevant policies, strategies and planning controls under the Planning Proposal and found the rezoning is consistent with:

- Bathurst Region Rural Strategy 2008
- State Environmental Planning Policy 2008 Rural Lands
- State Environmental Planning Policy No. 55 (Remediation of Land)
- Section 117 Directions
 - o 1.2 Rural Zones
 - o 1.5 Rural Lands
 - o 2.3 Heritage Conservation
 - o 3.1 Residential Zones
- Bathurst Regional Local Environmental Plan 2014, as amended.
- Bathurst Regional Development Control Plan 2014, as amended.

4 AGENCY CONSULTATION

The Planning Proposal was forwarded to the following agencies for consultation:

- Roads and Maritime Services
- Essential Energy
- Telecommunications provider
- CASA
- OEH

A submission was received from the Office of Environment and Heritage (OEH) raising concern regarding the proposed minimum lot size and reduction in curtilage to 'Littlebourne' homestead. Council's Heritage Advisor has reviewed the Planning Proposal, the Statement of Significance and Heritage Impact Statement both undertaken by OzArk in relation to the comments received by the OEH. The Heritage Advisor generally concurs with the Planning Proposal and the recommendations of the OzArk report and suggested a number of minor changes. The final DCP Map No. 14 has been amended in relation to that advice to include:

- Relocating the indicative road layout to better protect the heritage curtilage; and
- Increasing the Heritage Buffer to include all of the proposed lot that 'Littlebourne' Homestead is to be located on.

Additionally, the Lot Size map has been amended to include a 10 hectare minimum lot size over the residual 'Littlebourne' lot to ensure that future subdivision of the curtilage of 'Littlebourne' cannot occur.

No objection has been raised from RMS or CASA and these are provided in the Planning Proposal. No response was received from Essential Energy or the Telecommunications provider.

5 COMMUNITY CONSULTATION

Council exhibited the draft Local Environmental Plan Amendment and Development Control Plan amendment concurrently from 25 June 2016 until 23 July 2016. Notification was placed in the Western Advocate and Councils website. Adjoining landowners and White Rock Progress Association were notified in writing. No submissions were received.



6 PLANNING AND ENVIRONMENTAL ISSUES

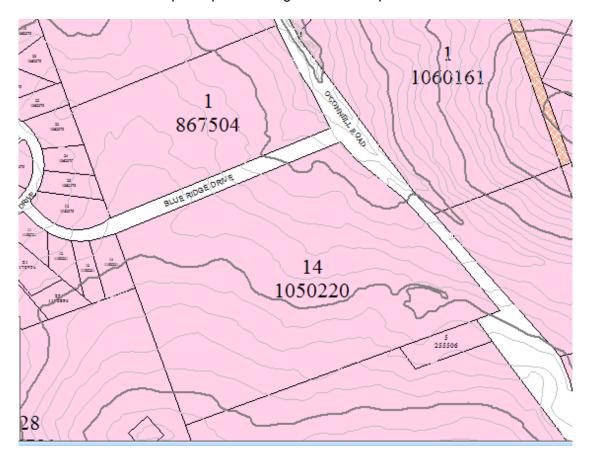
Physical Environment

Topography

The study area is gently undulating, falling from the southern corner at contour 722m towards O'Connell Road to 694m contour.

The study area, as identified on the Bathurst 1:250,000 Geological Series Sheet (SI 55-8) is underlain by the Bathurst Granite formation of Carboniferous Age. The soil profile derived from this parent material is the Bathurst Soil Landscape.

The Bathurst Soil Landscape is characterized by moderate to high erodibility and moderate to slow permeability. As the site will be serviced by a reticulated sewage system there will be no effluent issues in relation to soils. Appropriate erosion controls will need to be put in place during construction phases on the site.



The Study area is situated east of the Macquarie River flood plain and is not affected by the 1:100year flood event.

Contamination

The study area was previously used for the purpose of orcharding. A Contamination Report prepared by Barnsons (dated Dec 2015) has been prepared in accordance with the NSW EPA 'Guidelines for Consultants for Reporting on Contaminated Sites.' (Refer to **attachment 2**).

The report indicates that additional investigation is required on Littlebourne and it will be Council's recommendation that this be further investigated prior to the subdivision



(not at rezoning stage). This is consistent with Council's current processes and existing DCP provisions. Relevant provisions have been included in the accompanying DCP amendment.

Bushfire

The study area is not identified on Council's Bushfire Prone Land Map. Notwithstanding an assessment of the proposal against the NSW Rural Fire Service *Planning for Bushfire* Protection 2006 has been undertaken:

Vegetation Assessment

The vegetation in and around the site boundary, to a distance of 140m, has been assessed in accordance with Planning for Bushfire Protection 2006 and made via a combination of aerial photo interpretation and site inspection.

There are no known future intended land uses that could alter the vegetation classification in the future.

The site is mostly cleared with established trees scattered around 'Littlebourne Homestead,' access driveways and along boundaries. Several cherry tree plantations exist on 3991 O'Connell Road. Some new native forest vegetation exists along the road corridor of Blue Ridge Drive which dissects the middle of the study area.

The land surrounding the development site on the western side is managed rural residential land. The adjoining lands are cleared agricultural lands. No remnant vegetation is present within 140m of the study area.

Asset Protection Zones

The Planning for Bushfire Protection 2006 considers orchards as a reduced vegetation and not therefore a hazard. As the surrounding land uses are managed rural residential lands and grasslands an APZ of 10m is recommended in accordance with Appendix 2 which can be accommodated on all lots and assessed at the DA stage for individual dwellings.

Water Supply

The proposed development will be connected to the Bathurst Regional Council water supply with reticulated water extended to all proposed lots. In addition, Council's Development Control Plan required specific water storage for firefighting purposes.

Access

The subdivision layout will provide public road access from Blue Ridge Drive. Internal roads constructed as part of the subdivision will have a carriageway width of 20m, exceeding the 8m requirement, as required by *Planning for Bushfire Protection 2006* and will provide adequate access for increased traffic flow during emergency events.

The road network within the proposed subdivision will provide a road standard which exceeds the minimum requirements for public roads as required by Chapter 4 of *Planning for Bushfire Protection 2006*.

The design specifications for internal public roads are:

- Roads shall be designed for two-wheel drive all weather access;
- Public roads have a cross fall not exceeding 3 degrees.



- Roads shall be through roads. Where unavoidable dead ends shall not be more than 100 metres in length and incorporate a 12m outer radius turning circle. As the lands are not specifically bushfire prone, the proposed length is considered acceptable.
- Curves of roads shall have a minimum inner radius of 6 metres and a minimum outer radius of 12 metres;
- Maximum grades for sealed roads do not exceed 15 degrees;
- Vertical clearance above the road surface shall be 4.0m;
- Public roads greater than 6.5m wide to locate hydrants outside of parking reserves to ensure accessibility to reticulated water supply for fire suppression.

Dwelling Design and Construction

The design of any proposed dwelling within the site should have due regard to the specific requirements of the Building Code of Australia, which makes specific references to AS3959-2009 Construction of Buildings in Bushfire Prone Land. This standard provides methods to improve the design and construction of a building my minimizing the consequences of bushfire attack. Further information on construction standards will be assessed at the DA stage for individual dwellings.

