

Owen Lynn
PO Box 1255
BYRON BAY NSW 2481

12 September 2012

Mr Simon Scott
Strategic Planner
Strategic and Community Services Group
Ballina Shire Council
PO Box 450
BALLINA NSW 2478

Dear Mr Scott,

**PRECINCT B CUMBALUM
VOLUNTARY PLANNING AGREEMENT**

We refer to the above and enclose the original Voluntary Planning Agreement, which has been all signed by the landowners.

Thanking you in advance.

Regards,

A handwritten signature in black ink, appearing to read 'Owen Lynn', written in a cursive style.

Owen Lynn

enc

DATED 2012

BETWEEN

ZALI INVESTMENTS PTY LTD ACN 124 161 128

AND

CROMDALE DEVELOPMENTS PTY LTD ACN 146 911 202

AND

RM WALSH LAND HOLDINGS PTY LTD ACN 095 255 502

AND

OWEN LYNN AND MARGARET LYNN

AND

NEWRYBAR DEVELOPMENTS PTY LTD ACN 147 410 580

AND

DENCANNON PTY LTD ACN 145 591 448

AND

BYRON BAY LAND DEVELOPMENT PTY LTD ACN 106 666 648

AND

BALLINA SHIRE COUNCIL

"Council"

CUMBALUM PRECINCT B VOLUNTARY PLANNING AGREEMENT

s93F of the *Environmental Planning and Assessment Act 1979*

CLEARY HOARE

Solicitors

11 Commercial Road Level 6, 16-20 Barrack Street
NEWSTEAD QLD 4006 SYDNEY NSW 2000
Tel: 07 3230 5222 Tel: 02 9262 5550

VOLUNTARY PLANNING AGREEMENT

THIS AGREEMENT is made on the _____ day of _____ 2012.

BETWEEN: ZALI INVESTMENTS PTY LTD ACN 124 161 128 (**Zali**)

AND: CROMDALE DEVELOPMENTS PTY LTD ACN 146 911 202 (**Cromdale**)

AND: RM WALSH LAND HOLDINGS PTY LTD ACN 095 255 502 (**RM Walsh**)

AND: OWEN LYNN

AND: MARGARET LYNN (together, **Lynn**)

AND: NEWRYBAR DEVELOPMENTS PTY LTD ACN 147 410 580 (**Newrybar**)

AND: DENCANNON PTY LTD ACN 145 591 448 (**Dencannon**)

AND: BYRON BAY LAND DEVELOPMENT PTY LTD ACN 106 666 648 (**Byron Bay Land**)

AND: BALLINA SHIRE COUNCIL, corner Tamar and Cherry Streets, Ballina NSW 2478 (**Council**)

BACKGROUND:

- A. The Landowner is the owner of the Land.
- B. The Landowner wishes to carry out the Development if the LEP takes effect.
- C. The Landowner is prepared to make Development Contributions to the Council under s93F of the Act in connection with the making of the LEP and the carrying out of the Development in accordance with this Agreement.
- D. The Developer will enter into further and more detailed arrangements with the Council, as necessary, relating to the implementation of this Agreement in connection with any further necessary Application for a Development Consent to carry out the Development.

OPERATIVE PROVISIONS

1. Definitions & Interpretation

- 1.1 In this Agreement the following definitions apply:

Act means the *Environmental Planning and Assessment Act 1979* (NSW).

Application means a development application within the meaning of Part 4 of the Act.

CURA A means the Cumbalum Urban Release Area A as set out in the **Infrastructure Delivery Plan**.

CURA B means the Cumbalum Urban Release Area B as set out in the **Infrastructure Delivery Plan**.

CURA Link Road means the road marked as such on the Map.

Defects Liability Period means the period of 180 days on and from the date on which the Council accepts the hand-over of a Work under Clause 12 of this Agreement.

Development means any development, within the meaning of the Act, carried out on the Land and which is only permissible as a result of the making of the LEP.

Development Consent has the same meaning as in the Act.

Development Contribution means a monetary contribution, the dedication of land free of cost, the carrying out of work, or the provision of any other material public benefit, or any combination of them, to be used for, or applied towards, a public purpose.

Final Lot means a lot to be created in the Development for separate occupation and disposition not being:

- (a) a lot created by a subdivision of the Land that is to be dedicated or otherwise transferred to the Council, or
- (b) a lot created by a subdivision of the Land which may be further subdivided.

GST has the same meaning as in the GST Law.

GST Law has the meaning given to that term in *A New Tax System (Goods and Services Tax) Act 1999* (Cth) and any other Act or regulation relating to the imposition or administration of the GST.

Infrastructure Delivery Plan means the Council's document entitled '*Report on the Cumbalum Urban Release Area – Infrastructure Delivery Plan*' dated June 2011, which is contained in **Schedule 2**.

Item means an item in Column 1 of the Table in **Schedule 3**.

Just Terms Act means the *Land Acquisition (Just Terms Compensation) Act 1991*.

Land means the land shown shaded in grey on the Map, as further specified or described in Column 2 of the Table in Part 2 of **Schedule 1**.

Landowner means the entity or person named in Column 1 of the Table in Part 2 of Schedule 1 in respect of the corresponding part of the Land noted in Column 2 of the

Table in Part 2 of Schedule 1 and, unless otherwise stipulated or limited by context, means such entities and persons jointly and severally

LEP means a local environmental plan within the meaning of the Act that makes the Development permissible on the Land.

Map means the map in Part 3 of Schedule 1.

Manual means the *Northern Rivers Local Government Development & Design Manual*.

Net Developable Area means, in respect of land described in Column 2 of the Table in Part 2 of **Schedule 1**, the number of hectares specified in Column 4 of that Table corresponding to that land.

Party means a party to this agreement, including their respective successors and assigns.

Provision means any Provision by the required Developer under this Agreement.

Public Facility means a public amenity, a public service, a public facility, public land, public infrastructure, a public road, a public work, or any other act, matter or thing that meets a Public Purpose.

Public Purpose means any purpose that benefits the public or a section of the public, including but not limited to a purpose specified in s93F(2) of the Act.

Rectification Notice means a notice in writing that identifies a defect in a work and requires rectification of the defect within a specified period of time.

Registrar-General has the same meaning as in the *Real property Act 1900*.

Regulation means the *Environmental Planning and Assessment Regulation 2000*.

Responsible Landowner in relation to an Item means the Landowner described in Column 5 of the Table in Schedule 3 corresponding to that Item.

Stage means a stage approved by a Development Consent for the Development or otherwise agreed in writing between the Parties.

Subdivision Certificate has the same meaning as in the Act, and includes a 'strata certificate' under the *Strata Schemes (Freehold Development) Act 1973* and the *Strata Schemes (Leasehold Development) Act 1986*.

Work means the physical result of any building, engineering or construction work in, on, over or under land required to be carried out by the Developer under this Agreement.

1.2 In the interpretation of this Agreement, the following provisions apply unless the context otherwise requires:

1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Agreement.

- 1.2.2 A reference in this Agreement to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in Sydney.
- 1.2.3 If the day on which any act, matter or thing is to be done under this Agreement is not a business day, the act, matter or thing must be done on the next business day.
- 1.2.4 A reference in this Agreement to dollars or \$ means Australian dollars and all amounts payable under this Agreement are payable in Australian dollars.
- 1.2.5 A reference in this Agreement to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.
- 1.2.6 A reference in this Agreement to any agreement, deed or document is to that agreement, deed or document as amended, novated, supplemented or replaced.
- 1.2.7 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Agreement.
- 1.2.8 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- 1.2.9 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- 1.2.10 A word which denotes the singular denotes the plural, a word which denotes the plural denotes the singular, and a reference to any gender denotes the other genders.
- 1.2.11 References to the word 'include' or 'including' are to be construed without limitation.
- 1.2.12 A reference to this Agreement includes the agreement recorded in this Agreement.
- 1.2.13 A reference to a party to this Agreement includes a reference to the servants, agents and contractors of the party, and the party's successors and assigns.
- 1.2.14 Any schedules, appendices and attachments form part of this Agreement.
- 1.2.15 A reference to 'the reasonable satisfaction of the Council' means the reasonable satisfaction of the General Manager of the Council.
- 1.2.16 A reference to a matter being 'determined by the Council' means the matter being determined by the General Manager of the Council, acting reasonably.

2. Application of this Agreement

This Agreement applies to the Development.

3. **Status of this Agreement**

- 3.1 This Agreement commences when it has been executed by all of the Parties.
- 3.2 A Landowner is under no obligation to make the Development Contributions to the Council in accordance with this Agreement unless all of the following events have occurred:
 - 3.2.1 the LEP takes effect,
 - 3.2.2 Development Consent is granted to the Development or any part of it, and
 - 3.2.3 the Landowner carries out the Development.

4. **Further Agreements Relating to this Agreement**

- 4.1 A Landowner is not to make an Application for a Development Consent to carry out the Development unless prior reasonable arrangements have been made between the Landowner and the Council relating to the detailed implementation of any provisions of this Agreement requiring the Landowner to make Development Contributions in relation to the Development.
- 4.2 The Parties may, at any time, enter into such other agreements or arrangements relating to the subject matter of this Agreement as they consider to be necessary or desirable in order to give effect to this Agreement.
- 4.3 An agreement or arrangement referred to in clause 4.1 or 4.2 is not to alter any matter for which provision is made in the Table in **Schedule 3** and is not to be otherwise inconsistent with this Agreement.
- 4.4 Without limiting Clause 4.1 or 4.2, an agreement or arrangement referred to in those clauses may make provision for:
 - 4.4.1 the particulars of any Public Facility required by this Agreement to be made available for a Public Purpose,
 - 4.4.2 the location at which a Public Facility is to be provided and the time at which and the manner in which it will be made available,
 - 4.4.3 the particulars of any work required by this Agreement to be undertaken by the Landowner, and
 - 4.4.4 the time at which and the manner in which a Work is to be handed over to the Council.
- 4.5 A Landowner is not to prepare a development control plan, pursuant to s74D(3) of the Act or a make a staged development application under s83C(2) of the Act without the Council's written consent.
- 4.6 A Landowner is not to lodge an Application for the subdivision of Land unless the Application specifies the number of Final Lots that are intended to be ultimately accommodated on the lots to be created as a result of the subdivision.

5. **Application of s94, s94A and s94EF of the Act to the Development**

- 5.1 This Agreement does not exclude sections 94, 94A or 94EF of the Act to the Development.
- 5.2 The benefits in this Agreement are excluded from being taken in consideration under s94 of the Act.

6. **Council's Obligations**

- 6.1 If Council does not itself carry out the works for the Public Purpose to which Item 19 is to be applied, the Council is to transfer any Development Contributions received by the Council for that Item to the Roads and Maritime Services (**RMS**) or any other public authority that will carry out those works, subject to an agreement requiring the RMS or the public authority, as the case may be, to expend such amounts for those works.

7. **Provision of Development Contributions under this Agreement**

- 7.1 Subject to this Agreement, a Responsible Landowner in respect of an Item is to make the Development Contributions comprising that Item specified in the Table to **Schedule 3** in accordance with this Agreement.
- 7.2 A Development Contribution referred to in Clause 7.1 is to be made:
 - 7.2.1 in accordance with the specification in Column 1 of that Table,
 - 7.2.2 for the Public Purpose referred to in Column 2 of that Table in relation to the relevant Public Facility,
 - 7.2.3 in the form specified in Column 3 of that Table in relation to the relevant Public Facility, and
 - 7.2.4 in the manner and at the time specified in Column 3 of that Table.
- 7.3 Notwithstanding anything in this Agreement, if the Table to Schedule 3 has the effect that the Landowner required to make a Development Contribution is a Landowner who proposes only to undertake a strata subdivision, then the Landowner responsible for making the Development Contribution is the Landowner who created the lot which is to be the subject of the strata subdivision, if such a Landowner is a party to this Agreement.
- 7.4 A Development Contribution made under this Agreement is made and accepted in full and final satisfaction of all costs and expenses required to be borne by the Landowner of and incidental to the Provision of the Public Facility to which it relates.

8. **Application of Development Contributions by the Council**

- 8.1 The Landowner acknowledges that:
 - 8.1.1 a Development Contribution made by the Landowner under this Agreement is to be applied towards the Public Facility for which it is made and at the locations, in the manner and to the standards required by or under this Agreement, and

- 8.1.2 each such Public Facility is to be available for the Public Purpose relating to that facility and may be made available in the manner that best meets the demand for the facility created by the Development.

9. Monetary Contributions

- 9.1 A monetary Development Contribution is made for the purposes of this Agreement when cleared funds are deposited by means of electronic funds transfer into a bank account nominated by the Council.
- 9.2 The Landowner is to give the Council not less than 2 business days written notice of:
- 9.2.1 its intention to pay a monetary Development Contribution,
- 9.2.2 the Public Facility to which the monetary Development Contribution relates, and
- 9.2.3 the amount proposed to be paid.
- 9.3 Monetary Development Contributions are to be indexed quarterly in accordance with the following formula:

$$\frac{\$CA \times \text{Current CPI}}{\text{Base CPI}}$$

Base CPI

Where:

\$CA is the monetary Development Contribution per hectare of the Net Developable Area specified in this Agreement.

Current CPI is the *Consumer Price Index (All Groups Index) for Sydney* as published by the Australian Statistician at the time the monetary Development Contributions are made.

Base CPI is the *Consumer Price Index (All Groups Index) for Sydney* as published by the Australian Statistician at the date of this Agreement.

10. Dedication of Land

- 10.1 The Landowner referred to in Column 5 of the Table in Schedule 3 in respect of Items 10 to 19 inclusive, is to dedicate the land specified in Column 3 of the Table for those Items at the times set out in Column 4 of that Table for those Items.
- 10.2 A Development Contribution comprising the dedication of land is made for the purposes of this Agreement when:
- 10.2.1 a deposited plan is registered in the register of plans held with the Registrar-General that dedicates land as a public road (including a temporary public road) under the *Roads Act 1993* or creates a public reserve or drainage reserve under the *Local Government Act 1993*, or

10.2.2 the Council is given an instrument in registrable form under the *Real Property Act 1900* that is effective to transfer title to the land to the Council when registered.

10.3 To enable for the registration of an instrument of transfer referred to in Clause 10.1, the Landowner is to:

10.3.1 produce to the Land and Property Information the certificates of title to land to be dedicated under this Agreement or a direction allowing the certificates of title to be used for that purpose, and

10.3.2 give to the Council an irrevocable undertaking to deliver to the Council the certificates of title if that certificate or certificates are released to the Landowner by the Land and Property Information.

11. Carrying Out & Hand-over of Work

11.1 A Development Contribution comprising the carrying out of a Work is made for the purposes of this Agreement when the Council accepts the hand-over of the Work.

11.2 The Landowner is to hand-over a Work to the Council by the time specified in Column 4 of the Table in Schedule 3 corresponding to the Item of Work.

12. Rectification of Defects

12.1 The Landowner must, at its own cost, comply with any Rectification Notice given to it by the Council during the Defects Liability Period to the reasonable satisfaction of the Council.

12.2 The Landowner acknowledges that any costs incurred by the Council as a result of the Landowner's non-compliance with a Rectification Notice may be recovered by the Council as a debt due in a court of competent jurisdiction.

13. Security for obligation to dedicate land

13.1 If the Landowner does not dedicate land required to be dedicated under this Agreement at the time at which it is required to be dedicated or at all, the Landowner consents to the Council compulsorily acquiring the land for compensation in the amount of \$1 without having to follow the pre-acquisition procedures under the Just Terms Act.

13.2 Council is to only acquire land pursuant to clause 13.1 if to do so is reasonable having regard to the circumstances surrounding the failure by the Landowner to dedicate the land required to be dedicated under this Agreement.

13.3 Clause 14.1 constitutes an agreement for the purposes of s30 of the Just Terms Act.

13.4 If, as a result of the acquisition referred to in clause 13.1, the Council must pay compensation to any person other than the Landowner, the Landowner must reimburse the Council for that amount, upon a written request being made by the Council.

13.5 Except as otherwise agreed between the Parties, the Landowner must ensure that the land to be dedicated under this Agreement is free of all encumbrances and affectations (whether registered or unregistered and including without limitation any

charge or liability for rates, taxes and charges), on both the date that the Landowner is liable to transfer that land to the Council under this Agreement, and the date on which the Council compulsorily acquires the whole or any part of that land in accordance with the Just Terms Act.

- 13.6 The Landowner indemnifies and keeps indemnified the Council against all claims made against the Council as a result of any acquisition by the Council of the whole or any part of the Land.
- 13.7 The Landowner is to promptly do all things necessary, and consents to the Council doing all things necessary, to give effect to this clause 13, including without limitation:
 - 13.7.1 signing any documents or forms;
 - 13.7.2 giving land owner's consent for lodgement of any Development Application;
 - 13.7.3 producing certificates of title to the Registrar-General under the Real Property Act; and
 - 13.7.4 paying the Council's costs arising under this clause 13.
- 13.8 Notwithstanding clause 13.5, if, despite having used its best endeavours, the Landowner cannot ensure that the land to be dedicated is free from all encumbrances and affectations, then the Landowner may request that Council agree to accept the land subject to those encumbrances and affectations, but the Council may withhold its agreement in its absolute discretion.

14. Access to Land

- 14.1 A Landowner is to permit the Council, its officers, employees, agents and contractors to enter the part of the Land owned or controlled by the Landowner at any time, upon reasonable prior notice, in order to inspect, examine or test any Work or to remedy any breach by the Landowner relating to the carrying out of a Work.
- 14.2 A Landowner is to permit another Landowner to enter Land owned or controlled by the Landowner for the purposes of enabling the other Landowner to carry out any Work under this Agreement that is required to be carried out on such land or to perform any other obligation imposed on the other Landowner by or under this Agreement.

15. Enforcement

- 15.1 Without limiting any other remedies available to the Parties, this Agreement may be enforced by either Party in any court of competent jurisdiction.
- 15.2 For the avoidance of doubt, nothing in this Agreement prevents:
 - 15.2.1 a Party from bringing proceedings in the Land and Environment Court to enforce any aspect of this Agreement or any matter to which this Agreement relates,

- 15.2.2 the Council from exercising any function under the Act or any other Act or law relating to the enforcement of any aspect of this Agreement or any matter to which this Agreement relates.

16. **Registration of this Agreement**

- 16.1 The Parties agree to register this Agreement on the title to the Land.
- 16.2 Upon execution of this Agreement, the Landowner is to provide the Council with the following documents to enable registration of this Agreement:
 - 16.2.1 an instrument requesting registration of this Agreement on the title to the Land in registrable form duly executed by the Landowner, and
 - 16.2.2 the written irrevocable consent of each person referred to in s93H(1) of the Act to that registration, and
 - 16.2.3 the certificate of title for the Land.
- 16.3 The Parties are to do such things as are reasonably necessary to remove any notation relating to this Agreement from the title to the Land:
 - 16.3.1 in so far as the part of the Land concerned is a Final Lot,
 - 16.3.2 in relation to any other part of the Land, once the Landowner has completed its obligations under this Agreement to the reasonable satisfaction of the Council or this Agreement is terminated or otherwise comes to an end for any reason whatsoever.

17. **Sale of the Land**

- 17.1 The Landowner agree not to sell the Land or part of the Land, other than a Final Lot created pursuant to a Development Consent granted for the Development, assign the Landowner's rights or obligations under this Agreement to any person, or novate this Agreement to any person unless:
 - 17.1.1 the Landowner has at no cost to the Council, first procured the execution by the person with whom it is dealing of a Deed in favour of the Council on terms to the reasonable satisfaction of the Council,
 - 17.1.2 the Council, by notice in writing to the Landowner, has stated that evidence satisfactory to it has been produced by the Landowner to show that the purchaser of the Land or part, or the assignee or novatee is reasonably capable of performing its obligations under the Deed referred to in Clause 17.1.1, and
 - 17.1.3 the Landowner is not in breach of this Agreement.
- 17.2 The Landowner is not obliged to procure the agreement referred to in clause 17.1.1 if that part of the Land being sold is a Final Lot.

18. **Review of this Agreement**

- 18.1 The Parties, acting in good faith and using their best endeavours, agree to review this Agreement every 3 years, and otherwise if either party is of the opinion that any

change of circumstance has occurred that materially affects the operation of this Agreement.

- 18.2 For the purposes of Clause 19.1, the relevant changes include (but are not limited to) any change to a law that restricts or prohibits or enables the Council or any other planning authority to restrict or prohibit any aspect of the Development.
- 18.3 A failure by a Party to agree to take action requested by the other Party as a consequence of a review of this Agreement is not a dispute for the purposes of clauses 19 and 20.

19. **Dispute Resolution – expert determination**

- 19.1 This clause applies to a dispute under this Agreement which relates to a matter that can be determined by an appropriately qualified expert.
- 19.2 Any dispute between the Parties as to whether a dispute to which this clause applies can be determined by an appropriately qualified expert is to be referred to the Chief Executive Officer of the professional body that represents persons with the relevant expertise for determination, which is to be final and binding on the Parties.
- 19.3 Such a dispute is taken to arise if one Party gives another Party a notice in writing specifying particulars of the dispute.
- 19.4 If a notice is given under clause 19.3, the Parties are to meet within 14 days of the notice in an attempt to resolve the dispute.
- 19.5 If the dispute is not resolved within a further 28 days, the dispute is to be referred to the President of the NSW Law Society to appoint an expert for expert determination.
- 19.6 The expert determination is binding on the Parties except in the case of fraud or misfeasance by the expert.
- 19.7 Each Party is to bear its own costs arising from or in connection with the appointment of the expert and the expert determination.

20. **Dispute Resolution - Mediation**

- 20.1 This clause applies to any dispute under this Agreement other than a dispute to which clause 19 applies.
- 20.2 Such a dispute is taken to arise if one Party gives another Party a notice in writing specifying particulars of the dispute.
- 20.3 If a notice is given under clause 20.2, the Parties are to meet within 14 days of the notice in an attempt to resolve the dispute.
- 20.4 If the dispute is not resolved within a further 28 days, the Parties must mediate the dispute in accordance with the Mediation Rules of the Law Society of New South Wales as set out in **Schedule 4** or such amended or other Rules that are current at the time the dispute is mediated, and must request the President of the Law Society, or the President's nominee, to select a mediator.
- 20.5 If the dispute is not resolved by mediation within a further 28 days, or such longer period as may be necessary to allow any mediation process which has been

commenced to be completed, then the Parties may exercise their legal rights in relation to the dispute, including by the commencement of legal proceedings in a court of competent jurisdiction in New South Wales.

21. Notices

- 21.1 Any notice, consent, information, application or request that must or may be given or made to a Party under this Agreement is only given or made if it is in writing and sent in one of the following ways:
- 21.1.1 delivered or posted to that Party at its address set out in **Schedule 5**.
 - 21.1.2 faxed to that Party at its fax number set out in **Schedule 5**.
 - 21.1.3 emailed to that Party at its email address set out in **Schedule 5**.
- 21.2 If a Party gives the other Party 3 business days notice of a change of its address, fax number or email, any notice, consent, information, application or request is only given or made by that other Party if it is delivered, posted, faxed or emailed to the latest address or fax number.
- 21.3 Any notice, consent, information, application or request is to be treated as given or made if it is:
- 21.3.1 delivered, when it is left at the relevant address,
 - 21.3.2 sent by post, 2 business days after it is posted,
 - 21.3.3 sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number, or
 - 21.3.4 sent by email and the sender does not receive a delivery failure message from the sender's internet service provider within a period of 24 hours of the email being sent.
- 21.4 If any notice, consent, information, application or request is delivered, or an error free transmission report in relation to it is received, on a day that is not a business day, or if on a business day, after 5pm on that day in the place of the Party to whom it is sent, it is to be treated as having been given or made at the beginning of the next business day.

22. Costs

The Landowner agrees to pay the Council's reasonable costs not exceeding \$20,000 of preparing, negotiating, executing and stamping this Agreement and any document related to this Agreement.

23. Entire Agreement

This Agreement contains everything to which the Parties have agreed in relation to the matters it deals with. No Party can rely on an earlier document, or anything said or done by another Party, or by a director, officer, agent or employee of that Party, before this Agreement was executed, except as permitted by law.

24. Further Acts

Each Party must promptly execute all documents and do all things that another Party from time to time reasonably requests to effect, perfect or complete this Agreement and all transactions incidental to it.

25. Governing Law and Jurisdiction

This Agreement is governed by the law of New South Wales. The Parties submit to the non-exclusive jurisdiction of its courts and courts of appeal from them. The Parties will not object to the exercise of jurisdiction by those courts on any basis.

26. Joint and Individual Liability and Benefits

Except as otherwise set out in this Agreement, any agreement, covenant, representation or warranty under this Agreement by 2 or more persons binds them jointly and each of them individually, and any benefit in favour of 2 or more persons is for the benefit of them jointly and each of them individually.

27. No Fetter

Nothing in this Agreement shall be construed as requiring Council to do anything that would cause it to be in breach of any of its obligations at law, and without limitation, nothing shall be construed as limiting or fettering in any way the exercise of any statutory discretion or duty.

28. Representations and Warranties

The Parties represent and warrant that they have power to enter into this Agreement and comply with their obligations under the Agreement and that entry into this Agreement will not result in the breach of any law.

29. Severability

If a clause or part of a clause of this Agreement can be read in a way that makes it illegal, unenforceable or invalid, but can also be read in a way that makes it legal, enforceable and valid, it must be read in the latter way. If any clause or part of a clause is illegal, unenforceable or invalid, that clause or part is to be treated as removed from this Agreement, but the rest of this Agreement is not affected.

30. Modification

No modification of this Agreement will be of any force or effect unless it is in writing and signed by the Parties to this Agreement.

31. Waiver

The fact that a Party fails to do, or delays in doing, something the Party is entitled to do under this Agreement, does not amount to a waiver of any obligation of, or breach of obligation by, another Party. A waiver by a Party is only effective if it is in writing. A written waiver by a Party is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.

32. GST

32.1 In this clause:

Adjustment Note, Consideration, GST, GST Group, Margin Scheme, Money, Supply and **Tax Invoice** have the meaning given by the GST Law.

GST Amount means in relation to a Taxable Supply the amount of GST payable in respect of the Taxable Supply.

GST Law has the meaning given by the A New Tax System (Goods and Services Tax) Act 1999 (Cth).

Input Tax Credit has the meaning given by the GST Law and a reference to an Input Tax Credit entitlement of a party includes an Input Tax Credit for an acquisition made by that party but to which another member of the same GST Group is entitled under the GST Law.

Taxable Supply has the meaning given by the GST Law excluding (except where expressly agreed otherwise) a supply in respect of which the supplier chooses to apply the Margin Scheme in working out the amount of GST on that supply.

32.2 Subject to clause 32.4, if GST is payable on a Taxable Supply made under, by reference to or in connection with this Agreement, the Party providing the Consideration for that Taxable Supply must also pay the GST Amount as additional Consideration.

32.3 Clause 32.2 does not apply to the extent that the Consideration for the Taxable Supply is expressly stated in this Agreement to be GST inclusive.

32.4 No additional amount shall be payable by the Council under clause 32.2 unless, and only to the extent that, the Council (acting reasonably and in accordance with the GST Law) determines that it is entitled to an Input Tax Credit for its acquisition of the Taxable Supply giving rise to the liability to pay GST.

32.5 If there are Supplies for Consideration which is not Consideration expressed as an amount of Money under this Agreement by one Party to the other Party that are not subject to Division 82 of the *A New Tax System (Goods and Services Tax) Act 1999*, the Parties agree:

32.5.1 to negotiate in good faith to agree the GST inclusive market value of those Supplies prior to issuing Tax Invoices in respect of those Supplies;

32.5.2 that any amounts payable by the Parties in accordance with clause 32.2 (as limited by clause 32.4) to each other in respect of those Supplies will be set off against each other to the extent that they are equivalent in amount.

32.6 No payment of any amount pursuant to this clause 32, and no payment of the GST Amount where the Consideration for the Taxable Supply is expressly agreed to be GST inclusive, is required until the supplier has provided a Tax Invoice or Adjustment Note as the case may be to the recipient.

32.7 Any reference in the calculation of Consideration or of any indemnity, reimbursement or similar amount to a cost, expense or other liability incurred by a

party, must exclude the amount of any Input Tax Credit entitlement of that party in relation to the relevant cost, expense or other liability.

32.8 This clause continues to apply after expiration or termination of this Agreement.

33. Explanatory Note Relating to this Agreement

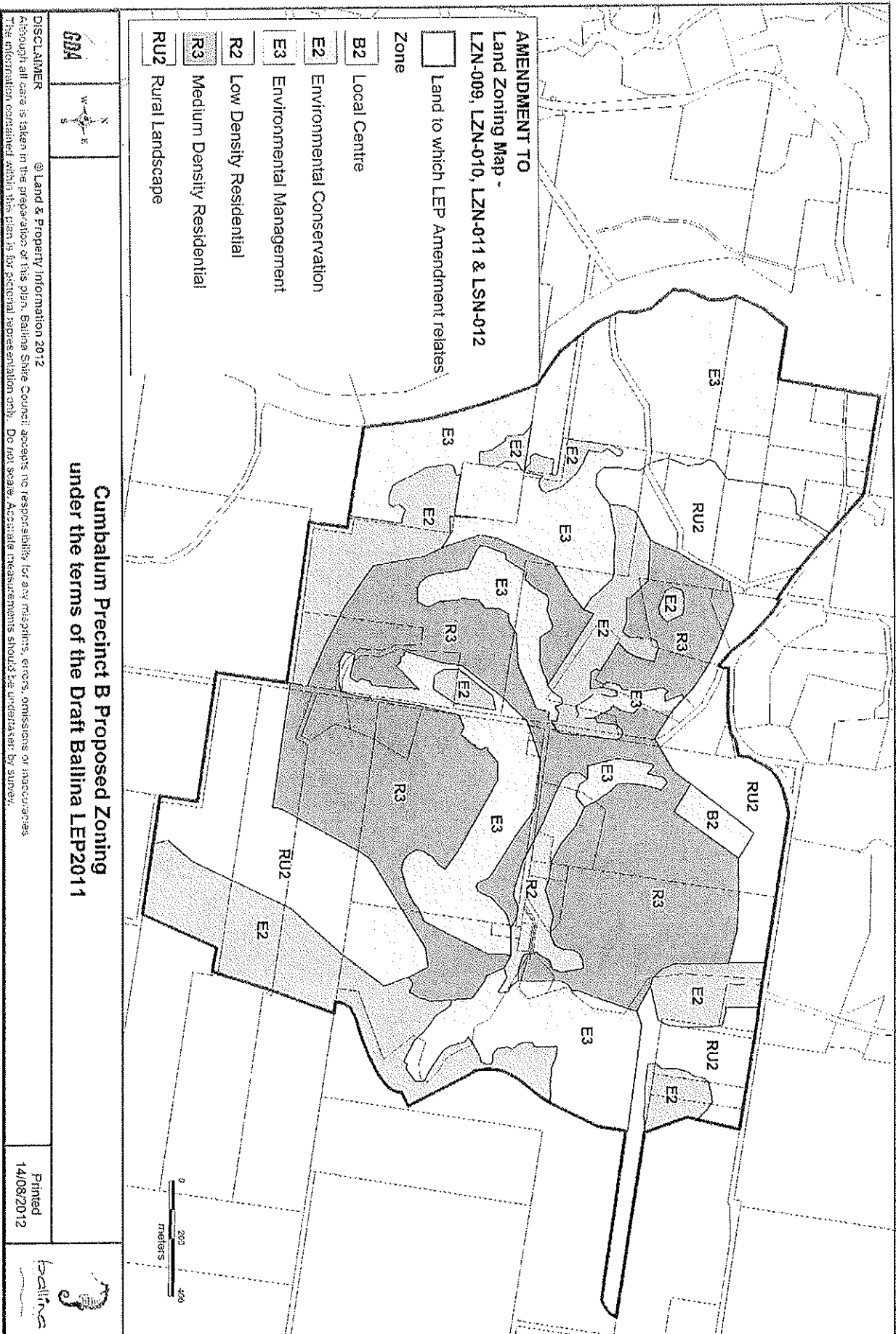
33.1 The Appendix contains the Explanatory Note relating to this Agreement required by Clause 25E of the Regulation.

33.2 Pursuant to Clause 25E(7) of the Regulation, the Parties agree that the Explanatory Note in the Appendix is not to be used to assist in construing this Planning Agreement.

SCHEDULE 1

PART 1

CUMBALUM PRECINCT B PROPOSED ZONING MAP



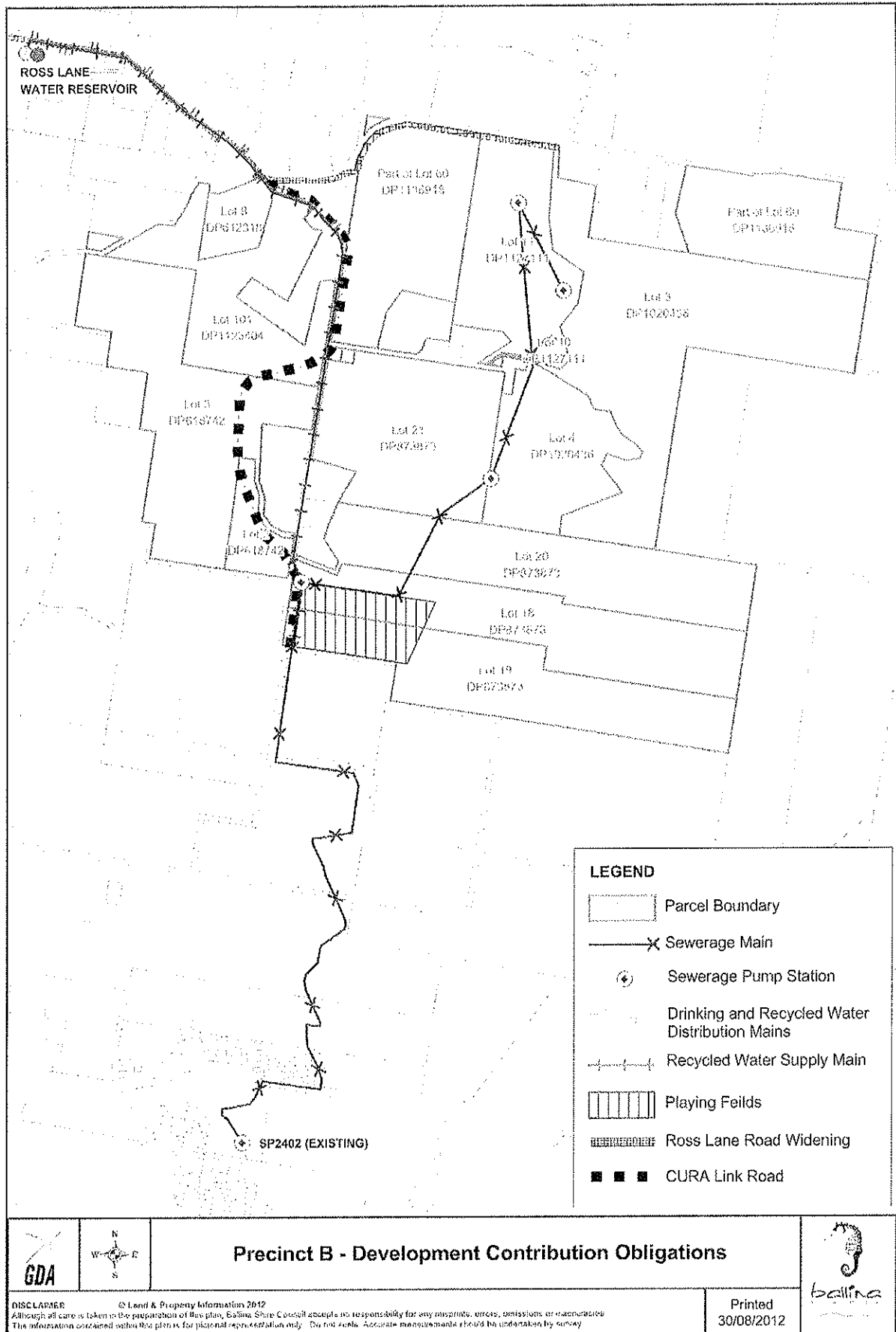
SCHEDULE 1**PART 2****LANDOWNER AND LAND FOR DEVELOPMENT**

Column 1	Column 2	Column 3	Column 4
Landowner	Land	Address	Net Developable Area
Cromdale	Lot 3 DP 618742	94 Dufficys Lane, Lennox Head NSW 2478	15.19 hectares
RM Walsh	Lot 8 DP 612318	4 Dufficys Lane, Lennox Head NSW 2478	5.16 hectares
Zali	Lot 2 DP 618742	223 Sandy Flat Road, Cumbalum	4.18 hectares
Lynn	Lot 18 DP 873873	Lot 18 Sandy Flat Road, Tintenbar NSW 2478	3.66 hectares
Lynn	Lot 19 DP 873873	Lot 19 Sandy Flat Road, Tintenbar NSW 2478	0.10 hectares
Lynn	Lot 20 DP 873873	Lot 20 Sandy Flat Road, Tintenbar NSW 2478	8.56 hectares
Lynn	Lot 21 DP 873873	Lot 21 Sandy Flat Road, Tintenbar NSW 2478	26.99 hectares
Newrybar	Lot 3 DP 1020436	246 Ross Lane, Lennox Head NSW 2478	30.57 hectares
Newrybar	Lot 4 DP 1020436		
Newrybar	Lot 11 DP1127111		
Dencannon	Lot 101 DP1123404	88 Dufficys Lane, Lennox Head NSW 2478	14.35 hectares
Byron Bay Land	Part Lot 60 DP 1136918 being the western part of that lot that comprises 34.55 ha in area	47 Dufficys Lane, Lennox Head NSW 2478	20.73 hectares
Byron Bay Land	Lot 10 DP 1127111	65 Scanlan Lane, Tintenbar NSW 2478	0.82 hectares

SCHEDULE 1

PART 3

MAP



SCHEDULE 2

INFRASTRUCTURE DELIVERY PLAN



Ballina Shire Council

Report on Cumbalum Urban Release Area Infrastructure Delivery Plan

June 2011

Revision 0

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Abbreviations

AOS	Active Open Space
BHE	Ballina Heights Estate
BLEP	Ballina Local Environmental Plan
BRWMP	Ballina Recycled Water Master Plan ('Master Plan')
BSC	Ballina Shire Council ('Council')
CURA	Cumbalum Urban Release Area
DCP	Development Control Plan
DSP	Development Servicing Plan
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
ET	Equivalent Tenement
IDP	Infrastructure Delivery Plan
LEP	Local Environmental Plan
LES	Local Environmental Study
MBR	Membrane Bioreactor
NCUPS	North Coast Urban Planning Strategy
NSWPW	New South Wales Public Works
POS	Passive Open Space
RWTP	Recycled Water Treatment Plant ¹
SPS	Sewage Pump Station
UDR	Urban Dual Reticulation
ULRS	Urban Land Release Strategy
UOS	Urban Open Space
VPA	Voluntary Planning Agreement
Vpd	Vehicles per day
W&SIPR	Water and Sewerage Infrastructure Planning Report
WWTP	Waste Water Treatment Plant

¹ Receives wastewater and treats it to a recycled water standard for reuse.

Executive Summary

The purpose of the IDP is to consolidate and clarify the infrastructure requirements, commitments and expectations that relate to future development of the Cumbalum Urban Release Area (CURA) comprising Precinct A, Precinct B and Ballina Heights Estate.

A substantial portion of Ballina Heights Estate has been developed to date with infrastructure planning generally in place to accommodate the residential and commercial and community uses proposed. Council has received and is processing rezoning submissions from the development proponents of land within both Precinct A and Precinct B of the CURA (each having separate landholder interests and separate rezoning submissions).

Council has prepared this IDP to ensure appropriate urban infrastructure and facilities are available to the CURA or can be provided to the CURA in a manner which does not create an unreasonable or uneconomic demand, or both, for the provision or extension of such services.

This IDP includes consideration of roads, water and sewerage infrastructure as well as open space and community facilities for CURA. The management of passive open space areas that might be dedicated to Council is also discussed. The summary of findings for each type of infrastructure is discussed herein.