Flora and fauna

The study area is predominantly cleared with the greater majority sown to pasture and weeds or used for orcharding, such that the natural ecosystem and processes have ceased to exist. The study area has a low habitat value due to the lack of vegetation and past land uses.

Due to the nature of the past uses of the site and lack of vegetation, a full flora and fauna assessment was not required. A search was undertaken of the NSW National Parks and Wildlife Service Atlas of NSW Wildlife and flora and fauna species obtained. The list identified threatened, vulnerable and protected flora and fauna species within a 5km radius.

Flora Species

The following flora records in the database as identified in a 5km radius:

Scientific Name	Common Name	Legal Status	Sightings
Eucalyptus aggregata	Black Gum	V	4
Lepidium hyssopifolium	Aromatic Peppercress	E1	1
Eucalyptus pulverulenta	Silver-leafed Gum	V	1
Diuris pedunculata	Small Snake Orchid	E1	5
Prasophyllum fuscum	Tawny Leek Orchid	V	8
Persoonia marginata		V	
Euphrasia scabra	Rough Eyebright	E1	1

The species list identified a total of four (4) vulnerable species (under TSC Act Schedule 2) and three (3) endangered species under(under TSC Act Schedule 1 – Part 1). None have been identified on the subject land.

Fauna Species

The following fauna records in the database as identified in a 5km radius:

Scientific Name	Common Name	Legal Status	Sightings



Circus assimilis	Spotted Harrier	V,P	4
Litoria	Booroolong Frog	E1	
booroolongensis			
Litoria aurea	Green and Golden Bell Frog	E1	4
Litoria raniformis	Southern Bell Frog	E1	
Tympanocryptis lineata	Lined Earless Dragon	Р	1
Tympanocryptis lineata pinguicolla	Grassland Earless Dragon	E1	
Anseranas semipalmata	Magpie Goose	V	4
Charadrius mongolus	Lesser Sand Plover	V	
Callocephalon fimbriatum	Gang-gang Cockatoo	V	4
Petroica phoenicea	Flame Robin	V	
Petroica boodang	Scarlet Robin	V	
Hieraaetus morphnoides	Little Eagle	V	
Grantiella picta	Painted Honeyeater	V	
Xanthomyza phrygia	Regent Honeyeater	E1	
Melithreptus gularis	Black-chinned Honeyeater	V	
Phaethon rubricauda	Red-tailed Tropicbird	V	4
Climacteris picumnus	Brown Treecreeper	V	
Chthonicola sagittata	Speckled Warbler	V	
Lathamus discolor	Swift Parrot	E1	
Stagonopleura guttata	Diamond Firetail	V	
Rostratula benghalensis	Painted Snipe	E1	
Stictonetta naevosa	Freckled Duck	V	
Ninox connivens	Barking Owl	V	4
Myotis adversus (macropus)	Large-footed Mouse-eared Bat	V	
Miniopterus schreibersii oceanensis	Eastern Bentwing-bat	V	
Pteropus poliocephalus	Grey-headed Flying-fox	V	
Maccullochella peelii	Murray Cod	E1	
Maccullochella macquariensis	Trout Cod	E1	
Phascolarctos cinereus	Koala	V	4
Dasyurus maculatus	Spotted-tailed Quoll	V	4

The species list identified a total of twenty (20) vulnerable species (under TSC Act Schedule 2) and eight (8) endangered species under(under TSC Act Schedule 1 – Part 1). None were recorded on the subject land.

Southern Bell Frog (Litoria raniformis) has been spotted within 1.2km of the study area. According to the OEH, in NSW the southern bell frog is only found in or around



permanent or impermanent swamps dominated by black box- box-lignum-nitre goosefoot, lignum-typha and river red gums or in billabongs along floodplains. It is unlikely, given its habitat that the Southern Bell Frog would be located on the site.

Access

Road access to the Study Area will only be from Blue Ridge Drive, off O'Connell Road. O'Connell Road is a Classified Road and consultation with the Roads and Maritime Service (RMS) has been undertaken. Direct access of new dwellings to O'Connell Road will not be permitted. The RMS has not raised any objections to that Planning Proposal.

The proposed subdivision layout allows for the provision of future access into the adjoining properties to ensure the sites are not sterilized from any future redevelopment.

Aboriginal and European heritage

An Aboriginal Heritage Assessment has been undertaken by OzArk (dated Nov 2015) and did not identify any sites of aboriginal significance. Due Diligence has also been prepared.

Under Bathurst Regional Local Environmental Plan 2014 a heritage item of local significance is located on Lot 1 DP 867504 'Littlebourne Homestead.' A Statement of Significance and Heritage Impact Statement has been undertaken by OzArk (dated Jan 2016). See <u>attachments 3 and 4</u> for reports.

That report determined an appropriate curtilage for the heritage item and how the future road network will address that curtilage. Section 6 of Council's DCP is to be amended to include recommendations for built form for new buildings located on land adjoining the future 'Littlebourne' curtilage.

The Heritage Map in the LEP is not proposed to be amended to ensure the DCP requirements for new dwellings are adhered to. This will prevent complying development under the SEPP and ensure the desired built form is achieved on the site.

See also comments earlier in this report in relation to the submission from OEH.

Scenic Quality

The study area is characterized by a rural landscape with established trees and an high point in the south of the study area. The eastern area adjoining the Study Area is characterized by large lot residential landscape and the western area characterized by rural lands.

The Study area is considered to have a moderate scenic value as the landforms are common throughout the region and has no distinctive or unusual visual character.

The study area is gently undulating, falling from the southern corner at contour 722m towards O'Connell Road to 694m contour. As the land above the 708m contour is unable to be serviced, there will be no buildings protruding above the skyline or being dominant structures upon the ridgeline. In addition to this, a building height restriction will be placed on lands adjoining 'Littlebourne' Homestead to restrict building height to single story to ensure the new development does not dominate the existing heritage item on the site.



Buffers to adjoining agricultural lands (40m buffer to the south and west, 20m buffer to the north) and a 40m buffer to O'Connell Road will ensure the vegetation on the boundaries of the study will largely remain and not be affected by development.

Infrastructure

Sewer and Water

Council has undertaken detailed investigations during 2013 into the availability of water and sewer to service possible future development. The report concluded that the subject area is able to be serviced by sewer, albeit with some upgrades to infrastructure required. The report also concludes that the land above the 708m contour cannot be serviced by water by gravity.

It is Council's current position that water should be supplied to properties connected to Council's reticulated water supply by gravity (not via a pumped system) which excludes part of Lot 14 DP 1050220, 3991 O'Connell Road KELSO.

The proposed subdivision layout demonstrates development can occur below the 708m contour. Some cut is required, generally to the 709m contour and this is supported.

The finished floor levels of any dwellings on the subject land are to be at or below the 708m contour. A restriction on the height of finished floors levels has been included in the DCP to ensure they are no higher than the 708m contour.

A report has been received from Mott McDonald (dated April 2016) indicating that sewer and water services can be provided to the site. See <u>attachment 5</u> for report.

Stormwater

There are no drainage lines that traverse the study area and no evidence of pooling occurring following rain events. The site is well drained and is not subject to flooding. There is no evidence of any groundwater recharge or discharge areas, nor aquifers on the site.

Hydrology and flooding

The study area is not identified as flood affected on Council's Flooding Map.