Roads

The road layout proposed for Precinct A and B is considered achievable, however the following points need to be carefully considered in preparing subdivision and external connection design layouts:

- ▶ The number of intersections from Precinct B to Ross Lane should be rationalised;
- ▶ In some instances it may not be possible to strictly meet the Geometric Road Design Specifications of the Northern Rivers Local Government Design Manual due to local topography. Any deviations from the manual will need to be clearly identified in future design plans for Council's consideration;
- ▶ The Sandy Flat Road upgrade should be designed with a form that seeks to direct as much Precinct A north bound traffic and Precinct B south bound traffic to Tamarind Drive (formerly old Pacific Highway) as possible. This may involve straightening out the Sandy Flat Road alignment to provide a more direct route. The Sandy Flat Road intersection with Tamarind Drive may reach capacity and function below the intended design standard; and
- ▶ Internal subdivision layouts should take account of the road noise and access amenity of allotments proposed to adjoin sub-arterial roads. Local streets crossing perpendicular to sub-arterial roads (i.e. four-way intersections) should be avoided.

Water Supply

Following the completion of the new Knockrow Service Reservoir by Rous Water (anticipated in 2012), and the Ballina Heights Reservoir (2012) (including approval and realignment of the existing DN375 supply main) there is little impediment foreseen to the implementation of the intended water supply strategy for Precinct A.

Completion of the new Knockrow Service Reservoir, new bulk supply main from Knockrow Reservoir and the new Ross Lane Reservoir and booster pump infrastructure are limiting factors in the provision of water supply for Precinct B (refer to Appendix F).

Recycled Water

Following determination of the EIS by Council for the recycled water infrastructure, and the subsequent construction of the Ballina Heights Recycled Water Reservoir and bulk supply main (2012), there is little impediment foreseen to the implementation of the recycled water supply strategy for Precinct A.

In addition to the above works, construction of the new Ross Lane Recycled Water Reservoir and an extension of the bulk supply main from Ballina Heights are limiting factors in the provision of recycled water supply for Precinct B (refer to Appendix G).

Sewerage

The ability to provide a sewer service to CURA is severely restricted until the upgrade of Ballina RWTP is completed and flows from BHE SPS 2402 can be diverted direct to this RWTP. Since the completion of the optimisation upgrade of Lennox Head RWTP there may be interim capacity for development of Lot 284 DP1141745 within the southern portion of Precinct A, subject to the timing of other Ballina Heights development.

Following commissioning of the Ballina RWTP and diversion of the Ballina Heights rising mains, the remaining limitations for Precinct A are the necessary upgrade of two catchment pump stations as detailed in Table 20 and the construction of BHE-PS3 as the primary pump station servicing BHE and Precinct A.

Post the upgrade of the Ballina RWTP, the ability to service Precinct B remains restricted by the capacity of PS 2402, and particularly the capacity of the Ballina Heights rising mains to Ballina RWTP. Council's preferred servicing strategy allows for utilisation of existing infrastructure capacity in Precinct A / BHE in the initial development stages for Precinct B. However, the availability of existing capacity would depend on the progress of development in Precinct A and BHE.

The allowance of a rising main corridor through or around the perimeter of Precinct A and BHE will also be necessary to service Precinct B. Refer to Figure 6A, Appendix H for the intended sewerage servicing strategy.

Open Space

New and augmented regional open space and recreation facilities are included within the BSC Contributions Plan (2008) and the rates of provision will be applied accordingly; refer to Table 23. However, local and district parks and playing fields/courts required to meet the demands of development in CURA will be addressed by other contribution arrangements outside of this Plan. Specific inclusions for CURA are detailed in Section 9.1.1.

Council's desired outcome for Cumbalum's Active Open Space (AOS) is the provision of playing fields, outdoor courts and amenities for Precinct A and B adjacent to each other to the north of Sandy Flat floodway² on the northern end of Lot 150 DP755684 (Barlow's property – Precinct A) and Lot 19 DP873873 (Lynn's property – Precinct B) respectively. It is recommended that proponents for each precinct come to an arrangement to provide different field and court types to avoid duplication and create a variety of sporting options. The facilities chosen should also reflect the demands identified for particular venues within the district and shire.

Dedications of areas of undevelopable land (including steep land), are not recognised for inclusion within the dedication of land for open space. It is Council's preferred option that undevelopable land will be created as a community title lot in a community title scheme that has sufficient financial capacity to maintain these areas.

Community Facilities

Specific district community facilities (halls and community centres) for CURA will be addressed by other contribution arrangements outside of the Plan. However, for the purposes of this IDP the minimum standard for district community facilities has been applied as specified in the Community Facilities Standards contained in the Community Facilities Strategy (BSC, 2008); refer to Table 24.

Options for Delivery of Contribution Plan Infrastructure

Items of infrastructure included in the DSP's and Contribution Plans may be provided by Council, with developers contributing through payment of development contributions.

Alternatively, subject to agreement with Council, developers could construct items of infrastructure and receive credits on development contributions otherwise payable. In this circumstance the works would be detailed in a Project Brief including a detailed cost estimate of the works that would otherwise be contributed too. Council will oversee the design and construction of such works. Typically Council will condition the levying of contributions and where the developer wishes to construct the works they would approach Council, outlining their proposal to do so.

² Subject to demonstrated flood immunity, negligible impact on flooding and ecological values.

Options for the delivery and funding of infrastructure not currently captured by a contribution or development servicing plan can be dealt with through implementation of Planning Agreements. Council may enter an agreement with an individual developer or a development corporation. Infrastructure items currently fully or partially sitting outside of Development Servicing and Contribution Plans are outlined in Table 1 below.

Table 1 Summary of Items Currently Outside of Contributions Plans

Trunk Item	Outside of:	Comment
Roads – Ballina Heights Drive (Precinct A)	Roads Contributions Plan (2010)	Excluded as the works meet the criteria outlined in Section 10.3
Roads – North-South link road (Precinct B)	Roads Contributions Plan (2010)	
Roads – Duplication of Cumbalum Interchange roundabouts	Roads Contributions Plan (2010)	Potential works documented as part of later CURA Traffic Study (Cardno, 2011)
Roads – Duplication of Ross Lane Interchange roundabout and Pacific Highway overpass	Roads Contributions Plan (2010)	
Roads – Precinct B connections to Ross Lane	Roads Contributions Plan (2010)	
Water Supply – Precinct A	Water DSP (2004)	Arrangement required to service proposal differs to 2004 DSP allowance. Works that meet the criteria outlined in Section 10.3 are proposed to be excluded in revised DSP, subject to exhibition and Council adoption processes
Water Supply – Precinct B	Water DSP (2004)	
Recycled Water – Precinct A	Sewerage DSP (2004)	
Recycled Water – Precinct B	Sewerage DSP (2004)	Not included in 2004 DSP. Works that meet the criteria outlined in Section 10.3 are proposed to be excluded in revised DSP, subject to exhibition and Council adoption processes
Sewerage – Precinct A	Sewerage DSP (2004)	Arrangement required to service proposal differs to 2004 DSP allowance. Works that meet the criteria outlined in Section 10.3 are proposed to be excluded in revised DSP, subject to exhibition and Council adoption processes
Sewerage – Precinct B	Sewerage DSP (2004)	
Open Space - local and district parks and playing fields/courts (Precinct A and B)	BSC Contributions Plan (2008)	Rates of provision documented in the BSC Contributions Plan can be used for guidance.

1. Introduction

1.1 Planning Context

Ballina Shire Council resolved at its Ordinary Meeting held on 23 August 2007 to initiate the rezoning process for land within the Cumbalum Urban Release Area (CURA). The land, identified on the map in Appendix A labelled 'Cumbalum Urban Release Area precinct boundaries for the purpose of rezoning', includes lands identified as 'Precinct A' and 'Precinct B' of the CURA as identified in Council's Cumbalum Structure Plan.

The CURA, comprising approximately 1,400 hectares of land³, was first identified as having potential for future urban development in 1995 when it was identified in the NSW Government's North Coast Urban Planning Strategy (NCUPS). The subject land was subsequently identified in Council's Urban Land Release Strategy and zoned 1(d) Rural (Urban Investigation) Zone in the Ballina Local Environmental Plan 1987. More recently, the area was identified in the NSW Government's Far North Coast Regional Strategy as a potential future release area.

It is noted that the zone objectives of the 1(d) urban investigation zone include:

(c) to ensure that the release of land for urban purposes, by rezoning, shall not take place unless -

- (i) urban structure planning has been completed by the council;*
- (ii) the council reviews urban suitability investigations for individual planning units, and detailed land use allocations for each planning unit have been determined by the council;*
- (iii) sufficient demand exists for the release of urban land; and*
- (iv) appropriate urban infrastructure and facilities are available to the land or can be provided to the land in a manner which does not create an unreasonable or uneconomic demand, or both, for the provision or extension of such services.***

Pursuant to the provisions of the Ballina LEP with respect to the 1(d) zone objectives and in the pursuit of good planning, Council prepared an urban structure plan for the locality (adopted July 2006). The Cumbalum Structure Plan involved a broad assessment of land suitability and identified key planning issues, development objectives and identified potential development precincts within the broader study area. This work identified the potential for two (possibly three) distinct urban localities (referred to as Precincts A, B and C). Key issues identified in the Cumbalum Structure Plan relating to potential future development, that require detailed consideration at rezoning stage, include land slip, flooding, habitat values and the impacts of the Ballina Bypass of the Pacific Highway (construction underway).

Council sought and received from the Department of Planning specifications for the preparation of a Local Environmental Study (LES) for the CURA. The Department's LES specifications direct Council to address a number of matters, including the following:

- ▶ Assessment of environmental hazards including flooding, soft soils, acid soils and slope hazard;
- ▶ Assessment of environmental values including flora and fauna, visual amenity, and agricultural values of the subject land and of adjacent rural land; and
- ▶ Details regarding the delivery and coordination of water supply, sewerage and roads infrastructure.

The Cumbalum Structure Plan, endorsed by Council and the NSW Department of Planning, identifies the need for an Infrastructure Delivery Plan (IDP) to be prepared for the CURA as part of rezoning investigations.

1.1.1 Rezoning Status

Council has received rezoning submissions from the development proponents of land within both Precinct A and Precinct B of the CURA (each having separate landholder interests and separate rezoning submissions). Council

³ Inclusive of Precincts A, B and C.

has engaged a consultant to prepare a separate Local Environmental Study (LES), for each precinct. The LES preparation process is staged as shown in the flow diagram provided in Appendix B, with Precinct A and Precinct B presently at Stage 4.

1.2 IDP Purpose

The purpose of the IDP is to **consolidate and clarify the infrastructure requirements, commitments and expectations** that relate to future development of the CURA (Precinct A and Precinct B)⁴, as a basis for Development Contribution Plans and Developer Agreements.

1.3 IDP Scope

This IDP includes consideration of roads, water and sewerage infrastructure as well as open space and community facilities for CURA. The management of passive open space areas that might be dedicated to Council is also discussed.

For the above mentioned infrastructure the scope of the IDP is to:

- ▶ Outline the broader (infrastructure) planning context for future urban growth, with respect to infrastructure provision including existing Development Servicing Plans (DSPs), infrastructure works programs and Development Contributions Plans; The IDP references these plans which establish the:
 - Commitment of infrastructure delivery by Council at key stages; and
 - Requirements/expectations for infrastructure delivery by developers at key stages.
- ▶ Identify infrastructure contingencies and bottlenecks where these exist;
- ▶ Outline the assumed sequence and timing for future development; and
- ▶ Outline funding options available outside of Development Servicing and Contributions Plans.

1.4 IDP Approach

The approach for preparation of this IDP has been:

- ▶ Reviewing existing documentation relating to the matter including State and local strategic plans, development servicing plans, relevant infrastructure studies and technical reports lodged with rezoning submissions;
- ▶ Considering the key social and environmental issues, relevant to the provision of infrastructure;
- ▶ To determine the scale and scope of infrastructure required and/or offered as part of the rezoning/development proposal including active and passive open space areas that might be dedicated to Council;
- ▶ Identifying what additional engineering details are required and how and by whom (Council or development proponents) the information is obtained;
- ▶ Instigate a hold point until the completion of broader infrastructure planning & design work;
- ▶ Use the information available to document the draft IDP as per the Scope defined in Section 1.3;
- ▶ Meet with representatives of the Department of Planning, to confirm the approach is acceptable to the Department;
- ▶ Obtain internal review comments on the draft and revise where necessary;
- ▶ Obtain feedback from rezoning proponents on the advanced draft; and
- ▶ Prepare the final IDP.

⁴ For the purposes of this IDP, Precinct C of CURA is excluded as no rezoning proposal has been submitted to date.

2. CURA Description

The Cumbalum Urban Release Area is located approximately 7.5km northwest of Ballina and 5.5km west of Lennox Head (BSC Structure Plan, 2006). The area extends along the Cumbalum Ridge generally from the northern extent of Ballina Heights residential estate to Ross Lane in the north.

The area consists of a series of elevated ridges that run along the coastal escarpment of the boundary of the Alstonville Plateau and the Richmond Valley Floodplain. The ridgeline is dissected by the Sandy Flat floodplain which runs in an east-west orientation near the centre of the study area (BSC Structure Plan, 2006).

The land which is the subject to this IDP is known as 'Precinct A' and 'Precinct B' and is identified on the map in Appendix A labelled 'Cumbalum Urban Release Area precinct boundaries for the purpose of rezoning'.

2.1 Precinct A

The land which is the subject of the rezoning application within Precinct A occupies approximately 228 hectares between the northern extent of 'Ballina Heights' and the northern extent of Sandy Flat floodplain, and between Ballina Nature Reserve (eastern extent) and the new Pacific Motorway alignment (western extent). The constituent lots are summarised in Table 2 below.

Table 2 Precinct A Lot Areas

Owner	Lot	DP	Area (ha)
Vixsun Pty Ltd	1	1077982	9.1
	284	1141745	22.8
Sheather	79	755684	32.4
	85	755684	16.2
	Part 18	1022777	17.0
	Part 190	1063589	7.4
Intrapac	20	1022777	35.6
Barlow	150	755684	16.2
	333	755684	40.1
	3	517149	7.5
	3	823662	23.7
Total Area			227.9

2.1.1 Other lots excluded from the rezoning proposal

It is acknowledged that the structure plan precinct boundary includes additional properties within Precinct A however the owners do not wish to be involved with the current rezoning process. Portions of these properties may have potential for residential development in the future and for the purpose of infrastructure sizing Council has estimated an equivalent tenement allowance (see 'Precinct A – Potential' in Table 8).

2.1.2 Structure Plan

Figure 6 - Precinct A Concept Land Use (Structure) Plan is included in Appendix C (APP, 2010). For the purposes of understanding the integration with Ballina Heights, Figure 2A – Ballina Heights Concept Landscaping and Feature Plan is also provided in Appendix C. The following land uses have been proposed for Precinct A:

- ▶ Mixed use residential area and density;
- ▶ Large lot residential;
- ▶ Environmental protection;
- ▶ Small lot farms;
- ▶ Aged care facility; and
- ▶ Open Space.

Generally the layout is described by APP (Rezoning Submission, 2008) as:

- ▶ Future urban (village style) development comprising for varying housing densities, commercial and special uses consistent with zone 2(b) – Village Area Zone of the current Ballina Local Environmental Plan (BLEP).
- ▶ Larger rural residential lots that provide an interface between urban areas and the adjacent rural lands and to assist in separating and defining the village footprints. These lots could combine environmental living lots that would enable low impact residential development in areas with certain ecological, scientific or aesthetic values.
- ▶ Open space and/or environmental protection zones over land of higher ecological and corridor value.

2.1.3 Staging

The staging sequence is not defined for the development footprint, however APP indicate the development proponents wish to develop the Vixsun property (Lot 284 DP114745) directly adjoining the northern end of Ballina Heights first. This area is proposed to comprise mixed use residential lots and open space.

APP (2009) states that the rezoning “will provide the ability for the Cumbalum Ridge to be developed in a south to north direction...which will enable the efficient and economic roll out and delivery of public infrastructure and services...” Therefore stages are most likely to proceed from south to north.

2.1.4 Yields

The lot layouts shown in the conceptual lot layout diagram are for an average density outcome with lot sizes generally around 600m² (APP, 2010). Section 5.6, Table 5.2 of APP revised Infrastructure Services Plan details the following Lot densities shown in Table 3 below. Yield estimates for each scenario have been calculated on the basis of 2.7 equivalent persons (EP) per lot⁵ (equivalent tenement (ET)).

Table 3 Precinct A – Indicative lot, dwelling and population yield for Average and High Density Scenarios

Scenario	Indicative residential lot yield	Indicative dwelling yield*	Indicative population yield (@ 2.7 persons/dwg)
Average Density	675	705	1904
High Density	858	896	2419
Mean value of above scenarios	767	801	2162

*Indicative dwelling yield includes provision for Duplexes. Estimated on the ratio of indicative residential lot yield to dwelling yield of 1.044 per Table 1 – Ballina Heights Land Use Budget – Zoned Areas in BSC Combined DCP, Chapter 1 Urban Land, Policy Statement 14 – Ballina Heights Estate (Draft 2010).

It is evident from Table 3 that a population ranging from approximately 1900 to 2400 persons is estimated for the average and high density lot yield scenarios respectively.

⁵ As per table 2.1 of BSC Contributions Plan 2008.

2.2 Precinct B

Precinct B occupies approximately 473 hectares of land between the northern extent of Sandy Flat floodplain and Ross Lane (northern extent), and between Ballina Nature Reserve (eastern extent) and the new Pacific Motorway alignment (western extent) (LandPartners Sustainability Planning Report v1, 2009).

The constituent lot areas by ownership are summarised in Table 4 below. Properties identified in the Table are also presented in *Precinct B Investigation Area Land Ownership* (APP, January 2009) contained in Appendix C. Note the ownership situation is currently uncertain due to recent and pending land sales.

Table 4 Precinct B Lot Areas

Owner	Area (ha)
Bullenah Community Developments	123.0
Byron Bay Property Development	186.2
Owen Lynn Properties	164.2
Total Area	473.4

2.2.1 Other lots excluded from the rezoning proposal

It is noted that the structure plan precinct boundary includes additional properties within Precinct B (to the south of Ross Lane) however the owners do not wish to be involved with the current rezoning process. Additionally the Structure Plan includes a portion of land to the north of Ross Lane within Precinct B that has been deferred from consideration at this time. Some of these properties may have potential for residential development in the future and for the purpose of infrastructure sizing Council has estimated an equivalent tenement allowance (see 'Precinct B – potential' (south of Ross Lane) and 'Precinct B – deferred (north of Ross Lane)' in Table 8).

2.2.2 Structure Plan

The *Precinct B Structure Plan* is included in Appendix C (LandPartners, 2010). The following landuses have been proposed:

- Lower Density Residential;
- Medium Density Residential;
- Business;
- Retail;
- Community;
- Light Industrial;
- Open Space / Bushland;
- Active Open Space;
- Stormwater Retention Areas; and
- Wildlife Corridor.

Generally the layout is described by LandPartners (Planning Report v2, 2009) as:

- Main village centre near Ross Lane on the edge of the plain and the foot of the northeastern facing slope. Located to capitalise on movement economy with position in relation to the retail population catchment and street network;
- Northwest Duffcys Lane Neighbourhood Centre located on a main through road to Ross Lane, servicing the northwest catchment, with corner store medium density residential and small business;

- Sandy Flat Neighbourhood Centre on the link road to Precinct A, with primary school, local shop, community facilities and playing fields; and
- Medium density development in walking distance of the village centre and along main traffic arteries.

2.2.3 Staging

The staging of the development is proposed to follow the sequence outlined in Table 5 below and the *Draft Preliminary Staging Plan* (LandPartners, 2009) contained in Appendix C.

Table 5 Precinct B Preliminary Staging Sequence

Stage	Location description
1	Light industrial on Ross Lane to the north-east of the precinct
1N	Retail, Business, Medium density residential adjacent Ross Lane in the north-east of the precinct – referred to above as 'Main Village'
1S	Retail, Medium density residential, Low density residential to the east of 'Cumbalum Way' in the south-east of the precinct – Sandy Flat Neighbourhood Centre
2N	Medium density residential, Low density residential in the mid north of the precinct
2Sa, 2Sb	Medium density residential, Low density residential in the south of the precinct
3N	Retail, Business, Medium density residential, Low density residential, adjacent Ross Lane in the north-west of the precinct – referred to above as Northwest Duffcys Lane Neighbourhood Centre
3S	Low density residential in the east of the precinct
4	Medium density residential, Low density residential in the mid west of the precinct
5	Low density residential in the west of the precinct
6	Medium density residential, Low density residential in the north west of the precinct

- It is evident from the preliminary staging layout that development of Stage 1 is proposed in the north and south of the precinct. Therefore it is likely that the majority of water and sewerage infrastructure outlined in the DSP's will need to be provided in full to service the development.

2.2.4 Yields

LandPartners (2010) have provided maximum estimated lot yields for Precinct B.

Table 6 Precinct B – Maximum Estimated Dwelling Yields

Minimum lot sizes (m ²)	Gross area (ha)	Dwelling density per ha	No. of dwellings
300	62.2	22	1,370
450	88.3	15	1,320
600	31.5	11	350
900	4.5	25	110
Total	186.5	...	3,150

This yields an average (maximum) density of 16.9 dwellings per hectare. LandPartners (2010) indicate that a range of factors are likely to decrease the maximum lot yield including:

- ▶ The provision of infrastructure;
- ▶ Site specific subdivision design requirements;
- ▶ Developer preference for larger lots; and
- ▶ Land being withheld from the market.

However, an average density scenario has not been provided to account for the likely decrease in maximum lot yield. For the purposes of consistency, the ratio of average to maximum yields for Precinct A (0.79) has been used to estimate an average yield for Precinct B. Yield estimates for each scenario have been calculated on the basis of 2.7 equivalent persons (EP) per lot⁶ (equivalent tenement (ET)).

Table 7 Precinct B – Dwelling and population yield for Average and High Density Scenarios

Scenario	Indicative dwelling yield	Indicative population yield (@ 2.7 persons/dwg)
Average Density	2,478	6,691
High Density	3,150	8,505
Mean value of above scenarios	2,814	7,598

2.3 Ballina Heights

The Ballina Heights Estate – Development Control Plan (Draft 2010) includes a revised landuse budget in Table 1 of the document. The data from this table is summarised in Table 8 below. For the purposes of deriving an infrastructure servicing strategy for all of CURA these values have been adopted.

2.4 Estimated CURA Population

The estimated population for CURA includes:

- ▶ Ballina Heights Estate at ultimate development;
- ▶ Precinct A rezoning at ultimate development;
- ▶ Precinct B rezoning at ultimate development;
- ▶ Summerhill Crescent current development[#].

For the purposes of infrastructure planning the population is also considered to include:

- ▶ Land within Precinct A, but excluded from the current rezoning with development potential;
- ▶ Land within Precinct B, but excluded from the current rezoning with development potential; and
- ▶ The deferred portion of Precinct B to the north of Ross Lane.

The indicative population yield for CURA is summarised in Table 8 below.

⁶ As per table 2.1 of BSC Contributions Plan 2008.

Table 8 CURA Indicative Population Yield

CURA Component	Approximate land area (ha)	Indicative residential lot yield	Indicative dwelling yield* (ET)	Indicative population yield (2.7 persons/dwg)
Summerhill Crescent [#]	...	35	35	95
BHE	211	1,035	1,081	2919
Precinct A [^]	228	767	801	2163
Precinct A – potential	4	19	20	54
Precinct B	473	2,695	2,814	7598
Precinct B – potential (south of Ross Lane)	24	120	125	338
Precinct B – deferred (north of Ross Lane)	46	229	239	646
Total	986	4900	5115	13813

[^]Figures based on those derived in Table 3.

*Indicative dwelling yield includes provision for Duplexes. Estimated on the ratio of indicative residential lot yield to dwelling yield of 1.044 per Table 1 – Ballina Heights Land Use Budget – Zoned Areas in BSC Combined DCP, Chapter 1 Urban Land, Policy Statement 14 – Ballina Heights Estate (Draft 2010).

[#]The recent low pressure sewerage system installation only has capacity for approximately 35ET. Augmentation of the sewerage system would be necessary to achieve dual occupancy development.

For the purposes of planning for future infrastructure the values in this table have been adopted for this delivery plan.

3. Development Servicing Plans

3.1 What are DSPs / Contribution Plans?

Development Servicing Plans (DSP) / Contribution Plans are documents that detail developer contributions to be levied on development areas utilising a service provider's infrastructure such as water, sewerage and roads infrastructure. DSP's also provide timing and expenditures for implementation of capital works and outline standards of service.

3.2 What are Development Contributions?

Development contributions are contributions made by those undertaking development approved under the EP&A Act toward the provision of public services and public amenities. Development contributions are addressed under Divisions 6 and 6A of Part 4 of the EP&A Act.

There are different classes of development contributions provided for under the EP&A Act:

- ▶ Special infrastructure contributions;
- ▶ Local infrastructure contributions, which may be either Section 64 contributions (see Section 3.5), Section 94 contributions or section 94A fixed rate levies;
- ▶ Contributions included in voluntary planning agreements; and
- ▶ Contributions toward the provision of affordable housing.

Section 94 of the EP&A Act authorises a consent authority responsible for determining a development application to grant consent to the proposed development subject to a condition:

- ▶ Requiring the payment of a monetary contribution; or
- ▶ The dedication of land free of cost; or
- ▶ A combination of them towards the provision of public amenities and public services (public facilities) to meet the development.

A condition may only be imposed under section 94 towards the future provision of public facilities:

- ▶ If the proposed development will or is likely to require the provision of, or increase the demand for, public facilities within the local government area; and
- ▶ To require a reasonable dedication or monetary contribution for the provision, extension or augmentation of the public facilities concerned.

A condition may be imposed under section 94 towards the recoupment of the cost of public facilities previously provided if:

- ▶ The consent authority has, at any time, provided public facilities within the local government area in preparation for or to facilitate the carrying out of development in the area, and
- ▶ Development for which development consent is sought will, if carried out, benefit from the provision of those public facilities.

3.3 Ballina Shire Contributions Plan

New residential development is expected to occur in the Shire in the future with Cumbalum Ridge anticipated to contribute the major share of population growth and demand on public facilities. Cumbalum Ridge is expected to contribute an additional 7770 persons by 2026 (BSC Contributions Plan, 2008).

The BSC Contributions Plan (2008) enables Council to levy Section 94 contributions for certain public amenities and services including Open Space and Community Facilities where new development will or is likely to increase the demand for these facilities.

3.3.1 Open Space

The Open Space Strategy (BSC, June 2008) identified that Council will need to facilitate the provision of a range of local, district and regional level open space and recreation facilities to meet expected demand, including:

1. New local parks and embellishment of new and existing local parks;
2. New district parks and embellishment of new and existing district parks;
3. New playing fields, outdoor sports courts and other active recreation facilities; and
4. New and augmented regional open space and recreation facilities.

Council will require contributions from developers under the Contributions Plan (BSC, 2008) toward the provision of facilities and services identified by the Plan for CURA. Contributions may be monetary, works in kind, land dedications or a combination of these. Any works in kind would require prior approval and agreement with Council.

For CURA local and district parks and playing fields/courts (Items 1 – 3 above) are not included in Table 1.2.1 of the current BSC Contributions Plan.

3.3.2 Community Facilities

The Community Facilities Strategy (BSC, June 2008) identified that Council will need to facilitate the provision of a range of district and regional level community facilities to meet expected demand, including:

1. New and augmented multipurpose halls and community centres;
2. New performing arts spaces;
3. New public exhibition spaces;
4. New facilities for surf lifesaving;
5. Additional library area and books;
6. Additional floor area for civic administration purposes; and
7. New community support floor area.

For CURA district community facilities (Item 1 above - halls and community centres), are not included in Table 1.2.1 of the current BSC Contributions Plan. For an overview of open space and community facility contributions applicable to Precinct A and B refer to Section 9 of this report.

3.4 Rous Water Development Servicing Plan – Bulk Supply Services

The Rous Water Development Servicing Plan (2009) covers water supply developer charges for the provision of bulk water to the areas serviced by the Rous Water bulk supply service scheme in accordance with Section 64 of the Local Government Act 1993. The contribution levied by the DSP is collected through the imposition of conditions of consent by the constituent Council (BSC).

Future capital works have been identified by Rous Water for new system assets, renewals and improved level of service (LOS). With reference to future demand created on the supply system by Cumbalum, Rous Water is in the process of initiating construction of a new 10ML reservoir at Knockrow for completion by 2011.

3.5 BSC Water Supply and Sewerage Infrastructure – Development Servicing Plans

The BSC Water Supply Infrastructure DSP (2004) and Sewerage Infrastructure DSP (2004) outline timing and expenditures for implementation of water supply and sewerage works. The plans also detail developer charges for the provision of water supply and sewerage to the areas serviced by Council's supply scheme in accordance with Section 64 of the Local Government Act 1993.

The DSP's state that they will be updated every 5 to 6 years and at the time of completing the IDP Council was in the process of revising the DSP's to ensure currency. The revision will incorporate recycled water infrastructure

provision in the Water DSP enabling Council to recover expenditure for this expanded scheme. The revision of the DSP's will have implications for the provision of future infrastructure for CURA.

As of March 2011 the revised Sewerage DSP (GHD) had been submitted to Council for comment. Following review, the revised Sewerage DSP will be subject to a public exhibition and adoption by Council.

For detail on water supply and sewerage capital works required for servicing CURA refer to Section 6 and Section 8 of this report, respectively.

3.6 Ballina Shire Roads Contributions Plan

The adopted BSC Roads Contributions Plan came into effect in March 2010. This Plan is principally concerned with the imposition of conditions of consent requiring development contributions for local infrastructure under Section 94 of the EP&A Act.

The Plan identifies necessary future road works within a works schedule which includes a number of items specifically relevant to CURA, as detailed below:

Item 20

- ▶ Ross Lane Improvements – West (between potential Cumbalum Way connection and the Pacific Highway interchange);
- ▶ Ross Lane Improvements – East (between potential Cumbalum Way connection and the Coast Road);
- ▶ Ross Lane Improvements – East (Land Component).

The specific improvements are detailed in Appendix III, Technical Background Report Volume 2, Item 20 - Ross Lane Improvements and Cost Estimate Study (Cardno, 2009) and are discussed further in Section 5.5 of this report. The BSC Contributions Plan (BSC, 2010) indicates that funding will not be available for the improvements to Ross Lane for 10-15 years, that is, 2020 – 2025.

Items 31 – 33 and 34

- ▶ Ballina Heights Drive⁷ (Stage 1 only – Ballina Heights); and
- ▶ Cumbalum Interchange.

Information regarding the basis of the cost estimate for the above items is provided in *Appendix III, Technical Background Report Volume 2, Items 31-33 - Cumbalum North-South link Cost Estimate Study* (Cardno, 2009) and *Item 34 – Cumbalum Interchange* (Cardno, 2009). The BSC Contributions Plan (BSC, 2010) indicates that funding will be available for Stage 1 of Ballina Heights Drive within the next 1-5 years, that is, 2010 – 2015. These works are discussed further in Section 5.1 of this report.

3.6.1 Remainder of Ballina Heights Drive / North-South link road

The remainder of Ballina Heights Drive (north of Ballina Heights) and the North-South link road (within Precinct B) has not been considered in the Shire wide Roads Contribution Plan. Council reasoned if CURA does not proceed then there would be no need for the remainder of Ballina Heights Drive or the North-South link road to be constructed as it is not recognised as a future need for Shire wide road users. . Following rezoning approval, the road alignment is intended to be constructed and funded as part of future developments.

⁷ Referenced in Ballina Shire Contributions Plan as Cumbalum North-South Link.

4. Background Infrastructure Reports

4.1 Ballina Strategic Road Network Study Update, CEO 2007

The *Ballina Strategic Road Network Update* was developed to assess the future transport demands and road infrastructure needs for the Shire. The information was then used by BSC to prepare the Roads Contributions Plan. The median population projections for Cumbalum provided for the traffic model (by Council) are:

- ▶ 2,850 in 2016; and
- ▶ 7,490 in 2026.

This strategic model estimated traffic loads for the primary road network in the vicinity of CURA, including a sub arterial connection known as the Cumbalum N-S link between Ross Lane and the Pacific Highway (via Deadman's Creek Road).

4.2 CURA Traffic Study, CEO 2011

The CURA Traffic Study was commissioned by BSC to ensure adequate consideration of likely traffic flows from Precinct B and the subsequent interactions with Precinct A, Ballina Heights and the external road network. The purpose of the study was to inform this IDP and the Local Environmental Studies for Precinct A and Precinct B identified urban release areas as part of assessing the rezoning proposals. For a summary of the findings of the Study refer to Section 5.4.3

4.3 Water and Sewerage Infrastructure Planning Report, GHD 2004

The *Water and Sewerage Infrastructure Planning Report* (W&SIPR) was prepared to determine capital works development strategies to meet the water supply and sewerage needs of the Shire and to assist in the preparation of the 2004 DSP's.

The W&SIPR details the adopted projected dwelling growth for Cumbalum (Figure 2-12) to 2033, which is presented in below. It is important to note that the development footprints allowed for in the W&SIPR are smaller than the urban footprints proposed to be developed for Precinct A and B.

Table 9 Projected Dwelling Growth for Cumbalum in W&SIPR (GHD, 2004)

Location	Period	Equivalent Tenements (ET)	Total ET's
Ballina Heights	2003 – 2008	400	
	2008 – 2013	400	
	2013 – 2018	200	
	2003 – 2033	60	1060
Precinct A	2013 – 2018	200	
	2018 – 2023	400	
	2023 – 2028	80	680
Precinct B	2023 – 2028	320	
	2028 – 2033	400	720
All	2003 – 2033		2460

Based on BSC's adopted dwelling occupancy rate of 2.7 persons per ET, the projected population allowed for in the DSP's is approximately **6640 persons**.

4.3.1 2004 DSP Allowance

The DSP catchments allowed for Precinct A and Precinct B in the DSP are smaller than the development footprints proposed in the rezoning submissions. Consequently when comparing equivalent tenements in Table 8 with Table 9 it is evident that the yield for Precinct A is less than that proposed and significantly less for Precinct B.

Further, since the adoption of the DSP in 2004, yield densities for future urban areas have generally increased due to changes in policy direction, led by the NSW State Government, to achieve sustainable planning outcomes. The proposal for Precinct B includes yields considerably greater than experienced to date for Ballina Heights.

4.4 Sewerage Infrastructure Planning – Summary of Updates (GHD, draft 2011)

This technical report outlines the updates to the previous sewerage planning work based on the latest population projections and servicing strategies adopted by Council and forms the basis of the 2011 DSP calculations. Updates addressed include:

- ▶ Population Projections across the catchments in accordance with latest development information;
- ▶ Sewerage model updates to be reflective of recent works;
- ▶ Recent amendments to sewerage servicing strategies, such as work completed for Cumbalum and Ballina RWTP diversion works; and
- ▶ Review of capital works schedule in accordance with the revised population projections and service strategies.

Infrastructure Servicing Strategy

5. Roads

Council's urban design goal for CURA is to provide a permeable road network through a network of multiple collector streets and connections to the external road network.

Major Roads proposed to service the CURA development include:

- ▶ Ballina Heights Drive south of Sandy Flat (formally Cumbalum Way) (Collector / Sub Arterial);
- ▶ North-South link road north of Sandy Flat (Collector / Sub Arterial);
- ▶ Unara Parkway (Collector);
- ▶ Ross Lane (Arterial);
- ▶ Tamarind Drive (formally the old Pacific Highway) (Arterial);
- ▶ Sandy Flat Road (Collector); and
- ▶ Deadmans Ck Road (Collector, however proposed to be diverted and access to Tamarind Drive closed).

The history and proposed function of these roads is discussed below.

5.1 Ballina Heights Drive and North-South Link Road

Ballina Heights Drive and the North-South link road has been part of Council's traffic strategy for CURA since the rezoning and approval of the Ballina Heights development. It is anticipated that Ballina Heights Drive and the North-South link road will provide the spine arterial road within CURA to link Ballina Heights with Precinct B across Sandy Flat (BSC, 2006).

The intent of Ballina Heights Drive and the North-South link road is to:

- ▶ Distribute traffic to Tamarind Drive and Ross Lane for wider distribution;
- ▶ Provide an interconnection between Ballina Heights, Precinct A and Precinct B for localised traffic movements; and
- ▶ Act as the primary public transport route for CURA.

To minimise adverse amenity impacts such as noise, Council envisage that the design of the road network and particularly Ballina Heights Drive and the North-South link road would encourage trips to:

- ▶ Ballina (for Precinct B residents) to be via Ross Lane or Sandy Flat Road and the Pacific Highway / Tamarind Drive;
- ▶ The north (for Ballina Heights and Precinct A residents) via the Eastern Cumbalum Roundabout or the Sandy Flat intersection with Tamarind Drive.

The first stage (southern end) of Ballina Heights Drive has been relocated to the north since the approval of Ballina Heights development. This relocation was due to:

- ▶ The need for a flood way in the vicinity of Deadman's Creek Road, and subsequent closure of the road to the old highway; and
- ▶ The need to link into the Ballina Bypass / Ballina Heights Drive Interchange which was relocated further to the north to avoid soft soils.

5.1.1 Ballina Heights Drive

The current layout of Ballina Heights Drive within Ballina Heights and the proposed Ballina Heights Drive Interchange are presented in *Figure 5.1 – Precinct A Catchments and Major Roads* and the *Proposed Ballina Heights Drive, Pacific Highway Interchange* respectively, included in Appendix D.

The first stage (southern end) of Ballina Heights Drive has been relocated to the north since the approval of Ballina Heights development. This relocation was due to:

- ▶ The need for a flood way in the vicinity of Deadman's Creek Road;
- ▶ The need to link into the Eastern Cumbalum roundabout (on Tamarind Drive) and interchange (Pacific Highway) which was relocated further to the north to avoid soft soils.

A south bound (left turn) slip lane from Ballina Heights Drive to Tamarind Drive has been designed by Ardill Payne and Associates to facilitate heavy vehicle movements which would otherwise have difficulty negotiating a southbound turn via the Ballina Heights Drive Interchange.

The construction standard for Ballina Heights Drive is a two-lane road with a central median from the roundabout interchange until the intersection with Unara Parkway. The proposed design configuration reflects the need to ultimately convey > 3000vpd.

5.1.2 Ballina Heights Drive (central)

Precinct A proponents propose Ballina Heights Drive to extend to the north and then loop around the knoll to the east and connect back onto Sandy Flat Road. The alignment has been proposed in this manner due to limited options due to grade restrictions (12% maximum) and heritage constraints (APP, January 2010). The gradients are in accordance with the requirements for a Collector road specified in the Northern Rivers Local Government road design guidelines. The pavement width is proposed to be 11m wide. It is expected that this standard will be adopted as a minimum for development from south to north.

For the proposed road alignments for Precinct A and long section of Ballina Heights Drive refer to *Major Collector Roads Dwg No REZ11* (APP, 2009) and *SK16 - Plan and Long Section, Proposed Cumbalum Way (Ballina Heights Drive)*, respectively in Appendix D.

5.1.3 North-South link road

The North-South link road extends from Sandy Flat Road through the northern part of Precinct A (past proposed open space areas) into Precinct B, ultimately connecting onto Ross Lane at the existing location of the Duffcys Lane intersection. Precinct B proponents propose the road to be of a Collector road standard with an 11m pavement width. The approximate location envisaged for the North-South link road through Precinct B is illustrated on *Location of Works – Cumbalum / Lennox Head* in Appendix D.

A plan and long section has also been prepared for North-South link road ('Road 1') within Precinct B (see *SK47-49 Precinct B Indicative Road Network* in Appendix D). The long section illustrates a maximum grade of 12% for the collector road.

5.2 Unara Parkway

Unara Parkway has been part of Council's traffic strategy for the CURA since the rezoning and approval of the Ballina Heights development. Unara Parkway was primarily formed to act as a collector road for the northeast portion of Ballina Heights and connects to Ballina Heights Drive, providing access to the future Ballina Heights village centre. The current construction standard of Unara Parkway is an 11m carriage way.