Landuse Buffers

The proposed development control map has incorporated the required agricultural and road setback buffers in in accordance with Council's existing Development Control provisions.

ANEF

The site falls outside of the ANEF restrictions and therefore no noise restrictions apply to the subject lots.

The site is within the 779.5m maximum height indicated on the Obstacle Limitation Surface (OLS) Map. However, the height of finished floors levels will be restricted to 708m AHD, with a single storey limitation. No structures will therefore exceed the OLS.

7 CONCLUSION



The Blue Ridge LEP Extension Planning Proposal involves an amendment to the Bathurst Regional Local Environmental Plan 2014 ("the LEP"), to:

Rezone the land from RU1 Primary Production to R5 Large Lot Residential

This is to be achieved by:

- a) Amending the Land Zoning Map (tile LZN_011F) under Bathurst Regional Local Environmental Plan 2014.
- b) Amending the Land Zoning Map (tile LZN_011G) under Bathurst Regional Local Environmental Plan 2014.
- c) Amending the Lot Size Map (tile LSZ_011F) under Bathurst Regional Local Environmental Plan 2014.
- d) Amending the Lot Size Map (tile LSZ_011G) under Bathurst Regional Local Environmental Plan 2014.
- e) Amending the Height of Building Map (tile HOB_011F) under Bathurst Regional Local Environmental Plan 2014.
- f) Amending the Height of Building Map (tile HOB_011G) under Bathurst Regional Local Environmental Plan 2014.

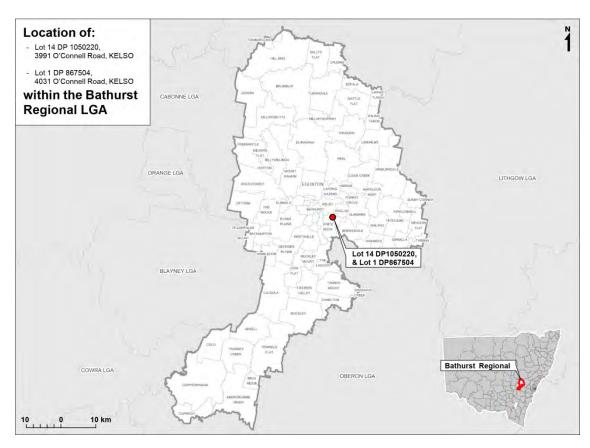
The LEP is to be supported by a DCP amendment and accompanying map (see **attachment 6**) to:

- Establish appropriate buffers.
- Protect the historic 'Littlebourne' homestead.
- Restrict direct access to O'Connell Road.
- Ensure new development can be adequately serviced with water.
- Ensure additional investigations are completed at 'Littlebourne' in relation to land contamination issues prior to subdivision.



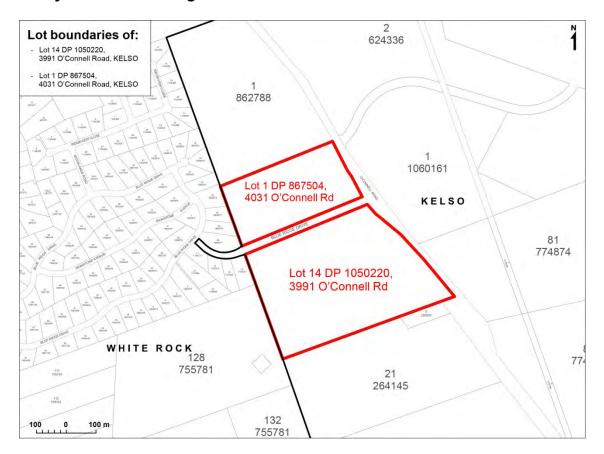
APPENDIX A

Location Map – The Bathurst Region





Study Area - Blue Ridge LEP Extension









Mr David Sherley General Manager Bathurst Regional Council Private Mail Bag 17 BATHURST NSW 2795 15/05016

Attention: Janet Bingham, Acting Director Environmental Planning and Building

Dear Mr Sherley

Planning Proposal (PP_2015_BATHU_002_00) to amend Bathurst Regional LEP 2014 – to rezone land and amend minimum lot size - Lot 14 DP 1050220 and Lot 1 DP 867504 O'Connell Road, Kelso.

I am writing in response to your Council's letter dated 23 April 2015 requesting a Gateway determination under section 56(1) of the Environmental Planning and Assessment Act 1979 (EP&A Act) with respect to the planning proposal to amend the Bathurst Regional Local Environmental Plan 2014 to rezone land and reduce the minimum lot size at Lot 14 DP 1050220 and Lot 1 DP 867504, O'Connell Road, Kelso.

As a delegate of the Minister for Planning, I have determined the planning proposal should proceed subject to the conditions in the attached Gateway determination (Attachment 1).

The Minister delegated his plan making powers to Councils in October 2012. It is noted that Council has accepted this delegation. I have considered the nature of Council's planning proposal and have decided to issue an authorisation for Council to exercise delegation to make this plan (Attachment 2).

The amending Local Environmental Plan (LEP) is to be finalised within 12 months of the week following the date of the Gateway determination. Council should aim to commence the exhibition of the planning proposal as soon as possible. Council's request to draft and finalise the LEP should be made directly to Parliamentary Counsel's Office (parliamentary.counsel@pco.nsw.gov.au) 10 weeks prior to the projected publication date.

A copy of the request should be forwarded to the Department of Planning and Environment (westernregion@planning.nsw.gov.au) for administrative purposes.

The State Government is committed to reducing the time taken to complete LEPs by tailoring the steps in the process to the complexity of the proposal, and by providing clear and publicly available justification for each plan at an early stage. In order to meet these commitments, the Minister may take action under section 54(2)(d) of the EP&A Act if the time frames outlined in this determination are not met.

DEPBS-R/

In accordance with "A guide for the preparation of local environmental plans", Attachment 5 – Delegated plan making reporting template (**Attachment 3**) is enclosed for Council's information. Table 2 of the attachment is to be completed and forward to westernregion@planning.nsw.gov.au when requesting the planning proposal to be notified.

Should you have any queries in regard to this matter, I have arranged for Wayne Garnsey, Team Leader to assist you. Mr Garnsey can be contacted on (02) 6841 2180.

Yours sincerely,

Ashley Albury

General Manager, Western Region

Enclosures: Attachment 1 – Gateway Determination

Attachment 2 – Written Authorisation to Exercise Delegation Attachment 3 – Delegate Plan Making Reporting Template



Gateway Determination

Planning proposal (Department Ref: PP_2015_BATHU_005_00): to rezone land from zone RU1 Primary Production to zone R5 Large Lot Residential and amend the minimum lot size from 200 hectares to 4000m2 at Lot 14 DP 1050220 and Lot 1 DP 867504 O'Connell Road, Kelso.

I, the General Manager, Western Region at the Department of Planning and Environment as delegate of the Minister for Planning, have determined under section 56(2) of the EP&A Act that an amendment to the Bathurst Regional Local Environmental Plan 2014 (LEP) to rezone land and amend the minimum lot size at Lot 14 DP 1050220 and Lot 1 DP 867504 O'Connell Road, Kelso should proceed subject to the following conditions:

- 1. Community Consultation is required under sections 56(2)(c) and 57 of the Environmental Planning and Assessment Act 1979 (EP&A Act) as follows:
 - (a) the planning proposal must be made publicly available for a minimum of 28 days; and
 - (b) the relevant planning authority must comply with the notice requirements for public exhibition of planning proposals and the specifications for material that must be made publicly available along with planning proposals as identified in section 5.5.2 of *A Guide to Preparing LEPs (Department of Planning & Infrastructure 2013)*.
- 2. Consultation is required with the following public authorities under section 56(2)(d) of the EP&A Act 1979:
 - Office of Environment and Heritage (in relation to potential land contamination and for the local Heritage Item 1159).
 - Civil Aviation Safety Authority.