Precinct A proponents propose to extend Unara Parkway to the north east to open up access to the eastern portion of Precinct A. Due to areas of potentially significant indigenous heritage value on the eastern perimeter of the site, in the proximity of the original rezoning alignment, Unara Parkway is no longer proposed as a link road to Sandy Flat Road. The current arrangement is for a connection back to Ballina Heights Drive before it descends to Sandy Flat Road.

5.3 Sandy Flat Road

Sandy Flat Road is an existing rural road that is accessed from Tamarind Drive at Sandy Flat. It provides access to rural properties to the east of the Highway. It also extends to the north terminating midway through Precinct B, however the road reserve continues to link in with Duffcys Lane from the north.

The proponents of Precinct A and B propose to utilise the east-west portion of Sandy Flat Road for access to Tamarind Drive. The road will require upgrading for its full length to a minimum collector road standard. The north-south portion of Sandy Flat Road is proposed to form the Cumbalum N-S link between Precinct A and B.

The construction of the Ballina Bypass has seen the intersection to Tamarind Drive upgraded, Refer to *Sandy Flat Road Intersection Layout* in Appendix D. The RTA have confirmed the Sandy Flat Road intersection with Tamarind Drive has been designed for 2000-3000vpd⁸ (Cardno, 2009).

5.4 Traffic Assessment of Internal Roads

5.4.1 The Ballina Strategic Road Network Update (CEO, 2007)

The Ballina Strategic Road Network Update considered traffic loads from Ballina Heights, Precinct A and Precinct B. The road configuration in this model was a direct Cumbalum N-S link that deduced 8023 vpd north of Sandy Flat Road and 6081vpd south of Sandy Flat Road at 2026 (Table 5.2 CEO, 2007).

5.4.2 Precinct A Rezoning Submission (APP, 2010)

APP (2010) state that their study provides similar numbers to those generated by the CEO model except at the northern end of Precinct A, as CEO's assumption of a higher priority link road to the north generates higher numbers. Further APP (2010) note that Ballina Heights Drive would require classification as a Distributor (>3000vpd) and this would require substantial earthworks to regrade the steep land at the northern end of Precinct A to provide a complying road design.

5.4.3 CURA Traffic Study (CEO, 2011)

The above traffic assessments provided some information on potential traffic flows through CURA but did not provide adequate consideration of likely traffic flows from Precinct B, and the subsequent interactions with Precinct A, Ballina Heights or the external road network. Subsequently Council engaged CEO to undertake the Study to define these interactions, inform this IDP and to resolve the following:

- ▶ Is the Sandy Flat intersection capacity exceeded given the projected traffic generation;
- ▶ Is the Collector classification of Unara Parkway appropriate
- ▶ Is the provision of Ballina Heights Drive as a collector road north of the Unara Parkway intersection appropriate;
- ▶ What is the standard of road required for the Precinct A – Precinct B link road;
- ▶ What is the modelled traffic generation for Ross Lane;
- ▶ What are the required intersection forms for Ross Lane;
- ▶ What recommendations can be made regarding the speed zone of Ross Lane in light of traffic loads, intersections and curve radii;
- ▶ What intersection treatments are achievable for the proposed upgrade concept (i.e. combination of roundabouts, left-in/left-out only).

In addition to these outcomes, the study sought to provide a general overview of the traffic conditions expected in the general area surrounding the CURA.

Comparison of Traffic Assessment Findings

A traffic study comparison included in APP (2010) compares their study with that of CEO (2007). The APP results for a high density scenario and worst case of splits (Option 3B, APP 2010) are included in Table 10 below, whilst the associated plan (*Figure 5.1 - Traffic Catchments and Major Roads, APP 2010*) is provided in Appendix D. The findings of CEO (2007) and CEO (2011) have been included in the table for comparison.

Table 10 Precinct A Traffic Study Comparison (Ultimate)⁹

Node	Node Location	Proposed Classification ¹⁰	APP – Option 3B ¹¹	CEO (2007) ¹²	CEO (2011)
A	Sandy Flat / old Pacific Highway intersection	Collector	1100*	2620	4500
B	Precinct A and B link	Collector	1270*	8023	10900
C	Ballina Heights Drive (Northern end of Precinct A)	Collector	2370	8389	9900
D	Ballina Heights Drive (mid section of Precinct A)	Collector	3557	Not modelled	7000 [#]
E	Ballina Heights Drive (Southern end of Precinct A)	Distributor	8453	6081	13200
F	Ballina Heights Drive Interchange	Distributor	9297	6707	14700
G	Unara Parkway intersection with Ballina Heights Drive	Collector	3527	Not modelled	Not defined
H	Unara Parkway (south)	Collector	2541	Not modelled	2990 [#]
I	Unnamed link road between Deadmans Ck Rd and Ballina Heights Dr	Distributor	4077	Not modelled	5200

Table Notes:

*Excludes Precinct B component

[#]CEO model assumed Unara Parkway would take majority of traffic (7000vpd vs 2990vpd for Ballina Heights Drive). As the eastern perimeter road extending from Unara Parkway is unlikely to proceed, this route will be less desirable for through traffic.

Items in red exceed the preliminary road classifications proposed in rezoning submissions.

It is evident from the comparison that CEO (2011) predicts traffic loads significantly greater than those previously modelled. This is due to a number of factors; most notably APP's assessment did not include allowance for Precinct B loads on Sandy Flat Road or the Precinct A and B link. Consequently CEO (2011) have accounted for internal trips from Precinct B to A and vice-versa. The other significant factor is the proposed development yield for Precinct B being greater than previously accounted for in past assessments.

⁹ APP Options 1, 2 and 3A assume an average density (with different splits) as per the APP proposed Concept Landuse Plan

¹⁰ Distributor = > 3000vpd, Collector = up to 3000vpd

¹¹ Option 3B assumes a high density scenario and likely worst case scenario of splits

¹² Base Case (Pacific Highway works within Ballina Island, Ballina bypass, old Pacific Highway) plus North-South link road.

Nevertheless, the CEO (2011) report identifies internal road network and intersection forms to the external network that would cater for the predicted worst case traffic scenario. The report identifies that roads thought to be suitably classified as collector roads (Ballina Heights Drive, Unara Parkway, Sandy Flat Road and Unara Parkway) should be constructed to sub-arterial standard to cater for projected traffic volumes. However the actual cross section of these roads may vary, depending on the intended function from a hierarchy perspective. The *CURA Road Hierarchy Plan – Figure 4.36* from CEO (2011) is provided in Appendix D.

5.5 Ross Lane

Ross Lane is an arterial Road that links the Coast Road to Tamarind Drive and the Ballina Bypass. The current design capacity of Ross Lane is 16,000vpd (Section 4.7, Cardno 2009). The future load at 2016 has been modelled at 12,800vpd (Table 5.1, CEO 2007). Ultimate loads have been modelled by CEO in their 2007 study and in the 2011 CURA Traffic Study. The traffic loads are presented in Table 11 below.

Table 11 Ross Lane Ultimate Traffic Loads

Ross Lane	Table 5.2, CEO, 2007 (vpd)	Figure 4.37, CEO, 2011 (vpd)
West of North-South link road (Duffcys Lane) Intersection	20,350	32,900
Between North-South link road (Duffcys Lane) Intersection and proposed Precinct B town centre connection	Not modelled	21,100
East of proposed Precinct B town centre connection	16,250	15,400

Threshold volumes adopted in the *Ballina Strategic Road Network Study Update* (CEO, 2007) for upgrading roads from two lanes to four lanes are:

- ▶ 20,000vpd – roads with no access; and
- ▶ 17,000vpd – roads with some access.

Therefore it is evident that Ross Lane – West will require a four (4) lane upgrade prior to 2026.

5.5.1 Ross Lane Improvements

Council commissioned a *Ross Lane Improvement and Cost Estimate Study* (Cardno, August 2009) for the purpose of forward planning infrastructure needs and inclusion of construction costs in the Roads Contribution Plan (BSC, 2010). The Plan identifies funding will be available for the improvement works between 2020 – 2025.

The Appendix III to the Plan details the following works (Cardno, August 2009):

- ▶ West of the North-South link road intersection through to the Pacific Highway, the estimate allows for the addition of two extra traffic lanes to the existing cross section to provide 4 x 3.5m traffic lanes, and 2 x 2.5m shoulders of which 1.5m is sealed.
- ▶ East of the North-South link road intersection through to The Coast Rd, the estimate allows for additional pavement width to provide 2 x 3.5m traffic lanes and 2 x 2.5m shoulders of which 1.5m is sealed.
- ▶ The proposed intersection between Ross Lane and the North-South link road connection is not included in this estimate (or design).
- ▶ Some of the existing road bends will require a new alignment based on the minimum design radius for specific speeds as defined in the relevant Austroads guide for the design of rural roads. Bends proposed for realignment are to the east of the proposed intersection of the North-South link road within the existing 100km/hr zone.

- ▶ In some cases, particularly at the Western end of Ross Lane, the existing radius is close to or exceeds the absolute minimum radius (for an 80km/h zone). In these particular cases, no allowance for improving the alignment has been made in the current works schedule of the Roads Contributions Plan.
- ▶ Allowance has been made for the construction of concrete box culverts at approximate CH.3820 to bridge a total drainage width of approximately 21m.

The proposed layout of Ross Lane is illustrated in *Ross Lane – Road Layout and Cross Sections Sheets 1 to 3* in Appendix D.

Intersections

In addition to the above works the CURA Traffic Study (CEO, 2011) details the following upgrades:

- ▶ Ross Lane Interchange east and west roundabouts – additional lane;
- ▶ Ross Lane Interchange overpass bridge - duplication;
- ▶ Ross Lane/Mc Leish Rd Intersection #1 – two lane roundabout;
- ▶ Ross Lane/Duffcys Lane Intersection #2 – signalised intersection;
- ▶ Ross Lane Intersection #3 – two lane roundabout;
- ▶ Ross Lane Intersection #4 – two lane roundabout;
- ▶ Ross Lane/Newrybar Swamp Rd Intersection #5 – single lane roundabout; and
- ▶ Ross Lane Intersection #6 – unsignalised intersection.

For further details on the upgrades and adopted intersection geometries to cater for future traffic loads refer to *Intersection Geometry - Figures 4.1 and 4.2* (CEO, 2011) in Appendix E.

Improvement Implications for Rezoning

With reference to the proposed layout of Ross Lane and considering the potential rezoning of land to the south of the road alignment, the following points are noted:

- ▶ The speed environment for the portion of road between the Pacific Highway interchange and the north eastern boundary of Precinct B needs assessment in light of:
 - Accommodation of up to six intersections with Ross Lane (as proposed by Precinct B proponents);
 - Consideration of existing radius' being below the minimum standard (for 80km/hr zone); and
 - Potential noise/amenity issues for future development fronting Ross Lane.
- ▶ The overall road width of the four lane section is proposed to be 19m including the road shoulder but excluding the road verge. The current road reserve width is typically 20m and it is likely that it would need to be in the order of double this width to accommodate the widening and verges. Therefore it is probable that some form of road resumption will be required on the southern and northern sides of Ross Lane, between the Pacific Highway interchange and the north eastern boundary of Precinct B.
- ▶ The increased difficulty of realigning the road down the track, following additional development in the immediate vicinity;
- ▶ The cost vs. benefit of constructing a new four lane road below current road design standards. It is noted that Austroads (2009) Part 3: Geometric Design (p138) requires a radius in the order of 400m¹³.
- ▶ Minimum pavement widening does not appear to have been considered. As an example, for a 160m radius in an 80km/hr zone with a 3.5m lane width, Austroads (2009) Part 3 specifies a pavement widening of 0.5m for the track of a semitrailer within a lane.

¹³ Allowing V of 90km/hr (80+10), super elevation of 3% and assumed friction factor of 0.13.

- Whether the road should function as an arterial, i.e. maintain 80km zone for entire length, minimise the number of intersection and driveway connections, and provide an efficient route between the Highway and the Coast Road.

Options for Council to consider include:

1. Keep the alignment concept documented in the BSC Contributions Plan, and reduce the speed zone for approximately 1.5 km along the frontage of Precinct B to allow multiple intersection connections as considered in the CURA Traffic Study (CEO, 2011);
2. Keep the alignment concept documented in the BSC Contributions Plan, maintain the 80km zone with exception of a reduction to one or two primary connections to Precinct B, provide provisional signage for corners below the minimum design standard;
3. Realign the road to meet the 80km/hr design standard reflecting the intent of the alignment to function as an arterial road and provide on / off ramps for one or two primary connections to Precinct B.

It is noted that all of the above options will require resumption. The extent to which resumption is required would be determined when Council undertakes detailed design of the road. Council does not consider it necessary to commence this process until the development horizon of Precinct B is known.

Notwithstanding the above options, Council's preference is to reduce the number of intersections to Ross Lane from Precinct B and maintain an 80km/hr zone wherever possible. The implications for intersection connections, road alignment, and road noise impact need to be considered by Precinct B proponents and allowed for in the rezoning proposal, in consultation with Council.

5.6 Local Roads, Street lighting, Cycleways, Footpaths and Bus shelters

The design of other collector and local roads, street lighting, cycleways, footpaths and bus shelters is to be proposed by the developer at Development Assessment (DA) stage and assessed by Council.

To provide confidence that the provision of cycleways and footpaths can be reasonably accommodated to accepted engineering standards on steep slopes within Precinct B, Council requested an example of a road layout be prepared on a steep portion of the site. Cardno provided this data as part of a revised submission to Council and this has been considered acceptable (with some minor alterations) in preparation of the draft LES for Precinct B.

5.7 Infrastructure Summary

The road layout proposed for Precinct A and B is considered achievable, however the following points need to be carefully considered in preparing subdivision and external connection design layouts:

- The number of intersections from Precinct B to Ross Lane should be rationalised;
- In some instances it may not be possible to strictly meet the Geometric Road Design Specifications of the Northern Rivers Local Government Design Manual due to local topography. Any deviations from the manual will need to be clearly identified in future design plans for Council's consideration;
- The Sandy Flat Road upgrade should be designed with a form that seeks to direct as much Precinct A north bound traffic and Precinct B south bound traffic to Tamarind Drive (formerly old Pacific Highway) as possible. This may involve straightening out the Sandy Flat Road alignment to provide a more direct route. The Sandy Flat Road intersection with Tamarind Drive may reach capacity and function below the intended design standard; and
- Internal subdivision layouts should take account of the road noise and access amenity of allotments proposed to adjoin sub-arterial roads. Local streets crossing perpendicular to sub-arterial roads (i.e. four-way intersections) should be avoided.

Table 12 CURA Roads Infrastructure Summary

Road Item	Service Area	Service Level (ultimate)		Service Date
		Vpd*	category	
Cumbalum Interchange	Ballina Heights	14700	Sub-arterial	2012
Ballina Heights Drive (south)	Ballina Heights	13200	Sub-arterial	2011
Ballina Heights Drive (Precinct A)	Northern end of Precinct A	9900	Sub-arterial	unknown
North-South link road	Precinct A open space / Precinct B connection to Sandy Flat Road	10900	Sub-arterial	unknown
North-South link road (Precinct B)	Precinct B	7900	Sub-arterial	unknown
Unara Parkway extension	Precinct A	2900	Collector / sub-arterial	unknown
Ross Lane Improvements - East	Precinct B	15400	arterial	2020-2025
Ross Lane Improvements - West	Precinct B	32900	arterial	2020-2025
Ross Lane/Mc Leish Rd Intersection #1 – two lane roundabout;	Precinct B	2100	collector	unknown
Ross Lane/Duffcys Lane Intersection #2 – signalised intersection;	Precinct B	9100	sub-arterial	unknown
Ross Lane Intersection #3 – two lane roundabout;	Precinct B	unknown	collector	unknown
Ross Lane Intersection #4 – two lane roundabout;	Precinct B	unknown	collector	unknown
Ross Lane/Newrybar Swamp Rd Intersection #5 – single lane roundabout; and	Precinct B	1800	collector	unknown
Ross Lane Intersection #6 – unsignalised intersection.	Precinct B	unknown	collector	unknown
Sandy Flat Road	Precinct A and B	4500	sub-arterial	unknown
Sandy Flat Road intersection	Precinct A and B	4500	sub-arterial	2011

* Figures from CEO (2011).

6. Water Supply (Potable)

6.1 Rous Water Source and Reservoir

Bulk water for the combined Ballina and Lennox Head water supply is currently supplied to Ballina Shire Council by Rous Water from its Rocky Creek and Emigrant Creek dams. Water is initially pumped to the Knockrow Balance Tank and then transferred by a network of gravity trunk mains to Council's various water service reservoirs and reticulation networks.

Rous Water is planning to replace the existing Knockrow Balance Tank (approx 1 ML capacity) with a new Knockrow Service Reservoir (approx 10 ML capacity). The increase in storage capacity at this location will dramatically increase the sustainable rate at which bulk water can be supplied to the combined Ballina / Lennox Head water supply scheme. Completion of the reservoir is essential to cater for additional demand arising from the CURA development. Detailed Design of the reservoir was completed by GHD in March 2010. Construction of the reservoir is anticipated to commence during the 2011 – 12 financial year.

The location of the Knockrow Reservoir is illustrated on *SK01 – Precinct B Water Supply Strategy* in Appendix F.

6.2 BSC Reservoirs

Construction of two additional water service reservoirs are planned to service CURA.

6.2.1 Ballina Heights Reservoir

The proposed 1.8ML Ballina Heights Reservoir will service Precinct A, Ballina Heights Estate (Ballina Heights is currently serviced by a temporary reservoir) and Summerhill Crescent (currently supplied directly off the Rous Water main). An allowance of 1948ET was used for reservoir sizing purposes (NSWPW, 2009) as illustrated in below.

Table 13 BHE Reservoir ET Allowance

Location	Equivalent Tenements (ET) in NSWPW (2009)	Adopted Equivalent Tenements (ET)
Ballina Heights	900	1081 [^]
Precinct A	980	801 [^]
Precinct A – Potential	...	20 [^]
Summerhill Crescent*	68 [#]	68
Total	1948	1970

*Summerhill Crescent currently supplied directly off DN375 supply main.

[#] ET allowance from NSWPW (2009) allows for supply of dual occupancies under BSC LEP (1987), however the low pressure sewerage system is limited to approximately 35ET.

[^]ET values derived in Table 8.

It is noted that the Total ET adopted by NSWPW compares well with the values adopted for this study.

It is anticipated that the Ballina Heights Reservoir will be constructed in conjunction with a non-potable reservoir to be installed on the same site. The estimated timeframe for construction completion of both reservoirs is 2012 (pers. comm. Rod Dawson and Don Chesworth 27/01/2010).

APP illustrates the proposed location of the Ballina Heights Reservoir and the existing reservoir on Dwg No REZ7, *Cumalum Urban Release Area A – Water Reticulation* included in Appendix F.

6.2.2 Existing BH Temporary Reservoir

APP (Memo to BSC, 22 December 2009) have identified that Lot 284 DP1141745 within the southern portion of Precinct A (known as Quinlan Farm) is owned by the Ballina Heights developers who have a program to release 120 lots in 2011 (subject to rezoning and development approval). APP note the majority of this land can be supplied by the existing temporary reservoir up to completion of the new reservoir in 2012. The rationale being that between now and 2012 there is surplus capacity in the temporary reservoir that has been allocated to Ballina Heights Stages which will not require supply in that timeframe. See Dwg No. REZ7 (Appendix F) for an illustration of the area within Lot 284 that APP have identified as serviceable by the temporary reservoir.

6.2.3 Ross Lane Reservoir

The proposed Ross Lane Service Reservoir is planned to service Precinct B as detailed in GHD (2004b). The approximate location of proposed Ross Lane Reservoir is illustrated in *SK01 – Precinct B Water Supply Strategy* in Appendix F.

The BSC Water DSP (2004b) estimated that the Ross Lane Reservoir would be in the order of 2ML in capacity and would be necessary by 2025/26. No concept design has been undertaken at this stage. Analysis of future demand, modelling of supply and scheme sizing will be required for the anticipated infrastructure provision.

Based on the information in Table 8 the estimated ET allowance for the Ross Lane Reservoir is provided in Table 14 below.

Table 14 Ross Lane Reservoir ET Allowance

Location	Adopted Equivalent Tenements (ET)
Precinct B	2,814
Precinct B – potential (south of Ross Lane)	125
Precinct B – deferred (north of Ross Lane)	239
Total	3178

6.2.4 High Level Zones (HLZ)

Council's Water DSP (2004b) identifies high level zones within Precinct A and B in proximity to the proposed reservoirs needing to be serviced by booster pumps to achieve adequate supply pressure. These pump works are likely to be undertaken in conjunction with reservoir construction.