Each public authority is to be provided with a copy of the planning proposal and any relevant supporting material, and given at least 21 days to comment on the proposal.

- 3. Council is to ensure that the planning proposal satisfies the requirements of State Environmental Planning Policy (SEPP) 55 Remediation of Land. Council is to address this matter in its submission under section 59 of the EP&A Act 1979.
- 4. A public hearing is not required to be held into the matter by any person or body under section 56(2)(e) of the EP&A Act. This does not discharge Council from any obligation it may otherwise have to conduct a public hearing (for example, in response to a submission or if reclassifying land).

- 5. Prior to the submission of the Planning Proposal under section 59 of the EP&A Act 1979 the relevant Land Zoning Map, Lot Size Map, Height of Buildings and Heritage Maps that apply to the subject land are to be prepared compliant with the Department's 'Standard technical requirements for LEP maps'.
- 6. The timeframe for completing the LEP is to be 12 months from the week following the date of the Gateway determination.

Dated 22 day of May

2015.

a. w. all Ashley Albury

General Manager, Western Region

Planning Services

Delegate of the Minister for Planning



WRITTEN AUTHORISATION TO EXERCISE DELEGATION

Bathurst Regional Council is authorised to exercise the functions of the Minister for Planning under section 59 of the *Environmental Planning and Assessment Act 1979* that are delegated to it by instrument of delegation dated 10 October 2014, in relation to the following planning proposal:

Number	Name
PP_2015_BATHU_002_00	To rezone land from zone RU1 Primary Production to zone R5 Large Lot Residential and amend the minimum lot size from 200 hectares to 4000m2 at Lot 14 DP 1050220 and Lot 1 DP 867504 OConnell Road, Kelso.

In exercising the Minister's functions under section 59, Council must comply with the Department's "A guideline for the preparation of local environmental plans" and "A guide to preparing planning proposals".

Dated 21 May

2015

Ashley Albury

General Manager, Western Region

Planning Services

Department of Planning and Environment

Delegate of the Minister for Planning

Attachment 5 – Delegated plan making reporting template

Reporting template for delegated LEP amendments

Notes:

- Planning proposal number will be provided by the department following receipt of the planning proposal
- The department will fill in the details of Tables 1 and 3
- RPA is to fill in details for Table 2
- If the planning proposal is exhibited more than once, the RPA should add additional rows to **Table 2** to include this information
- The RPA must notify the relevant contact officer in the regional office in writing of the dates as they occur to ensure the department's publicly accessible LEP Tracking System is kept up to date
- A copy of this completed report must be provided to the department with the RPA's request to have the LEP notified

Table 1 - To be completed by the department

Stage	Date/Details
Planning Proposal Number	PP_2015_BATHU_002_00
Date Sent to Department under s56	29 April 2015
Date considered at LEP Review Panel	-
Gateway determination date	22 May 2015

Table 2 - To be completed by the RPA

Stage	Date/Details	Notified Reg Off
Dates draft LEP exhibited		
Date of public hearing (if held)		
Date sent to PCO seeking Opinion		
Date Opinion received		
Date Council Resolved to Adopt LEP		
Date LEP made by GM (or other) under delegation		
Date sent to DP&I requesting notification		

Table 3 – To be completed by the department

Stage	Date/Details
Notification Date and details	

Additional relevant information:



Preliminary Contaminated Site Investigation

Lot 14, DP 1050220, "Appledore" 3991 O'Connell Road, Kelso, NSW and Lot 1 DP 867504, "Littlebourne" 4031 O'Connell Road, Kelso, NSW

Bathurst Regional Council

structural engineering project management residential design civil engineering registered surveyors commercial design geotechnical engineering town planning graphic representations environmental drilling construction management mechanical engineering industrial design environmental consulting nata accredited testing laboratory electrical engineering interior design



t 1300138 657 e generalenquiry@barnson.com.au w www.barnson.com.au

Dubbo . Mudgee . Bathurst . Parkes

Dec-15 (Our Reference: 23479_E01b.docx)

Yours Faithfully

Reviewed By

Natalie Richards

Environmental Scientist

Jim Sarantzouklis

Director, Barnson Pty Ltd



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Appendix L - Limitations



EXECUTIVE SUMMARY

Barnson was engaged by Bathurst Regional Council to carry out a preliminary contaminated site investigation on land identified as Lot 14 DP 1050220 and Lot 1 DP 867504. The investigation was carried out as part of a rezoning application to rezone the properties from RU1 Primary Production to R5 Large Lot Residential.

Lot 14 of DP 1050220, "Appledore" 3991 O'Connell Road, Kelso NSW 2795 was established as an orchard for apples, cherries and other stone fruit in 1979. The site has been owned by Russ McCarthy since that time. Prior to the establishment of the orchard, the site was cleared and used for grazing land. The site is well maintained, with some farm waste stored along the western side of the large packing and storage shed in the south east of the site.

Lot 1 of DP 867504, "Littlebourne" 4031 O'Connell Road, Kelso NSW 2795 homestead was built in 1835 by convict labour on a 20 acre grant to William Cox. The site has been owned by the Warren family since the early 1990s. Orchards have not been on site for 30 years. The site is well maintained cleared farmland, with some remnant plum orchard in the central northern part of the site.

Soil sampling was undertaken by an Environmental Scientist on 4th November, 2015. A judgemental sampling scheme was employed, with samples taken across the site.

Based on the potentially contaminating substances on site, samples were analysed by a NATA certified laboratory for heavy metals, Polynuclear Aromatic Hydrocarbons, Total Recovered Hydrocarbons, Benzene, Toulene, Ethylbenzene, Napthalene and Xylene, Phenolic Compounds, Organochlorine and organophosphorus pesticides, polychlorinated biphenyls and asbestos.

Conceptual site models identified top down contamination, primarily remaining on the surface and within the top 1m of soil. Identified exposure pathways include ingestion and inhalation of dust during construction, direct contact with the soil and vapour exposure. Surface water coming in contact with the soils may provide other exposure pathways including but not limited to direct contact with the water. Ecological concerns are most likely to be impacted by surface water runoff.

Samples analysed for the sites were assessed against the HIL-A and HSL – A for Residential with garden/accessible soil (home grown produce<10% fruit and vegetable intake) and ESL limits for urban residential and public open space.

The samples analysed taken from the Appledore site are all below the selected criteria for various potentially contaminating chemicals. The site appears to meet the requirements for use as low density residential housing. No further investigations for the site are required.

Three samples, LB1, LB2, and LB3, exceeded the HIL-A criteria for lead, 300mg/kg, recording levels of 720mg/kg, 330mg/kg and 470mg/kg respectively. The three samples are all located in the vicinity of the Littlebourne homestead, sheds and gardens.

Further investigations should be undertaken in the area surrounding the homestead and outbuildings. Lead levels are above the HIL-A residential limits. Given the above, further



investigation would be required, with potential remediation, if the site is to be used for standard residential housing with accessible soil and garden.

Management measures such as those implemented in areas of high lead contamination in Broken Hill NSW and Port Pirie SA should be implemented for Littlebourne until further investigation is undertaken. Management measures may include:

- Regular hand washing with soap after outdoor play and gardening and especially before eating;
- Keep children's fingernails short and use a nail brush regularly;
- Discourage dirt eating, sucking fingers/toys;
- Keep children's dummies & bottles clean;
- Keep the house dust free as possible;
- Wash fruit and vegies before eating (home grown produce is fine as long it is grown in fresh soil and washed well);
- Wash blankets, bedding and toys;
- Remove old carpets;
- Use a good quality vacuum when vacuuming avoid having children in the same room;
- Wet mop and wet wipe flors, furniture, toys and window sills regularly;
- Keep pets clean and outside and ensure young children wash hands after patting them;
- Leave dusty shoes outside;
- Seal cracks in walls and ceiling; and
- Rainwater can be contaminated with lead by dust on the roof, old pipes, old tanks and leaf matter. Levels of lead in rainwater tanks can change on a daily basis and is generally high.

(from http://www.leadnsw.com.au/#!hygiene/cn8w)

Two samples, LB3 and LB4 were found to exceed the ESL criteria for Benzo(a)pyrene. Offsite migration is not considered likely given the location of the soil samples. Good ground cover provides limited ecological exposure pathways.

At this point UCL calculations have not been conducted as the sampling pattern revealed a concentrated hotspot around the homestead, outbuildings and sheds.



2.0 INTRODUCTION

2.1 Scope of works

Barnson was engaged by Bathurst Regional Council to carry out a preliminary contaminated site investigation on land identified as Lot 14 DP 1050220 and Lot 1 DP 867504. The investigation was carried out as part of a rezoning application to rezone the properties from RU1 Primary Production to R5 Large Lot Residential.

2.2 Objectives

Objectives of this site investigation were to

- Review the site history,
- Identify potential contaminants present on site,
- Collect soil samples for laboratory analysis of contaminants,
- Assess the soil sample results against the relevant guidelines for residential housing,
- Assess the need for further investigations, and
- Based on the above results, provided advice on the suitability of the site for residential development.

2.3 Site Identification

Table 1: Site Identification

Land Description				
Real Property Description	Lot 14 DP 1050220	Lot 1 DP 867504		
Parish	Kelso	Kelso		
County	Roxburgh	Roxburgh		
Council	Bathurst Regional Council	Bathurst Regional Council		
Street Address	"Appledore"	"Littlebourne"		
	3991 O'Connell Road,	4031 O'Connell Road,		
	Kelso NSW 2795	Kelso NSW 2795		

The subject land lies at the edge of the suburb of Kelso, New South Wales. The locality of the site in Kelso is shown in Figures 1 and 2.

The Appledore property has some cherry and stone fruit trees with one dwelling and associated sheds and outbuildings. The Littlebourne property has some remnant plum trees and is primarily used as a bed and breakfast. The area of interest approximately 30Ha. A site plan is included in Figure 3.



Figure 1 – Location of site within NSW

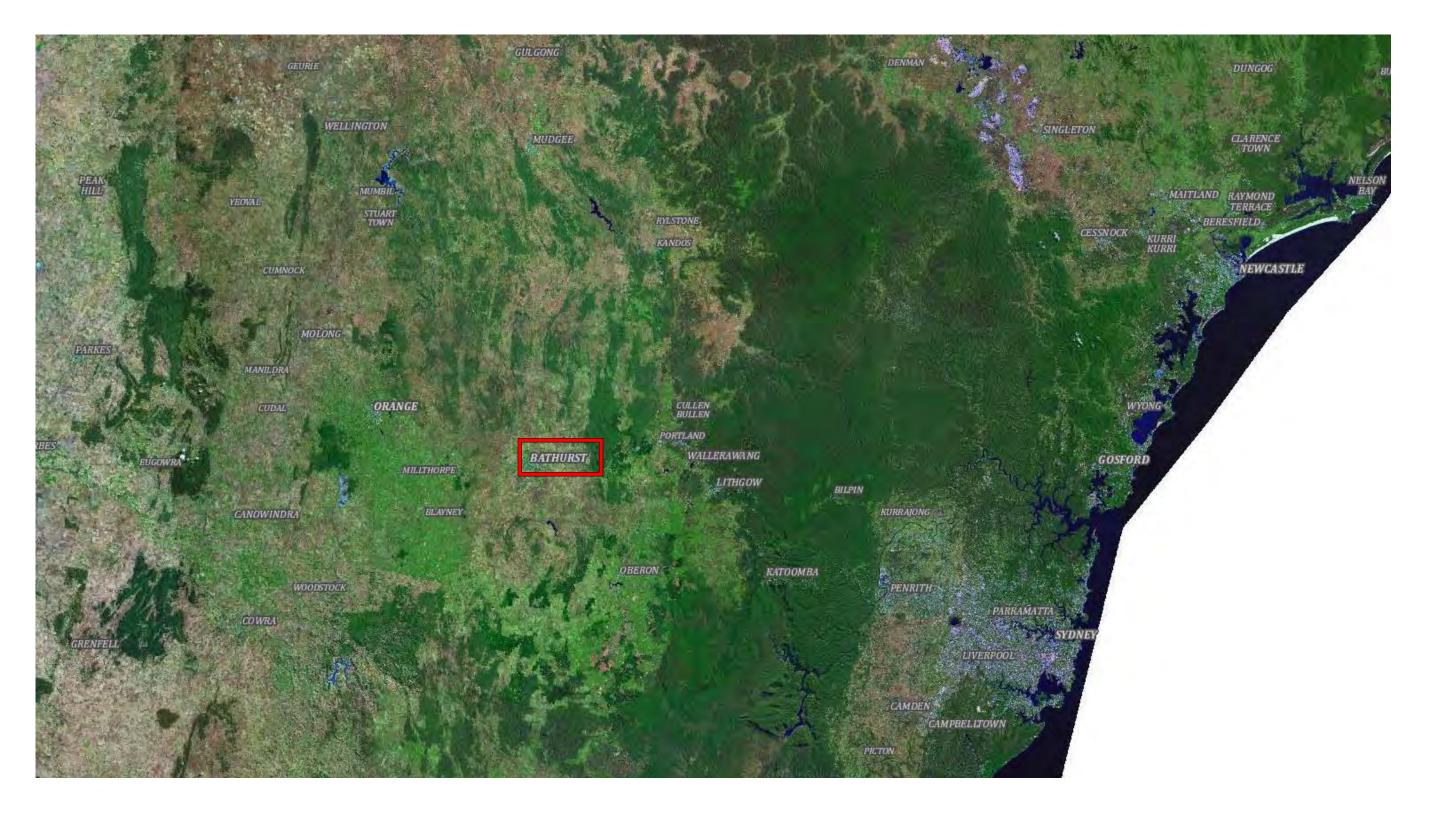


FIGURE 1 - NSW LOCATION MAP

SCALE: NTS



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Figure 2– Location if site within Kelso.