6.3 Bulk Supply Mains

6.3.1 Precinct A and Ballina Heights

It is anticipated that the Ballina Heights Service Reservoir will be supplied via the existing DN375 water main (currently a Rous Water asset) that runs parallel to the existing Pacific Highway alignment (pers. comm. NSW Public Works email to BSC dated 11/01/2010). Recent modelling by NSWPW has determined that duplication of the existing main to supply the Ballina Heights Service Reservoir is no longer necessary due to the reduced potable demand forecast following full implementation of urban recycled water reuse.

APP illustrate on Dwg No. REZ7 (Appendix F) that they propose a realignment of the DN375 main from just south of the Sandy Flat intersection to the temporary reservoir site in Ballina Heights. The purpose of the realignment is to service the new Ballina Heights Reservoir whilst also locating the main within proposed road reserves to remove service conflicts with proposed house lots.

As the DN375 main is a Rous Water asset this relocation may require approval from Rous Water (depending on the handover timeframe to Council) as part of the design and construction of the new reservoir. The relocated

main may need to be installed as a DN450 to compensate for the head loss over the greater distance (subject to design).

6.3.2 Precinct B

A new DN375 bulk supply main is proposed to be constructed from the upgraded Knockrow reservoir to the new Ross Lane Reservoir (pers. comm. Don Chesworth 27/01/2010). The supply to Ross Lane Reservoir will require approximately 1.75km of 375mm main from Knockrow to Ross Lane (pers. comm. NSW Public Works email to BSC dated 22/12/2009). The timeframe for construction would be concurrent with the Ross Lane Reservoir construction, which is identified in the Water DSP (2004b) as 2025/26.

6.4 Distribution Mains

6.4.1 Precinct A and Ballina Heights

Council's DSP (GHD, 2004b) for water services details the construction of a DN300 distribution main (WD-01) to the east from the new Ballina Heights Reservoir to service Precinct A and Ballina Heights. This main is then proposed to continue south to service Ballina Heights. Given that APP propose to realign the Rous Water DN375 supply main to the new BHE Reservoir and then to the existing temporary reservoir in BHE, the conceptual layout in the DSP would be superseded.

Precinct A is proposed to be serviced off a DN200 main (WD-02) directed to the north from WD-01 (see Figure 3 (GHD, 2004b) Appendix F). Due to the proposed layout of Precinct A the location of the distribution mains vary from that conceptually identified in the Water DSP.

As shown in Table 13, the ET allowance for sizing the Ballina Heights Reservoir slightly exceeds the allowance in the Water DSP.

6.4.2 Precinct B

For Precinct B Council's DSP for water services outlines the decommissioning of the existing DN200 in Ross Lane to be replaced by a new DN200 (WD-03) on the southern side of Ross Lane from the future Ross Lane Reservoir (WR-02) (see Figure 2 (GHD, 2004b) Appendix F).

Precinct B proponents have indicated that they intend to provide water supply in line with the DSP proposal (see *SK01 – Precinct B Water Supply Strategy* in Appendix F).

Note: Council requests allowance be made by Precinct A and B proponents for a potential link main across Sandy Flat to link the Ross Lane water supply system with the Ballina Heights water supply system.

6.5 Subdivision Water Reticulation

The design and construction of water reticulation infrastructure is to be proposed by the developer at Development Assessment (DA) stage and assessed by Council. Infrastructure works conducted internal to a site by developers should make due allowance for future development on adjacent land identified for potential development. This would include sizing pipes and/or making allowance for augmentation, provision of easements and provision of connection points for upstream flows. An agreement between landholders may be required to achieve this.

6.6 Summary

Following the completion of the new Knockrow Service Reservoir by Rous Water (anticipated in 2012), and the Ballina Heights Reservoir (2012) (including approval and realignment of the existing DN375 supply main) there is little impediment foreseen to the implementation of the intended water supply strategy for Precinct A.

Completion of the new Knockrow Service Reservoir, new bulk supply main from Knockrow Reservoir and the new Ross Lane Reservoir and booster pump infrastructure are limiting factors in the provision of water supply for Precinct B.

The CURA Conceptual Servicing Plan in Appendix F includes the overall proposed alignment of the potable water transfer main and reservoir locations.

Table 15 Precinct A - Water Infrastructure Summary

Item	Item Description	Service Area	Service Level (ultimate)	Service Date
Source / WTP	Rocky Creek and Emigrant Creek dams	Ballina, Lennox Head	...	Existing
Bulk Reservoir	Knockrow 10ML	Ballina, Lennox Head	...	2012
Bulk Supply Main	Realignment of existing DN375 Main from Knockrow	Ballina, Cumbalum	...	2012
Supply Reservoir	New 1.8ML reservoir to replace temporary reservoir at the northern end of Ballina Heights (WR-01)	Ballina Heights, Summerhill Crescent, Precinct A (part of DSP Area C, Ballina - Release Area 2)	1970ET	2012
Booster Pumps	HLZ Booster Pumps	Precinct A	...	2012
Distribution mains	New DN200 (WD-02) distribution main	Precinct A	...	Unknown
Subdivision mains	Subdivision Reticulation Mains	Ballina Heights, Precinct A	...	Unknown

Table 16 Precinct B - Water Infrastructure Summary

Item	Item Description	Service Area	Service Level (ultimate)	Service Date
Source / WTP	Rocky Creek and Emigrant Creek dams	Ballina, Lennox Head	...	Existing
Bulk Reservoir	Knockrow 10ML	Ballina, Lennox Head	...	2011
Bulk Supply Main	New DN375 Bulk Supply Main from Knockrow to Ross Lane	Ross Lane, Precinct B	...	2026
Supply Reservoir	Future reservoir (WR-02) 2ML	Ross Lane, Precinct B (part of DSP Area C, Ballina – Release Area 2)	3178 ET	2026
Booster Pumps	HLZ Booster Pumps (WP-09)	Precinct B	...	2026
Distribution mains	Decommission existing DN200 in Ross Lane. New DN200 (WD-03) on southern side of Ross Lane from future reservoir (WR-02)	Ross Lane, Precinct B	...	2026
Subdivision mains	Subdivision Reticulation Mains	Precinct B	...	Unknown

7. Recycled Water Supply

In 2002-2003 BSC undertook comprehensive community consultation which led to the adoption of the Ballina Shire Urban Water Management Strategy (UWMS) in 2003. The Ballina - Lennox Head Recycled Water Master Plan provides an outline of the likely recycled water reuse targets, quantities and management strategies until 2026.

The implementation of the Master Plan is a staged process. The Ballina - Lennox Head Recycled Water Master Plan Environmental Impact Statement (EIS) (NSW Water Solutions, 2009) presents the environmental impact investigations undertaken on aspects of the Master Plan which have been identified as being at a stage where there is sufficient detail to assess.

The proposed works relevant to CURA that are to be determined by BSC, following exhibition of the EIS, under Part 5 of the Environmental Planning & Assessment Act (EP&A Act) are the:

- ▀ Ultimate Upgrade of Ballina WWTP to a RWTP with a capacity of 30,000 EP;
- ▀ Diversion works to redirect some wastewater flows that are currently directed to Lennox Head RWTP to the Ballina RWTP;
- ▀ Construction and commissioning of one or more Recycled Water Treatment Plants (RWTPs);
- ▀ Construction of the following recycled water infrastructure:
 - Ballina Heights recycled water reservoir (adjacent the potable water reservoir on the same site);
 - Pipeline from Ballina RWTP to Ballina Heights recycled water reservoir;
- ▀ Suitability of the use of the recycled water for urban dual reticulation.

7.1 RWTP

Council has resolved that the preferred technology for the proposed upgrade of the Ballina WWTP is conversion to an MBR plant. An MBR is able to produce recycled water of a suitable quality (tertiary standard) for Urban Dual Reticulation or Urban Open Space reuse (NSW Water Solutions, 2009). Therefore a separate water reclamation plant is not required. Council has awarded the design and construction of the Ballina MBR plant. It is anticipated that construction will commence in mid 2011 with completion by 2013.

7.2 Bulk Supply Main and Reservoirs

A bulk supply main is proposed to be installed from the Ballina RWTP to a new Ballina Heights Recycled Water Reservoir (adjacent to the new potable reservoir) at an approximate chainage of 5.0 km (NSW Water Solutions, 2009) to service Ballina Heights and Precinct A and Precinct B.

The pipeline is proposed to run parallel with the existing Ballina Heights sewerage rising mains (under the Ballina Heights cycleway) until the south eastern corner of Summerhill Crescent where it will continue to follow the cycleway alignment up to the top of the ridgeline.

It has recently been determined that the fill for the cycleway along the alignment of mains within the floodplain disrupts flood flows within the floodplain. Council is currently considering measures to ameliorate such flooding impacts. Design of the recycled water rising main will need to consider this issue as well as minimising impacts on sensitive vegetation and construction in soft soils. Additionally the design will need to consider fitting the pipe within the reserve alignment and allowing for a potential future sewerage main required to service Precinct B.

Figures 5-2, 5-6 and 5-7 (from the EIS) illustrating the proposed alignment of the Ballina Heights recycled water transfer main are presented in Appendix G. It is anticipated the Ballina Heights Recycled Water Reservoir and bulk supply main will be constructed by 2012.

The recycled water transfer main for Precinct B is proposed to be an extension of the main from the Ballina Heights Recycled Water Reservoir. The chainage of the main will be approximately 10.5km at the proposed Ross Lane site (NSW Water Solutions, 2009).

The developers of Precinct A will need to make allowance for a corridor to accommodate this line within proposed road reserve and through several proposed residential allotments. The line is proposed to continue through the north-south alignment of Sandy Flat Road reserve to Duffcys Lane. Precinct B developers will need to make allowance for the corridor required between the end of the constructed portion of Sandy Flat Road to the intersection of Scanlan Lane.

The Ross Lane Recycled Water Reservoir is proposed on the eastern side of the Pacific Highway and the southern side of Ross Lane on the same site as the future potable water supply reservoir (See *Figure 5-4* from the EIS in Appendix G). It is anticipated to have a capacity of 2.8ML and the reservoir and supply main is not expected to be required until around 2018 (NSW Water Solutions, 2009). No concept design has been undertaken at this stage. Analysis of future demand, modelling of supply and scheme sizing will be required for the anticipated infrastructure provision.

7.3 Subdivision Reticulation Mains

The design and construction of recycled water reticulation infrastructure for urban dual reticulation (UDR) and urban open space (UOS) reuse is to be proposed by the developer at Development Assessment (DA) stage and assessed by Council.

Infrastructure works conducted internal to a site by developers should make due allowance for future development on adjacent land identified for potential development. This would include sizing pipes and/or making allowance for augmentation, provision of easements and provision of connection points for upstream flows. An agreement between landholders may be required to achieve this.

7.4 Recycled Water for UOS

The Concept Design Report (Commerce, 2009) presents estimated reuse areas, irrigation demands and timing for future development of the CURA as summarized in Table 17 below. The locations of the areas described in the table are illustrated in *Figure 5-4* (from the EIS) in Appendix G.

Table 17 Future UOS Areas and Demand for CURA

Future UOS Areas	UOS Area Reuse Area (ha)	Day Irrigation Demand 2013	Day Irrigation Demand 2020	Day Irrigation Demand 2026
Possible (could occur at 2010 to 2016)				
Cumbalum/Ballina Heights School Ballina Cumbalum	9.24	0.38	0.38	0.38
Cumbalum /Ballina Heights Open Space Ballina	18.96	0.78	0.78	0.78
Cumbalum/Structure Plan Open Space Ballina Cumbalum	3.17	0.13	0.13	0.13
Future (could occur between 2016 and 2026)				
Cumbalum/Structure Plan Open Space Ballina/Cumbalum	4.15	0	0	0.17
Cumbalum/Structure Plan Open Space Ballina/Cumbalum	8.13	0	0	0.33
Cumbalum/Structure Plan Golf Course Ballina/Cumbalum	45	0	0	1.85

It is evident from a comparison of *Figure 5-4* (irrigation areas derived from the Cumbalum Structure Plan) with the proposed structure plans for Precinct A and B that the open space areas that may be available for future UOS

irrigation have been refined. Specifically the area identified in the Cumbalum Structure Plan as potentially suitable as a golf course is now proposed to be occupied by community and residential land uses.

7.5 Summary

Following determination of the EIS by Council for the recycled water infrastructure, and the subsequent construction of the Ballina Heights Recycled Water Reservoir and bulk supply main (2012), there is little impediment foreseen to the implementation of the recycled water supply strategy for Precinct A.

In addition to the above works, construction of the new Ross Lane Recycled Water Reservoir and an extension of the bulk supply main from Ballina Heights are limiting factors in the provision of recycled water supply for Precinct B.

The CURA Conceptual Servicing Plan in 0 includes the overall proposed alignment of the recycled water transfer main and reservoir locations.

Table 18 Precinct A - Recycled Water Supply Infrastructure Summary

Item	Item Description	Service Area	Service Level (ultimate)	Service Date
RWTP / Storage	Ballina RWTP	Cumbalum, Ballina	30000 ET	2012
Bulk Supply Main	Ballina Heights recycled water rising main	Ballina Heights, Summerhill Crescent, Precinct A, Precinct B	5148 ET	2012
Supply Reservoir	3.5ML reservoir directly adjacent to new potable reservoir (WR-01) at the northern end of Ballina Heights	Ballina Heights, Summerhill Crescent, Precinct A	1970 ET	2012
Reuse Mains	Subdivision Reticulation Mains	Precinct A	...	Unknown

Table 19 Precinct B - Recycled Water Supply Infrastructure Summary

Item	Item Description	Service Area	Service Level (ultimate)	Service Date
RWTP / Storage	Ballina RWTP	Cumbalum, Ballina	30000 ET	2012
Bulk Supply Main	Ballina Heights recycled water rising main	Precinct B	3178 ET	2018
Supply Reservoir	2.8ML reservoir directly adjacent to new potable reservoir (WR-02)	Ross Lane, Precinct B	3178 ET	2018
Reuse Mains	Subdivision Reticulation Mains	Precinct B	...	Unknown

7.6 Recycled Water Infrastructure for an Alternative Development Sequence

7.6.1 Scenario

For the scenario where development of the CURA was out of sequence with a south to north progression, the development proponent/s for Precinct B would require an alternative recycled water servicing proposal. Options for alternative recycled water servicing (that are considered with alternative sewerage servicing) are discussed below.

7.6.2 Option 1 – Ballina Heights Recycled Water Reservoir

- ▶ Install a temporary package RWTP on the eastern side of Precinct B;
- ▶ Treat wastewater to a tertiary standard to meet the recycled water obligation;
- ▶ Pump recycled water to the Ballina Heights Recycled Water Reservoir; and
- ▶ Decommission the temporary package RWTP when connection to the Ballina Heights recycled water main is available.

Option 1 Issues

- ▶ Council prefers connection of Precinct B to the reticulated sewerage system.
- ▶ Discharge of treated effluent toward the Ballina Nature Reserve is highly unlikely due to the sensitive environment.
- ▶ In the circumstance where a package RWTP was proposed, ultimately Council will not accept the management and maintenance of this infrastructure. Therefore construction would be temporary in nature and would require decommissioning at the point where connection to the Ballina Heights recycled water main was available.
- ▶ Significant upfront capital cost for a Package RWTP and associated infrastructure, which will only be temporary with limited opportunity for cost recovery. There may be potential to incorporate the pump station into the sewerage system at a later time.

7.6.3 Option 2 – Install subdivision recycled water reticulation with interim potable supply

- ▶ Install the Precinct B sewerage rising main back to the Ballina RWTP¹⁴;
- ▶ Commission the Ballina RWTP to treat the contribution from Precinct B to a suitable standard for reuse throughout the shire;
- ▶ Install recycled water reticulation mains and prime with potable water (as per current Ballina Heights arrangement) and the capacity of the Ross Lane potable supply reservoir is capable of meeting the interim additional demand; and
- ▶ Connect Precinct B to the recycled water supply following construction of the Ross Lane Recycled Reservoir and the main from Ballina Heights to Ross Lane.

Option 2 Issues

- ▶ Wastewater needs to be treated to a tertiary standard in order for the development to meet the 80% reuse target set by the Master Plan. If recycled water generated from Precinct B cannot be used for UDR and UOS within Precinct B, the recycled water supply is likely to be surplus to Council's needs.
- ▶ Option 2 assumes the capacity of the Ross Lane potable supply reservoir is capable of meeting the interim additional demand.

¹⁴ Refer to Section 8.3 - Precinct B System

7.6.4 Summary

In the circumstance where development occurred out of sequence with a south to north progression and the Ross Lane Recycled Water Infrastructure was not immediately available, Council would need to assess alternative proposals on their merit upon submission however, subject to an acceptable design, Option 2 is Council's interim preference.

8. Sewerage (South to North Progression)

The W&SIPR (GHD, 2004c) and sewerage DSP (GHD, 2004a) identify a sewer servicing strategy for CURA whereby sewage is progressively directed southward by a series of sewage pump stations, rising mains and gravity trunk mains; ultimately discharging to the existing Ballina Heights Estate sewage pump station (BHE SPS 2402)¹⁵. The adoption of such a strategy favours a progressive release of land from the southern part of the Precinct A towards the north.

The *Sewerage Infrastructure Planning - Summary of Updates* draft Report (GHD, March 2011) continues this scenario, whilst taking account of revised yields for Precinct A and B and system changes since 2004.

8.1 Existing Sewerage System Limitations

Given the above strategy, there are two criteria which will determine the feasibility of providing sewerage services to the CURA. These are:

- ▶ The current and future transfer capacity of the existing Ballina Heights sewage pump station (SPS) and rising main; and
- ▶ The reserve treatment capacity of the existing WWTP receiving this flow.

8.1.1 Transfer Capacity of Ballina Heights SPS

At present, the Ballina Heights SPS pumps sewage directly to the Lennox Head RWTP, utilising a connection between the end of the Ballina Heights rising main and the West Ballina rising main. The interconnection of these two rising mains is located adjacent to North Creek Road, North Ballina.

Council has recently constructed (2009) a new North Ballina SPS, located near the current interconnection of the two mains referred to above. As part of the pump station construction works the Ballina Heights rising main now discharges to the collection chamber of the new pump station. This pump station then pumps the combined flow from Ballina Heights and the new North Ballina catchment to the Lennox Head RWTP via a new link to the West Ballina rising main.

Upon completion of the upgrade of Ballina RWTP, it is planned that the Ballina Heights rising main would divert flows from the existing Ballina Heights transfer mains DN225 and DN300, to the Ballina RWTP. The rising mains would be approximately 1.5 km in length (NSW Water Solutions, 2009). See *Figure 5-2* in Appendix G for the proposed extension of the BH rising mains to the Ballina RWTP.

The commissioning of the North Ballina SPS, has allowed a moderate increase in the capacity of the system. However, this is sufficient to cater for several additional stages of Ballina Heights Estate only and is insufficient to cater for the whole of Ballina Heights. It is stressed that this relates to the design capacity of the new North Ballina SPS and is independent of any increases in the capacity of the Ballina Heights SPS (2402) and rising main which may otherwise be possible¹⁶.

Following completion of the upgrading of Ballina RWTP and the associated diversion of the Ballina Heights rising main to this RWTP, there will be a significant increase in the transfer capacity of BHE SPS 2402 and rising main. Further increases in this capacity may also be possible, through augmentation of the BHE SPS 2402 and rising main.

¹⁵ Referred to in the DSP as Cumbalum sewage pump station.

¹⁶ When setting the design parameters for North Ballina SPS, consideration was given to the recommendations of the ULRS and W&SIPR and projected growth in Ballina Heights. The design flow for the North Ballina SPS was set on the basis of likely projected growth for the period prior to completion of the upgrade of Ballina RWTP.

8.1.2 Reserve Treatment Capacity of Ballina and Lennox Head RWTP

The 'optimisation' upgrade of Lennox RWTP was completed in early 2011 with a moderate increase in reserve capacity now available. The Ballina WWTP is operating near maximum capacity; however this will be resolved following construction of the new Ballina RWTP, scheduled for completion in 2012.