SCALE: 1: 15,000

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Figure 3 – Site Plan



FIGURE 3 - SITE LAYOUT

SCALE: 1: 3,000

CHERRIES



STONE FRUITS



APPLES



REMNANT PLUMS

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Design: Drawn: Rev Date Amendment GO Check: QA: NR Drawing Sheet A3 - Scales as noted

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Sheet 03 of 07

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2.4 References

Friebel, E & Nadebaum, P 2011, *Health screening levels for petroleum hydrocarbons in soil and groundwater. Summary,* CRC CARE Technical Report no. 10, CRC for Contamination Assessment and Remediation of the Environment, Adelaide, Australia.

NSW EPA, April 2014, *Technical Note: Investigation of Service Station Sites*, National Environment Protection (Assessment of Site Contamination) Measure 1999.

AS 4482.1-2005 Guide to the investigation and sampling of sites with potentially contaminated soil - Non-volatile and semi-volatile compounds

NSW Office of Environment and Heritage, August 2011, *Guidelines for Consultants Reporting on Contaminated Sites*.

NSW EPA, September 1995, Sampling Design Guidelines

National Environment Protection (Assessment of Site Contamination) Measure 1999



3.0 SITE HISTORY

3.1 Appledore

3.1.1 Historical Aerial Photographs

Three historical aerial photographs were available for the site. They have been included in **Appendix A**.

The Kelso P5497-8 Orthophotomap 1:4000 series uses a photograph from 1987. This photograph shows the homestead on the site with some orchards apparent. The large farm shed is not on the site and the area where there are now cherries is vacant. No apples are apparent on the site.

Google Earth Aerial photograph from 2003 shows the site with a well developed orchard across the western portion of the site. The farm shed has been built as has an additional outbuilding near the homestead.

Google Earth Aerial photograph from 2012 shows the thinning of the orchard, but all buildings on site remain the same.

3.1.2 Site Interviews

Mr Russ McCarthy and Mrs Dee McCarthy purchased the site in 1979. The Appledore homestead was constructed in 1979 by the current owners, Russel and Deidre McCarthy. Prior to Appledore being built, the land was cleared and used for grazing/agricultural land, but not orchards. The orchards were planted shortly after the site was purchased.

Mr. and Mrs. McCarthy are the sole owners and operators and live in the homestead on site. The site has never held a dangerous goods licence or held commercial quantities of chemicals. The stone fruit orchard has never been extended beyond its current limits.

The buildings on the house consist of a homestead, a detached garage for small vehicles, a pool house and a larger shed situated away from the main buildings which houses agricultural equipment and supplies. The large shed is also used for packing and selling the produce. A site plan showing the location of all buildings and the locations of different types of fruit production across the site is shown in Figure 3. The homestead is serviced by a septic tank and trench which appear to be good condition.

The current Blue Ridge Drive (Woodlands Road) was originally part of the property, but was subdivided and sold for use as a road in July 1997. A small shed in this portion of the site was demolished as a result of this subdivision. No other subdivisions have occurred.

Russ reports no spillages have occurred on site and no complaints have been lodged against the site.



3.1.3 Council Records

Council records for the site were provided by Bathurst Regional Council and are attached in **Appendix A**.

Council records show a septic system was applied for on the 8th November 1999. The septic system is still in use and appears in good condition.

A letter from McIntosh, McPhillamy & Co Solicitors dated 4th June 1997, refers to land not held by the McCarthys, and appears to correct or seek clarification regarding a planned subdivision for Lot 24 DP 264145, which is not the portion on which Appledore sits and the McCarthy's own.

A notification of exempt development under development control plan for a veranda/ covered BBQ area was submitted by Mr McCarthy on the 14th February 2010.

3.1.4 Newspaper Articles

One article regarding Appledore was found on the Western Advocate website. The article speaks about Appledore being open for cherry picking for the first time in 40 years, which confirms the timeline in the oral history from the owners of the site. The article is enclosed in **Appendix A**.

3.1.5 Heritage Listings

The NSW heritage database was searched and no listings were found.

3.1.6 DBYD

A dial before you dig search was undertaken for the site. The site has some Telstra assets on site along the eastern boundary. Jemena gas has some assets to the northwest of the site as part of the Blue Ridge estate.

Copies of the supplied maps are included in **Appendix A**.

3.1.7 NSW LPI Search

A search of the LPI database showed the folio for the site was delivered to Morris Hayes and Edgar on the 11th March 2003. A prior title search revealed the site was Lot 140 of DP 869852. A Historical search of this lot revealed the first title was in the old system and no information is currently available about this title. A conversion action was undertaken in 1997, departmental dealings in 2003 and the current title created in March 2003. Records are included in **Appendix A**.

3.1.8 NSW EPA Search

A search of the NSW EPA contaminated lands database showed no complaints or licences for the site. The search results are included in **Appendix A**.



3.1.9 Timeline

Timeline			
Year	Event	Source	
1979	"Appledore" Homestead constructed	Owner interview	
1981	Septic System Installed	Council Records	
1983	Orchard in place	Aerial Photograph	
1999	Septic system approval	Council Records	
Jun 1997	Subdivision to "Blue Ridge Drive"	Council Records	
April 2003	Orchards	Google Earth photograph	
Feb 2010	Construction of Veranda/ Covered BBQ Area	Council Records	
Feb 2012	Orchards	Google Earth photograph	
October 2014	Aerial photo showing location of orchards	Google Earth photograph	



3.2 Littlebourne

3.2.1 Historical Aerial Photographs

Three historical aerial photographs were available for the site. They have been included in **Appendix B**. The Kelso P5497-8 Orthophotomap 1:4000 series uses a photograph from 1987. This photograph shows the homestead on the site with some orchards apparent. Blue Ridge estate is not constructed and the area is part of Littlebourne and has well established orchards.

Google Earth Aerial photograph from 2003 shows the site with no orchards on site, apart from the remnant plums that remain on site.

Google Earth Aerial photograph from 2012 shows the site virtually unchanged from the 2003 photograph.

3.2.2 Site Interviews

Annabelle Warren is the current owner of the house. Ms. Warren was interviewed by telephone.

Ms. Warren confirmed Littlebourne was constructed in 1835 and her family had purchased the site in the 1990's. Her family had not done any orcharding, however when purchased there were some orchards along the southern edge of the site and under what is now Blue Ridge Estate. The property had sat vacant for approximately 10 years prior to their purchase of the site. The Warren family renovated Littlebourne and the homestead gardens and stables. No commercial quantities of chemicals were stored on site and the site did not hold any EPA or other licences to her knowledge.

Mr. McCarthy, a neighbour of Appledore since 1979, revealed the majority of Littlebourne's orchard was under what is now Blue Ridge estate to the west of the current site. He understands most of the wash down and filling of equipment was undertaken in this area of site. There were some orchards present when he purchased Appledore, but there have not been any orchards for some time. The site was left vacant for many years prior to the Warren's purchasing Littlebourne.

3.2.3 Council Records

Council records provided by Bathurst Regional Council and are attached in **Appendix B**. One record dated 15th April 1997 approves Littlebourne for use as a bed and breakfast. In 2013, council records approve a modification of the effluent disposal trench for the site. This system is still in use and appears to be functioning adequately.

3.2.4 Newspaper Articles

One article for Littlebourne was found on the Western Advocate website. The article is included in **Appendix B**.



The article is an interview with Mrs Mary Warren regarding Littlebourne. In the article, Mrs Warren states the Warren family purchased the property in the 1990's. When they purchased the property, it was overgrown and out of control. A self-contained flat adjoins the main homestead. Outside, there is a 14 metre by 16 metre orchard shed, a double garage and renovated stable block. The acreage was originally used as a successful orchard, but is currently put to native grasses for grazing horses.

3.2.5 Heritage Listings

Littlebourne is a local heritage listed property. The NSW heritage records for Littlebourne are included in **Appendix B**.

Littlebourne homestead was built in 1835 using convict labour. The property was built by Thomas Evernden, the last government-appointed police magistrate in Bathurst. The property was named after a small town between Sandwich and Canterbury in Kent, England, where Mr Evernden's father was a respected farmer. The land was part of a 20 acre grant to William Cox. The following modifications to the site were recorded as part of the heritage listing.

1890- extensions by EB Webb, large billard room, two bedrooms.

1930- extensions by JHC Shutt, kitchen into rear of house, one rear wing demolished, verandah infill, rendered.

1950- laundry closed in, interior redecorated.

3.2.6 DBYD

A dial before you dig search was undertaken for the site. The site has some Telstra assets on site along the eastern boundary. Jemena gas has some assets to the northwest of the site as part of the Blue Ridge estate.

Copies of the supplied maps are included in **Appendix B**.

3.2.7 NSW LPI Search

A search of the LPI database revealed DP867504 was modified in April 1997 for the purpose of a subdivision. The search results are included in **Appendix B**.

3.2.8 EPA Database Search

A search of the NSW EPA contaminated lands database showed no complaints or licences for the site. The search results are included in **Appendix B**.

Revision A



3.2.9 Timelines

Table 2: Council Records

Timeline			
Date	Record	Details	
1835	Heritage Listing	Littlebourne Constructed using convict labour.	
1844	Heritage Listing	Sold to Francis Lord	
1896	Heritage Listing	Webb family build onto house	
1930	Heritage Listing	Extensions by JHC Shutt. Kitchen into main house, 1 rear wing demolished, veranda infill, rendered	
1950	Heritage Listing	Laundry closed in	
1983	Orchard in place	Aerial Photograph	
Early 1990s	Warren Family Purchase Site	Interview	
1997	LPI	Subdivision to Blue Ridge Estate?	
1997	Council Records	B&B approval	
April 2003	Google Earth photograph	No orchards	
Feb 2012	Google Earth photograph	No Orchards	
2013	Council Records	Septic System modified	
October 2014	Aerial photo showing location of orchards	Google Earth photograph	



4.0 SITE CONDITION

4.1 Appledore

The site is trapezoid in shape and approximately 20ha in size. O'Connell Road forms the eastern boundary of the site and woodlands road forms the northern boundary. Agricultural land is on the western and southern boundaries, with residential housing to the north west of the site. The site is well cultivated and maintained orchards. The vegetation appears healthy and orchards are still producing fruit. The site slopes towards the eastern boundary of site.

No obvious drainage lines were apparent on site, except immediately near the dam.

The site has some general farm debris such as old machinery, oil drums and wood along the eastern edge of the orchards near the farm shed.

4.2 Littlebourne

The site is trapezoid in shape and approximately 9ha in size. O'Connell Road forms the eastern boundary of the site and woodlands road forms the southern boundary. Agricultural land is on the northern boundaries, with residential housing to the west of the site. The site is well maintained and has good grass cover over the site. Vegetation appears healthy. The site slopes towards the eastern boundary of site. Drainage lines are apparent across the driveway towards the dam.

No odours or discolouration were apparent on site soils.

The Macquarie River is approximately 2km from the site to the west and is a sensitive receiver.

Photos of the sites are included at the end of the report.



5.0 GEOLOGY AND HYDROGEOLOGY

5.1 Geology and Soils

A review of the Bathurst Geological Map Sheet 1:250,000 S1 55-8, 2nd Edition (1998) shows the site is influenced by:

Bathurst Granite: Coarse grained porphyritic biotite granite.

A review of the ESPADE website (http://www.environment.nsw.gov.au/eSpadeWebApp/), shows the site is in the Bathurst Soil Landscape: Non-Calcic Brown Soils with yellow solodic soils on the lower slopes and in drainage lines.

Table 3: Soil i	_and:	scape:	Summary	/

Yellow solodic soils			
Dominance	Common		
Surface Conditions	Hardsetting		
Drainage	Imperfectly to poorly drained		
Available Waterholding capability	Slowly permeable		
Watertable depth	+150cm		
Depth to bedrock	+300cm		
Flood hazard	Nil		
Known Nutrient deficiencies	Nitrogen, Phosphorous, Molybdenum, Calcium		
Soil Salinity	Moderate		
Erosion Hazzard	High		

5.2 Regional Hydrology

The following information was obtained via desktop review of available groundwater information in the local area. Information was obtained from the NSW Office of Water online groundwater mapping tool. One bore was identified as occurring within 500m of the centre of the site, with the bore card for the site historic groundwater report details on water bearing zones and standing water levels. The available information is provided in the table below. The groundwater bore card can be found in **Appendix C**. A map of the groundwater bores and site is included in Figure 4.



Table 4: Groundwater Review

Groundwater Bore Reference	Total Depth (m)	Water Bearing Zones (m)	Standing Water Level (m)	Yield (L/s)	Salinity Yield
GW047130, Stock, irrigation, domestic	56.40	41.20-42.70 45.70-47.30	18.30	0.25 0.38	Not provided



Figure 4 – Groundwater Bores near site

Site

Investigation



FIGURE 4 - GROUNDWATER BORES

200m 400m 600m SCALE: 1: 8,000 1000m



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Revision A

5.3 Local Metrology

The Australian Bureau of Meteorology records show Bathurst experiences a range of weather conditions, with average summer highs of 28.5°C and winter lows of 0.8°C and an average annual rainfall of 603.0mm. Records were obtained from the Bathurst Airport site, 063291. Full details are included in **Appendix D**.



6.0 SAMPLING AND ANALYSIS PLAN AND SAMPLING METHODOLOGY

6.1 Sampling Pattern

Sampling was undertaken with consideration to the NSW EPA 'Sampling Design Guidelines' (1995) and NSW DEC "Guidelines for Assessing Former Orchards and Market Gardens". A judgemental sampling approach was chosen for the initial investigation. Areas for sampling were selected to cover all areas of the site, but to also focus on areas of visible potential contamination and potential areas for overspray of farm chemicals.

A total of thirty one (31) discrete soil samples were collected from twenty nine (29) sampling locations across the site, including a triplicate sample for Quality Assurance and Quality Control assessment. Refer to Figures 5 and 6: Soil Sampling locations.



Figure 5 – Soil Sampling locations- Appledore



FIGURE 5 - SOILSAMPLING LOCATIONS - APPLEDORE





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SOILSAMPLING LOCATIONS

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Figure 6 – Soil Sampling locations-Littlebourne

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FIGURE 6 - SOILSAMPLING LOCATIONS - LITTLEBOURNE





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Drawing Title: FIGURE 6

SOILSAMPLING LOCATIONS

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6.2 Sampling Locations

The locations of all samples collected are depicted on Figures 5 and 6: Soil Sampling location. Sample locations were identified based on the location of imported fill and evidence remaining on site. Samples taken from each location and selected for analysis are outlined in Table 5, below.