Until the upgrade of Ballina RWTP is completed, the existing WWTP is unable to accept any additional flows apart from those arising from 'infill' development within its current catchment. Consequently, there is no possibility of carrying out the proposed diversion of the Ballina Heights SPS rising main from North Ballina to the Ballina RWTP until this upgrade is complete. In the interim, the pumping of flows from Ballina Heights to Lennox Head RWTP will continue.

The moderate increase in capacity of the Lennox Head RWTP roughly coincides with the increase in transfer capacity of the Ballina Heights SPS (post upgrade of the North Ballina SPS). However, this moderate increase in both transfer and treatment capacity is effectively earmarked for growth in Ballina Heights in the period prior to diversion of flows from Ballina Heights to Ballina RWTP.

The increase in reserve capacity for Lennox Head RWTP following diversion of flows from Ballina Heights and West Ballina to Ballina RWTP will in turn be utilised to cater for future growth from Pacific Pines and other new developments in the Lennox Head catchment.

8.2 Precinct A and Ballina Heights System

APP (2010) has adapted rising main and pump station layouts from the Sewerage DSP (see Figure 7, GHD, 2004a) to suit the proposed development layout for Precinct A and anticipated catchments (see Dwg No.REZ6 provided in Appendix H). The infrastructure details are summarised below¹⁷:

- Upgrade existing PS 2402 (2015/2016);
- Utilise PS 2404 ('A1') (Unara Parkway, constructed in 2009) and DN250 rising main to PS 2402;
- New SPS1 ('A2') (2020/2021);
- New DN300 gravity main flowing to SPS1 ('A2') (2020/2026);
- New DN200 rising main from SPS2 ('A3') to DN300 gravity main (2025/2026);
- New SPS2 ('A3') (2025/2026) for abovementioned rising main; and
- Diversion of Ballina Heights trunk main connection from North Ballina trunk main to the future Ballina RWTP trunk main (as discussed in Section 8.1.2).

8.2.1 Staging Proposal for Precinct A

APP have identified that Lot 284 DP1141745 within the southern portion of Precinct A (known as Quinlan Farm) is owned by the Ballina Heights developers who have a program to release 120 lots on this land in 2011 (subject to rezoning and development approval). The purpose of this release is to provide additional 'high end' house blocks on the ridgeline prior to releasing other stages within Ballina Heights to the south.

APP has advised that the ultimate sewage load from land zoned at Ballina Heights was approximately 1000 ET's. The current BHE load is approximately 300 ET's and based on maximum recorded house rate construction the BHE load would be approximately 400 ET by June 2012. The limiting factor in the BHE system is the Lennox Head RWTP treatment capacity being able to accept a maximum flow of 450ET from BHE prior to the switch over to the upgraded Ballina RWTP (estimated early 2013). APP estimate the maximum load from the Quinlan farm would be between 50-100 ET up to June 2012 (now likely to be later than this) and the maximum BHE / Precinct A

¹⁷ Pipe diameters are indicative only and are based on the equivalent tenement assumptions adopted in the Sewerage DSP (GHD, 2004a). Timeframe references are from the DSP (GHD, 2004a). Pump station references are from the Sewerage DSP (GHD, 2004a) whilst labels in brackets are those given by APP (2010).

Stage 1 combined load would be in the order of 450 ET. Subject to rezoning approval, DA approval and timing, the existing Council sewerage system should be able to accommodate this load.

8.2.2 Precinct A - System Limitations

PS 2401 was constructed to cater for residents on the western side of the ridge of BHE. Due to an additional 96 residential lots proposed in the most northern portion of PS 2401 catchment, the ultimate capacity of this pump station would be exceeded. An upgrade will be required for this pump station.

PS 2404 (Unara Parkway) was constructed in 2009 to cater for approximately 36 lots in the most northeast corner of BHE. The ultimate design capacity is 160 ET which allows for an additional four stages of 30 lots (120 ET total) on the Quinlan property (pers. comm. Don Chesworth, BSC, 22/02/10). APP proposes to 'piggy back' flow from future pump stations 'A2', 'A3' and 'A4' through PS 2404 to PS 2402. This equates to approximately an additional 435 ET above the design capacity of PS 2404 (refer 'A1' on APP Dwg No REZ6, Appendix H).

Sewerage system limitations that have been identified for Precinct A (in bold) are summarised in Table 20 below.

Table 20 Precinct A Sewerage System Limitations

Infrastructure Item	APP Reference	Current Design Capacity (ET)	Ultimate Loading at completion of Precinct A (ET)
PS 2404 (Unara Parkway)	A1	160	595
PS 2401	BHE-PS1	44 ¹	620
PS 2402	BHE-PS2	137 ¹	1675
DN225 from PS 2402	BHE-PS2	550 ²	450 ²
DN300 from PS 2402	BHE-PS2	1350	1225
Tandem DN225 and DN300 from PS 2402	BHE-PS2	1900	1675
Tandem DN225 and DN300 from future BHE-PS3	BHE-PS3	1900	1825 (1902) ⁴
Tandem DN225 and DN300 including Summerhill Crescent	n/a	1900	1859 (1937) ⁵

¹From PRP100 Assessment (BSC, 2007)

²Council requires switchover from DN225 to DN300 to occur at 450 ET.

³Capacities from APP Dwg No REZ6 Rev A

⁴Adopted figure from Table 8 is 1902ET (1081 + 801 + 20ET) which places the dual rising mains from BHE-SPS3 at capacity.

⁵Adopted figure from Table 8 of 1902ET plus 35ET for Summerhill Crescent which places the dual rising mains from BHE-PS3 slightly above capacity. The allowance of 35ET for Summerhill Crescent assumes the current system is at capacity.

8.2.3 Council's Preference for Precinct A / BHE Servicing Strategy

APP's configuration proposes flows being pumped from BHE-PS3 to PS 2402 and then into the Ballina RWTP. Instead of pumping the most southern catchment of Ballina Heights north (BHE-PS3) and then south again, Council would prefer BHE-PS3 to become the primary pump station for BHE and Precinct A. Therefore PS 2402 would pump to BHE-PS3.

This provides the following advantages:

- Reduces the residency time of flows from catchment BHE-PS3;

- Allows BHE-PS3 to be designed for ultimate flows from all of BHE and Precinct A and would require PS 2402 to be upgraded to approximately 1700ET (subject to design and excludes any future loading from Precinct B).

In addition, residency times and associated septicity issues for the northern portion of the Precinct A system need to be considered due to 'piggy backing' between pump stations.

Table 21 below summarises the sewerage infrastructure requirements and Figure A6 (from *Sewerage Infrastructure Planning – Summary of Updates* draft report GHD, 2011) in 0 summarises the overall provision of sewerage infrastructure.

Table 21 Precinct A – Sewerage Infrastructure Summary

Infrastructure Item	APP Reference	Service Area	Ultimate Loading at completion of Precinct A (ET)	Service Date
PS 4	A4	PS 4 catchment	10	2020
RM/GM from PS 4 to PS 3	n/a	PS 4 catchment	10	2020
PS 3	A3	PS 3, 4 catchments	300	2020
RM/GM from PS 3 to PS 2	n/a	PS 3, 4 catchments	300	2020
PS 2	A2	PS 2, 3, 4 catchments	465	2015
RM from PS 2 to PS 2404	n/a	PS 2, 3, 4 catchments	465	2015
PS 2404 (Unara Parkway)	A1	PS 1, 2, 3, 4 catchments	595	Existing
RM from PS 2404 to PS 2402	n/a	PS 1, 2, 3, 4 catchments	595	Existing
PS 2401	BHE-PS1	PS 2401 catchment	620	Existing
RM from PS 2401 to PS 2402	n/a	PS 2401 catchment	620	Existing
PS 2402	BHE-PS2	PS 1, 2, 3, 4, 2401, 2402 catchments	1675	Existing
DN225 RM from PS 2402	BHE-PS2	PS 1, 2, 3, 4, 2401, 2402 catchments	450 ²	Existing
DN300 RM from PS 2402	BHE-PS2	PS 1, 2, 3, 4, 2401, 2402 catchments	1225	Existing
Tandem DN225 and DN300 RMs from PS 2402	BHE-PS2	PS 1, 2, 3, 4, 2401, 2402 catchments	1675	Existing
BHE-PS3	BHE-PS3	PS 1, 2, 3, 4, 2401, 2402, BHE-PS3 catchments	1825 (1902) ⁴	2015
Tandem DN225 and DN300 from future BHE-PS3	BHE-PS3	PS 1, 2, 3, 4, 2401, 2402, BHE-PS3 catchments	1825 (1902) ⁴	Existing
Tandem DN225 and DN300 including Summerhill Crescent	n/a	PS 1, 2, 3, 4, 2401, 2402, BHE-PS3, Summerhill Crescent catchments	1860 (1937) ⁵	Existing
Diversion of Ballina Heights DN225 and DN300 trunk main connections from North Ballina trunk main to the future Ballina RWTP trunk main	n/a	PS 1, 2, 3, 4, 2401, 2402, BHE-PS3, Summerhill Crescent catchments	1860 (1937) ⁵	2012
Ballina RWTP	n/a	Cumalum, Ballina	30000	2012

²Council requires switchover from DN225 to DN300 to occur at 450 ET.

³Capacities from APP Dwg No REZ6 Rev A

⁴Adopted figure from Table 8 is 1902ET (1081 + 801 + 20ET) which places the dual rising mains from BHE-SPS3 at capacity.

⁵ Adopted figure from Table 8 of 1902ET plus 35ET (lots) for Summerhill Crescent which places the dual rising mains from BHE-SPS3 slightly above capacity.

8.3 Precinct B System

The Sewerage DSP details Precinct B being within DSP Area B – Ballina STW – Release Area 3 (see Figure 7, GHD, 2004a). Cardno (2008) has adapted the DSP infrastructure configuration to suit their proposed layout as illustrated in *Precinct B in SK02 – Precinct B Proposed Sewer Strategy* provided in Appendix H.

Assuming the upgrade of Ballina RWTP and rising main diversion has been completed, Cardno propose to the following pump station and trunk main works to service Precinct B:

- Upgrade existing PS 2402;
- New rising main to PS 2402 through the eastern portion of Precinct A;
- New pump station (labelled 'PS1') within Lot 1 880178 (within Precinct A);
- New rising main to 'PS1' across Sandy Flat;
- New pump station (labelled 'PS2') within Lot 150 755684 (within Precinct A);
- New rising main to 'PS2';
- New SPS3 in the location proposed by the DSP (2004);
- New rising main and gravity main to SPS3;
- New SPS4 in the location proposed by the DSP (2004);
- New rising main and gravity main to SPS4.

8.3.1 Precinct B System Limitations

Department of Commerce (2009) confirm the existing rising main from Ballina Heights is a DN225 pipeline that has been sized to cater for growth up to the fourth stage of Ballina Heights Estate development. A parallel DN300 main has also been constructed in anticipation of catering for the sewage flows eventuating from Ballina Heights and Cumbalum Ridge through development Stages 5 to 8 (Precinct A).

APP have identified that the dual BHE rising mains have a total capacity of approximately 1900ET (DN225 maximum 550 ET, DN300 maximum 1350 ET). This capacity is reached for all of BHE and Precinct A development (on average density yields).

Council's Water and Sewerage section have verified that the capacity of the dual rising mains is limited in the order of 1900ET (DN225 maximum 550 ET, DN300 maximum 1350 ET). The Sewerage DSP allows an ultimate upgrade of PS 2402 to 2460 ET including 720 ET for Precinct B. However based on the densities proposed by proponents of Precinct B, the contribution may be in the order of an additional 3178 ET. Even considering future DSP upgrades, the Precinct A and BHE system are inadequate to accommodate this flow.

To accommodate the Precinct B at ultimate development a dedicated pipeline will be required to PS 2402 (and a further augmentation of PS 2402). Thereafter the dedicated pipeline will need to continue to the Ballina RWTP.

Design and Construction Limitations

It has recently been determined that the fill for the Ballina Heights cycleway along the alignment of mains within the floodplain disrupts flood flows within the floodplain. Council is currently considering measures to ameliorate such flooding impacts. Design of a new sewerage main or replacement of one of the existing mains will need to consider this issue as well as minimising impacts on sensitive vegetation and construction in soft soils. Additionally the design will need to consider the available room within the reserve alignment as the reserve width is constrained.

8.3.2 Council's Preference for Precinct B Servicing Strategy

Given the greenfield development location, transfer infrastructure from Cumbalum B through to the Ballina RWTP has been identified in a number of stages. These stages have been outlined through development of the

Sewerage Infrastructure Planning – Summary of Updates draft report (GHD, 2011) and associated SewerCAD modelling.

Stage 1: (2015) Connection of preliminary development loads

Connection into the existing DN300 rising main between Ballina Heights (SP2402) and the Ballina RWTP in the initial development stages (2015) has been identified for Cumbalum B. This allows utilisation of existing infrastructure capacity in the initial development stages.

An initial DN300 rising main is proposed to be constructed between Cumbalum B and PS2402 to facilitate this connection.

Stage 2: 2020 Development Horizon

Upon development of Cumbalum A, the existing DN300 main is required to service the PS2402 catchment. This has been identified to occur by the 2020 development horizon.

A DN450 main from PS2402 through to the Ballina RWTP is proposed to be constructed by 2020 to allow this to occur.

Stage 3: 2030 Development Horizon

A duplicate rising main to the DN300 main constructed in 2015 between Cumbalum B and SP2402 is required in 2030 to meet the projected development loads. This has been sized to allow common rising main operation, with a DN375 main identified as sufficient to meet the ultimate catchment development projections.

Implications for Precinct A Rezoning

To accommodate this servicing strategy for Precinct B a pipeline corridor / easement will be necessary through or around the perimeter of Precinct A and along the eastern perimeter of BHE. Council suggests that Precinct A proponents make a corridor allowance for this future rising main in consultation with Precinct B proponents.

Table 22 below summarises the sewerage infrastructure requirements and Figure A6 (from *Sewerage Infrastructure Planning – Summary of Updates* draft report GHD, 2011) in Appendix H summarises the overall provision of sewerage infrastructure.

Table 22 Precinct B – Sewerage Infrastructure Summary

Infrastructure Item	Cardno Reference	Service Area	Ultimate Loading at completion of Precinct B (ET)*	Service Date
PMP-188 and RM	n/d	PMP-188 catchment	n/d	Post 2030
PS 8 and RM / GM	n/d	PS 8, PMP-188, PMP-189 catchments	n/d	2015
PS 7 and RM	PS4	PS 7, 8, PMP-188, PMP-189 catchments	n/d	2015
PS 6	PS3	PS 6, 7, 8, PMP-188, PMP-189 catchments (Precinct B)	3178	2015
RM1 from PS 6 to PS 2402	n/d	Precinct B (initial development)	Proportion of 3178	2015
RM2 from PS 6 to PS 2402	n/d	Precinct B (residual development)	Proportion of 3178	2030
Augmentation of PS 2402	Cumbalum PS	Augmentation for Precinct B loads	n/d	2015 - 2020
RM from PS 2402 to Ballina RWTP	n/d	Precinct B	n/d	2020

8.3.3 Subdivision Reticulation Mains

The design and construction of sewerage reticulation infrastructure is to be proposed by the developer at Development Assessment (DA) stage and assessed by Council.

Infrastructure works conducted internal to a site by developers should make due allowance for future development on adjacent land identified for potential development. This would include sizing pipes and/or making allowance for augmentation, provision of easements and provision of connection points for upstream flows. An agreement between landholders may be required to achieve this.

8.3.4 Summary

The ability to provide a sewer service to CURA is severely restricted until the upgrade of Ballina RWTP is completed and flows from BHE SPS 2402 can be diverted direct to this RWTP.. Since the completion of the optimisation upgrade of Lennox Head RWTP, there may be interim capacity for development of Lot 284 DP1141745 within the southern portion of Precinct A, subject to the timing of other Ballina Heights development.

Following commissioning of the Ballina RWTP and diversion of the Ballina Heights rising mains, the remaining limitations for Precinct A are the necessary upgrade of two catchment pump stations as detailed in Table 20 and the construction of BHE-PS3 as the primary pump station servicing BHE and Precinct A.

Post the upgrade of the Ballina RWTP, the ability to service Precinct B remains restricted by the capacity of PS 2402, and particularly the capacity of the Ballina Heights rising mains to Ballina RWTP. Council's preferred servicing strategy allows for utilisation of existing infrastructure capacity in Precinct A / BHE in the initial development stages for Precinct B. However, the availability of existing capacity would depend on the progress of development in Precinct A and BHE.

The allowance of a rising main corridor through or around the perimeter of Precinct A and BHE will also be necessary to service Precinct B.

8.4 Sewerage Infrastructure for an Alternative Development Sequence

8.4.1 Scenario

For the scenario where development in the CURA is out of sequence with that assumed in the W&SIPR, that is where development is proposed to occur in a manner other than as a south to north progression, the development proponent/s for Precinct B would require an alternative sewage servicing proposal. Options that have been raised during the rezoning process are discussed below.

8.4.2 Option 1 – Package RWTP

- ▶ Install a temporary package RWTP on the eastern side of Precinct B;
- ▶ Treat waste water to a tertiary standard to meet the recycled water obligation;
- ▶ Pump recycled water to the Ballina Heights Recycled Water Reservoir; and
- ▶ Decommission the temporary package RWTP when rising main to PS2402 is constructed, augmentation of PS2402 is undertaken and the additional rising main to Ballina RWTP is complete.

Option 1 Issues

- ▶ Significant upfront capital cost for Package RWTP and associated infrastructure, which will only be temporary.
- ▶ In the circumstance where a package treatment plant was proposed, ultimately Council will not accept the management and maintenance of this infrastructure. Therefore construction would be temporary in nature and would require decommissioning at the point where a reticulated connection was available.
- ▶ Discharge of treated effluent to the Ballina Nature Reserve is highly unlikely due to the sensitive environment.
- ▶ Wastewater needs to be treated to a tertiary standard in order for the development to meet the 80% reuse target set by the Master Plan.
- ▶ Treated effluent would need to be directed to the Ballina Heights Recycled Water Reservoir. This would require similar pump station and rising main infrastructure as required for sewerage servicing anyway.

8.4.3 Option 2 – Construct Residual Infrastructure in Precinct A

- ▶ Construct residual infrastructure back to the most northerly location of infrastructure in Precinct A for initial stages of Precinct B only;

Option 2 Issues

- ▶ The funding for this infrastructure would be the responsibility of Precinct B proponents unless an arrangement for partial funding of the infrastructure was reached with Precinct A proponents.
- ▶ Infrastructure sizing would need to be for the ultimate development scenario as staging is not preferred.
- ▶ Ultimate sizing with low flows brings the potential for septicity issues related to long residency times which would need to be investigated.
- ▶ The location of the infrastructure in the northern end of Precinct A and across Sandy Flat would need to be determined with easements in place potentially before adjoining development stages are constructed.

8.4.4 Summary

In the circumstance where development occurred out of sequence with a south to north progression, Council's preference would be for implementation of Option 2, subject to a full design investigation specific to the system circumstance, prior to lodgement of DA.

9. Open Space

The requirements for open space and recreation facilities as a result of the expected development of the shire are documented in the Open Space Strategy (BSC, 26 June 2008).

The Open Space Strategy identified that Council will need to facilitate the provision of a range of local, district and regional level open space and recreation facilities to meet expected demand, including:

1. New local parks and embellishment of new and existing local parks;
2. New district parks and embellishment of new and existing district parks;
3. New playing fields, outdoor sports courts and other active recreation facilities; and
4. New and augmented regional open space and recreation facilities.

As per Table 1.2.1 of the Contributions Plan, local and district parks and playing fields/courts (Items 1 – 3 above) to meet the demands of development in CURA will be addressed by other contribution arrangements outside of this Plan. However, for the purposes of this IDP the minimum standard for local and district parks and playing fields/courts has been applied as specified in the Open Space Standards contained in the Open Space Strategy. Table 23 below outlines the expected open space provision for Cumbalum.

9.1 Active Open Space

BSC's Combined Development Control Plan (DCP) Chapter 1 (Urban Land) – Part 4 (Policy Statements), Policy Statement No 4 – Urban Subdivision (see Appendix I) defines following the standards for provision of open space in new residential subdivisions:

- ▶ A dedication of land for district playing fields and outdoor courts; and
- ▶ The construction of full sized playing fields and courts.