Table 5: Test pit, samples and Analysis

Sampling Location Identification	Analysis	Surface Soil sample	Comment
	Appledor	e Samples	
AD1	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	AD1	Behind residence
AD2	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals, asbestos	AD2	Old tank stand
AD3	OC/OP Pesticides, metals	AD3	Southern boundary
AD4	OC/OP Pesticides, metals	AD4	Southern boundary
AD5	OC/OP Pesticides, metals	AD5	Southern boundary
AD6	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals, asbestos	AD6	Main shed
AD7	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals, asbestos	AD7	Main shed



Sampling Location Identification	Analysis	Surface Soil sample	Comment
AD8	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	AD8	Main shed
AD9	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	AD9, AD10, AD11	Main shed. Triplicate sample.
AD12	OC/OP Pesticides, metals	AD12	Stone fruit
AD13	OC/OP Pesticides, metals	AD13	Stone fruit
AD14	OC/OP Pesticides, metals	AD14	Old stone fruit area, north
AD15	OC/OP Pesticides, metals	AD15	Cherry
AD16	OC/OP Pesticides, metals	AD16	Apple orchard
AD17	OC/OP Pesticides, metals	AD17	Background sample- uncultivated area
AD18	OC/OP Pesticides, metals	AD18	Dam drainage lines
AD19	OC/OP Pesticides, metals	AD19	Dam drainage lines
	Littlebour	ne Samples	
LB1	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	LB1	Shed
LB2	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	LB2	Shed



Sampling Location Identification	Analysis	Surface Soil sample	Comment
LB3	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	LB3	Main house rear
LB4	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	LB4	Main house rear
LB5	OC/OP Pesticides, metals	LB5	Horse paddock
LB6	TRH C6-C40, BTEXN, PAH, Phenols, OC/OP Pesticides, PCB, metals	LB6	Horse paddock
LB7	OC/OP Pesticides, metals	LB7	Plums
LB8	OC/OP Pesticides, metals	LB8	Plums
LB9	OC/OP Pesticides, metals	LB9	Plums
LB10	OC/OP Pesticides, metals	LB10	Plums
LB11	OC/OP Pesticides, metals	LB11	Near fill point
LB12	OC/OP Pesticides, metals	LB12	Drainage line to dam

6.3 Sampling Depths

A total of twenty nine (29) soil locations were selected. All samples were surface samples as there was no evidence of any buried potential contamination. Sampling locations and depths are recorded in the sample log, included in **Appendix E**.



6.4 Samples for Analysis

All soil samples collected were sent to the laboratory for analysis. One (1) triplicate sample was analysed for the purpose of quality assurance and quality control. Refer Sections 9 and 10 for QA/QC analysis.

6.5 Analytical Methods

All methods chosen complied with the requirements of *Assessment of Site Contamination*, NEPC 1999. Analysis was undertaken by laboratories with NATA certification for these methods.

6.6 Analytes for Samples

Analytes chosen were selected according to relevant guidelines, and available site history. The major potential contaminants on the site are due to the use of the sites as orchards, with associated farm machinery and equipment.

Soil samples from areas where farm equipment was maintained, stored or worked on were analysed for the following:

- Petroleum Hydrocarbons (TPH) in the C6-C36 fractions;
- Benzene, Toluene, Ethyl benzene and Total Xylenes (BTEX);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Speciated Phenols;
- Organochlorine/organophosphorus (OC/OP) Pesticides;
- Polychlorinated biphenyls (PCBs);
- 8 Heavy Metals (As, Cd, Cr, Cu, Pb, Hg, Ni, Zn); and
- Asbestos

6.7 Sampling Method

Sampling was conducted by Natalie Richards, Environmental Scientist for Barnson Pty Ltd on the 4th November 2015.

6.7.1 Sample Containers and Type of Seals Used

Samples were preserved in clean glass jars with Teflon lined screw lids, leaving nil headspace. Sampling jars were supplied by the laboratory and only used once. Samples were kept on ice in an esky throughout sampling and during transport.

6.7.2 Sample Devices and Equipment

A hand auger and stainless steel hand trowel was utilised for the collection of surface samples. A hand held gps recorded the location of each sample.



6.7.3 Equipment Decontamination Procedures

Decontamination of sampling equipment was undertaken to prevent cross contamination of samples. Disposable gloves were renewed by the sampler prior to the collection of each sample. The stainless steel hand trowel was washed in Decon 90 and then with potable water between the times of collection of each sample. Decontamination procedures are acceptable and comply with Australian Standard 4482.1.

6.7.4 Sample Handling Procedures

All samples were collected, handled and preserved under chain of custody documentation. Refer to **Appendix F** for Chain of Custody Forms. Sample Receipt Notifications were sent once the laboratory received the samples.

6.7.5 Sample Preservation Methods and Reference to Recognised Protocols

All samples were stored on ice and preserved as per the laboratory requirement.

6.7.6 Sample Logs

Logs were kept for each sample collected and sampling locations were mapped at the time of sampling. Field notes and site observations were recorded on sample logs, which record sampler; sample ID, depth of sample, location description, soil description and notes. The logs are included in **Appendix E**.

Revision A



8.0 QUALITY ASSURANCE AND QUALITY CONTROLS

8.1 Sampling Procedures

Sampling personnel were consistent throughout field sampling and Environmental Scientists were responsible for the collection of all samples. Logs were kept for each sample collected and sampling locations were mapped at the time of sampling. Field notes and site observations were recorded on sample logs, which record sampler, sample ID, depth of sample, location description, soil description and notes.

Samples were kept on ice in an esky, during transport to the laboratory. Sample holding times were acceptable. A copy of the Chain of Custody Forms and sample receipt notification for the samples has been provided in **Appendix F**.

Decontamination of sampling equipment was undertaken as described in Section 5.7.3. Decontamination procedures comply with Australian Standard 4482.1.

The samples were delivered to SGS in Sydney NSW by courier for analysis. The laboratory performed the analyses having NATA accreditation for all tests. Laboratory quality assurance and quality control measures are acceptable.

Rinsate and rinsate blank samples were collected from the auger at the end of the day, after decontamination procedures had been undertaken, to verify the effectiveness of the decontamination procedures. The rinsate blank sample was collected to verify the cleanliness of the water used to collect the rinsate sample. Both the rinsate and the rinsate blank showed zinc present. The rinsate blank had $22\mu g/L$ and the rinsate 47 $\mu g/L$. As the rinsate blank sample had zinc present, it cannot be assumed the zinc in rinsate sample was introduced from the sampling equipment. The zinc may be from the contaminated water used to collect the rinsate, contamination in the jar or introduced during analysis of the sample. Zinc levels for the soils analysed would not have been significantly impacted by this.

Selected samples were split in the field and placed in separate sample containers for samples AD9, AD10 and AD11. The Triplicate samples were collected from the same depth location and were prepared in the field by collecting three sub samples and carrying out identical methods of preservation, storage, transportation, preparation and analysis. Samples were not mixed or homogenised prior to the splitting to reduce the loss of any volatile contaminants. One (1) triplicate was collected as part of this assessment. The triplicate samples were labelled in an inconspicuous manner, and analysed for the same parameters. One sample, AD10, was sent to a secondary laboratory for analysis. On receipt of results relative percent differences were calculated and acceptability of the results were assessed.