Types of fields and outdoor courts may include:

- ▶ Full size cricket / AFL fields (estimated area 150m x 420m for 2 x full fields);
- ▶ Full size rugby / soccer fields (2 within cricket / AFL field);
- ▶ Cricket nets;
- ▶ Netball / basketball / tennis facilities.

The DCP identifies the provision of playing fields and outdoor courts in close proximity to schools and integration with local or district parks where possible to enhance appeal and diversity of opportunity.

Facilities required by Policy Statement 4 include:

- ▶ Club house;
- ▶ Amenities;
- ▶ Change rooms;
- ▶ Lighting; and
- ▶ Car parking¹⁸.

¹⁸ See the specifications in the policy statement for additional detail.

9.1.1 Desired Outcomes for AOS

Sandy Flat

Council's desired outcome for Cumbalum's AOS is the provision of playing fields, outdoor courts and amenities for Precinct A and B adjacent to each other to the north of Sandy Flat floodway¹⁹ on the northern end of Lot 150 DP755684 (Barlow's property – Precinct A) and Lot 19 DP873873 (Lynn's property – Precinct B) respectively. The advantages include:

- ▶ Central location for both Precincts;
- ▶ Relatively flat land;
- ▶ Located on proposed link road with good access opportunities; and
- ▶ Collocation provides economic sense for canteens and clubhouses whilst also affording efficiency of maintenance.

It is recommended that proponents for each precinct come to an arrangement to provide different field and court types to avoid duplication and create a variety of sporting options. The facilities chosen should also reflect the demands identified for particular venues within the district and shire.

It is important to note that the location proposed has considered both precincts are appropriate to be rezoned and will be viable in the short to medium term.

Specific Provision for Precinct A

The specific provision for Precinct A has been considered in preparation of the 1st Cut LES:

- ▶ District playing fields at Sandy Flat (15 ha combined with Precinct B) including:
 - Club house with amenities
 - Car parking
- ▶ The following district facilities on the western side of the development:
 - 6 tennis courts in a cluster
 - 6 netball courts in a cluster
 - Club house with amenities
 - Car parking
 - Skate park (1000m²)
 - Community garden (4000m²)
 - Community hall (1000m²)
 - Pre School / extended day care (2000m²)
- ▶ 2 or 3 local parks (2000m² each)

Specific Provision for Precinct B

- ▶ The specific requirements for Precinct B include the shared provision of District playing fields at Sandy Flat (15 ha combined with Precinct A) including:
 - Club house with amenities
 - Car parking

The specific provision of district facilities and local parks remains the subject of consideration for the 1st Cut LES.

¹⁹ Subject to demonstrated flood immunity, negligible impact on flooding and ecological values.

9.2 Passive Open Space

9.2.1 Local Parks

Policy Statement 4 details the following attributes for local parks:

- ▶ Within 400 metres of all residents and safe access without major road crossings;
- ▶ Access via more than one street;
- ▶ Integrate with Local shopping and community facilities;
- ▶ Integrate with cycle and footpaths;
- ▶ Parks will be sited to take advantage of natural features such as foreshore areas or where there is significant vegetation when applicable;
- ▶ Link with wildlife corridors and flora and fauna protection areas to provide transition between natural and residential development;
- ▶ At least 2,000m² should be level to gently sloping land; and
- ▶ Play equipment and soft fall to meet relevant Australian Standards.

Facilities required by Policy Statement 4 include:

- ▶ Seating;
- ▶ Play equipment;
- ▶ Pathway;
- ▶ Shade trees or structures;
- ▶ Litter bins; and
- ▶ Safety fencing as appropriate.

9.2.2 District Parks

Policy Statement 4 details the following attributes for district parks:

- ▶ Preferably within 5 kms of all residents;
- ▶ Integrate, where possible with other community foci-shops, community centres, outdoor sports facilities;
- ▶ Located such that traffic causes minimal disruption to residential areas;
- ▶ May be highly modified/developed or incorporate significant natural features;
- ▶ Access to public transport; and
- ▶ Play equipment and soft fall to meet relevant Australian Standards.

Facilities required by Policy Statement 4 include:

- | | |
|------------------------------|----------------------------------|
| ▶ Seating; | ▶ Litter bins; |
| ▶ Play equipment; | ▶ Safety fencing as appropriate; |
| ▶ Pathway; | ▶ Sealed parking; |
| ▶ Shade trees or structures; | ▶ Toilets and amenities; and |
| ▶ BBQ facilities | |

Table 23 Open Space and Recreation Provision

Open space / recreation facility	Minimum standards	rate	Precinct A	Precinct B	unit	Other planning specifications
Local parks	0.33 hectares per 1,000 population	0.33	0.71	2.51	ha	Minimum size 2,000 square metres.
	Embellishment cost equivalent of 1.5 playgrounds per 1,000 population	1.5	3.2	11.4	playgrounds	All residents to be within 400 metres of a local park.
District parks	0.5 hectares per 1,000 population	0.5	1.08	3.80	ha	Centrally located reserves that may include picnic and social/recreation facilities including picnic shelters, walking opportunities, public art and play equipment etc. Planning undertaken on a 'district' catchment basis.
District Playing fields and outdoor courts	1.7 hectares per 1,000 population	1.7	3.68	12.92	ha	Minimum 4 ha site for each facility.
	1.2 full size playing fields per 1,000 population, which includes allowance for sports courts	1.2	2.6	9.1	fields	Planning undertaken on a 'district' catchment basis.
	1.0 courts per 1,000 population	1.0	2.2	7.6	courts	
Regional open space facilities	Regional OS Facilities Contribution	\$ 290.00	\$627,183.00	\$2,203,362.00	\$ per Population	Contribution to centralised sporting and recreation facilities.
	Admin Contribution	\$ 11.00	\$23,789.70	\$83,575.80	\$ per Population	Planning undertaken on a Shire-wide catchment basis.
			\$650,972.70	\$2,286,937.80	Contribution	

Table Assumptions:

	Precinct A	Precinct B
ET	801	2814
Population	2162	7598

9.2.3 Undevelopable Land

Large areas of land being set aside for environmental/bush regeneration, bushfire buffers and stormwater drainage etc. are referred to as undevelopable land. Dedications of areas of undevelopable land (including steep land), are not recognised for inclusion within the dedication of land for open space.

Due to the potential cumulative maintenance burden imposed on Council where such land is accepted, some qualifications and condition guidelines are presented within Section 2.9 of the *BSC Open Space Strategy* as follows:

- Undevelopable land will be kept in large contiguous areas to ensure there is a consistent maintenance regime to improve environmental outcomes.
- Environmental protection areas will be rehabilitated.
- An applicant will provide details on how undevelopable land will be maintained in perpetuity and who will be responsible for the management (This may be in the form of an Environmental Management Plan (EMP), Bushfire Management Plan (BMP), Stormwater Management Plan etc.).
- Demonstrated appropriate levels of rehabilitation, development and embellishment to minimise maintenance.
- Council will only accept the dedication of undevelopable land where it can be demonstrated that the public benefit outweighs the on-going maintenance burden. The provision of public access will be an important consideration in making this judgement.

There is also the need to ensure that undevelopable lands are appropriately managed irrespective of whether Council becomes the management authority.

It is Council's preferred option that undevelopable land will be created as a community title lot in a community title scheme that has sufficient financial capacity to maintain these areas. It must be demonstrated that undevelopable land will not end up in Council's ownership through unpaid rates.

The dedication of land that adequately addresses the above points could be undertaken through implementation of a Planning Agreement.

9.3 Open Space Management

9.3.1 Depot Land

The provision of land for an open space maintenance depot is considered appropriate for the expected population of Cumbalum and associated open space area to be dedicated. Land for a depot would be best integrated with district playing fields facilities.

9.3.2 AOS Maintenance

Policy Statement 4 requires the developer to maintain and improve the surface of playing fields and associated facilities until they are available for public use.

9.3.3 POS Maintenance

The developer is required to maintain and improve the surface of parks and associated facilities, and ensure the establishment of trees and gardens during the 'maintenance period'. Handover of maintenance duties would only occur after Council conducts an 'off maintenance' inspection and is satisfied that the works have been completed and maintained in accordance with the conditions of consent.

9.3.4 Undevelopable Land

As discussed in Section 9.2.3, Council will only accept the dedication of undevelopable land where it can be demonstrated that the public benefit outweighs the on-going maintenance burden.

Cumbalum (especially Precinct B) has large areas of undevelopable land due to:

- ▶ Hairy Joint Grass (native threatened species);
- ▶ Slopes above 25%;
- ▶ Remnant rainforest and/or other threatened species; and
- ▶ Bushfire buffer areas.

Often a combination of the above constraints occurs simultaneously.

Following Peer Review of the proponent's technical documentation to support rezoning, Council has had discussions with the proponents in consultation with DECC to understand the maintenance burdens associated primarily with Hairy Joint Grass. Issues include:

- ▶ A lack of knowledge on the ability to translocate Hairy Joint Grass;
- ▶ The need for maintenance to include slashing which is often not possible on steep slopes where the grass often is found;
- ▶ The difficulty in maintaining grassland without slashing due to weed infestation such as camphor laurels;
- ▶ The difficulty of upholding the environmental value of native grassland (or other threatened species) within private residential allotments;
- ▶ In the case of allowing cattle to graze the grassland to maintain:
 - The potential landuse conflict between residential development and cattle and the need to include buffer offsets;
 - The need for large contiguous areas for grazing viability that have some partially level areas.

Given the difficulties associated with this undevelopable land Council is reluctant to accept dedication of areas that have a combination of Hairy Joint Grass and steep slopes. However, the proponents need to demonstrate an appropriate management regime irrespective of whether Council becomes the management authority.

9.4 Community Facilities

The Community Facilities Strategy identified that Council will need to facilitate the provision of a range of district and regional level community facilities to meet expected demand, including:

1. New and augmented multipurpose halls and community centres;
2. New performing arts spaces;
3. New public exhibition spaces;
4. New facilities for surf lifesaving;
5. Additional library area and books;
6. Additional floor area for civic administration purposes; and
7. New community support floor area.

9.4.1 District Facilities

As per table 1.2.1 of the Contributions Plan, district community facilities (Item 1 above - halls and community centres), will be addressed by other contribution arrangements outside of the Contributions Plan for development of CURA. However, for the purposes of this IDP the minimum standard for district community facilities has been applied as specified in the Community Facilities Standards contained in the Community Facilities Strategy. Table 24 below outlines the expected contributions for Cumbalum.

Multipurpose Hall

It is evident from Table 24 that a multipurpose hall (and a suitable and dedication to accommodate each facility) will need to be provided for both Precinct A and Precinct B with the approximate GFA's²⁰. Each hall must have:

- ▶ Division into two separate spaces, suitable for activities of local groups;
- ▶ At least 2 offices for groups or visiting services;
- ▶ A capability for use for vacation and after-school care (including play areas);
- ▶ Kitchen, storage and amenities; and
- ▶ Access for the disabled.

It is possible that the GFA required for both Precinct A and B could be combined into one conjoined facility, however the specific mechanism for achieving this outcome would need to be considered prior to lodgement of the development application.

9.4.2 Shire Wide (Regional) Facilities

As per table 1.2.1 of the Contributions Plan, a monetary contribution will be required towards Shire wide facilities (Items 2 – 7 listed in Section 9.4) for development of Cumbalum Ridge. An estimate of the relevant contribution (09/10 rates) towards such facilities is provided in Table 24.

²⁰ GFA is estimated from approximate rezoning yield. Actual GFA to be determined upon development approval.

Table 24 Community Facilities Provision

Community Facility	Minimum standards	rate	Precinct A	Precinct B	unit	Other planning specifications
Multi-purpose halls	105 m ² GFA per 1,000 population Minimum size of 250 m ² GFA, with an auditorium size of approximately 170 m ² Planning undertaken on a 'district' catchment basis	105	191.4	567.0	m ²	Hall to have the following components: ⇒ A meeting hall, which is able to be divided into two separate spaces, suitable for activities of local groups ⇒ At least 2 offices for groups or visiting services ⇒ A capability for use for vacation and after-school care (incl play areas) ⇒ Kitchen, storage and amenities ⇒ Access for the disabled
Shire Wide Community Facilities	Shire Wide Contribution	\$3,237,561.90	\$11,373,906.60	\$3,237,561.90	\$ per Population	Contribution to performing arts space, exhibition space, surf lifesaving facilities, libraries and books, Shire administration centre, community support facilities, child care facilities.
	Admin Contribution	\$41,091.30	\$144,358.20	\$41,091.30	\$ per Population	
		\$3,278,653.20	\$11,518,264.80	\$3,278,653.20	Contribution	

Table Assumptions:

	Precinct A	Precinct B
ET	801	2814
Population	2162	7598

Contribution is estimated from approximate rezoning yield and 09/10 rates published in BSC Contributions Plan Amendment No 1. Actual contribution to be calculated on applicable rates at the time of assessment.

9.4.3 Community Gardens

Community gardens are unique forms of public open space managed by the community for the production of food and to contribute to the achievement of a sustainable urban environment.

Council has recently adopted a Community Gardens Policy (March 2010) to provide direction on how Council will facilitate the establishment and management of community gardens on Council owned and controlled land public land.

In formulating the structure of Precinct A and B, Council encourages the dedication of land meets the site selection criteria within the draft policy for later potential use for community gardens.

10. Infrastructure Funding and Delivery

10.1 Funding Implementation Options

The following funding implementation options exist for provision of trunk infrastructure at Cumbalum:

- ▶ DSP's for water and sewerage infrastructure (Section 64);
- ▶ Development Contribution Plan for road, open space and community infrastructure (Section 94); and
- ▶ Planning Agreements. Council may enter an agreement with:
 - An individual developer; or
 - A Development Corporation.

An overview of the DSP's and Developer Contribution Plan's relevant to CURA is provided in Section 3 of this report. A description of Planning Agreements follows.

10.1.1 Planning Agreements

Alternatively, or in addition to the levying of Section 64 or 94 contributions, a council may negotiate a voluntary planning agreement with a developer (or development corporation) for the provision of local infrastructure.

Council may be prepared to negotiate planning agreements with relevant parties for the provision of community infrastructure in relation to major developments. Such agreements may address the substitution of, or be in addition to, the direct contributions required under a contributions plan. Any draft planning agreement shall be subject to any provisions of or Ministerial directions made under the EP&A Act or EP&A Regulation relating to planning agreements.

10.2 Funding via Contributions

10.2.1 Road Contributions

Precinct A and B developers will be levied for shire wide road contributions as a condition of development consent in accordance with the Roads Contributions Plan. The contributions will be applied to the development on the basis of approved mix of development types according to Table 1.2 – Contribution Rates Summary Schedule in BSC (2010). These contributions will be committed to the proposed works outlined in the Roads Contributions Plan, including Items 20, 31-33 and 34 related to Ross Lane and Ballina Heights Drive. For CURA road items funded through contributions refer to the current Roads Contribution Plan.

10.2.2 BSC Water Supply, Recycled Water and Sewerage Infrastructure Contributions

Precinct A and B developers will be levied for shire wide water supply, recycled water and sewerage contributions as a condition of development consent in accordance with the DSP's. The contributions will be applied to proposed works outlined in the respective DSP's on the basis of approved lots (ET's). Note; the 2004 Sewerage DSP does not currently include recycled water infrastructure for Precinct B.

It is anticipated that the revised DSP's will be exhibited and adopted by Council in the 2011 – 2012 financial year.

10.2.3 Rous Water Contributions

Precinct A and B developers would contribute towards the cost of the provision of bulk supply assets including the new Knockrow Service Reservoir through payment of development contributions to Rous Water. These contributions are separate to development contributions payable to Ballina Shire Council. The contribution levied by the DSP is collected by Rous Water through the imposition of conditions of consent by the constituent Council (BSC).

10.2.4 Open Space Contributions

The provision of a range of local, district and regional level open space and recreation facilities to meet expected demand is incorporated into development contributions detailed within the Ballina Shire Contributions Plan. Precinct A and B developers will be levied for shire wide open space contributions as a condition of development consent in accordance with the Plan.

New and augmented regional open space and recreation facilities are included within the Contributions Plan. However, as per Table 1.2.1 of the Plan, local and district parks and playing fields/courts required to meet the demands of development in CURA will be addressed by other contribution arrangements outside of this Plan. The level of provision will be in accordance with the Open Space Strategy (BSC, 2008). For estimated CURA open space contributions refer to Table 23.

10.2.5 Community Facilities Contributions

The provision of a range of district and regional level community facilities to meet expected demand is incorporated into development contributions detailed within the Ballina Shire Contributions Plan. Precinct A and B developers will be levied for shire wide community facility contributions as a condition of development consent in accordance with the Plan.

As per Table 1.2.1 of the Contributions Plan, district community facilities for CURA will be addressed by other contribution arrangements outside of the Plan. The level of provision will be in accordance with the Community Facilities Strategy (BSC, 2008). For estimated CURA community facilities contributions refer to Table 24.

10.2.6 Options for Delivery of Contribution Plan Infrastructure

Provided by Supply Authority

Items of infrastructure included in the DSP's and Contribution Plans may be provided by Council, with developers contributing through payment of development contributions.

Provision by Developer

Alternatively, subject to agreement with Council, developers could construct items of infrastructure and receive credits on development contributions otherwise payable. In this circumstance the works would be detailed in a Project Brief including a detailed cost estimate of the works that would otherwise be contributed too. Council will oversee the design and construction of such works.

Typically Council will condition the levying of contributions and where the developer wishes to construct the works they would approach Council, outlining their proposal to do so.

10.3 Funding and Delivery of Infrastructure outside the DSPs / Contribution Plans

Historically Council's approach to the provision of trunk infrastructure has been to incorporate the funding and delivery into a Section 64 or Section 94 plan, placing the onus on Council to effectively plan the scale and timing of said infrastructure. However, where the following criteria can be met, Council will require trunk infrastructure delivery by the developer where it:

- ▶ Can be provided through an individual or landholder agreement;
- ▶ Is principally required to service a future rezoning area only, with no benefit to the remainder of the shire's community; and
- ▶ Can be designed and constructed entirely by the developer in accordance with Council's design standards with minimal input required from Council i.e. minimal need to incorporate other Council service areas into the design.

10.3.1 Implications of DSP Revision

Due to the changes proposed to CURA infrastructure delivery detailed in this IDP, particularly for sewerage infrastructure for Precinct B, the existing DSP's have been partially superseded and may not provide a comprehensive means to implement future CURA infrastructure.

Council's Water and Sewerage DSP's are currently undergoing revision as part of Council's commitment to review developer charges and proposed infrastructure implementation after a period of 5 to 6 years. The DSP revision is being undertaken on the basis of the criteria specified above, and consequently there will be changes to the extent of infrastructure included in the DSP's. In the case of CURA, it is Council's intention that growth requiring augmentation of Council's existing infrastructure is generally proposed to be included in the revised DSP's whereas items that meet the criteria outlined in Section 10.3 above would be excluded.

In the interim period before the revised DSP's are exhibited and endorsed by Council, development proponents can liaise with Council to determine if the existing DSP's provide an adequate approach to funding a particular item or alternatively negotiate a position on funding. Infrastructure items currently fully or partially sitting outside of Development Servicing and Contribution Plans are outlined in Table 25 below.

Table 25 Summary of Items Currently Outside of Contributions Plans

Trunk Item	Outside of:	Comment
Roads – Ballina Heights Drive (Precinct A)	Roads Contributions Plan (2010)	Excluded as the works meet the criteria outlined in Section 10.3
Roads – North-South link road (Precinct B)	Roads Contributions Plan (2010)	
Roads – Duplication of Cumbalum Interchange roundabouts	Roads Contributions Plan (2010)	Potential works documented as part of later CURA Traffic Study (Cardno, 2011)
Roads – Duplication of Ross Lane Interchange roundabout and Pacific Highway overpass	Roads Contributions Plan (2010)	
Roads – Precinct B connections to Ross Lane	Roads Contributions Plan (2010)	
Water Supply – Precinct A	Water DSP (2004)	Arrangement required to service proposal differs to 2004 DSP allowance. Works that meet the criteria outlined in Section 10.3 are proposed to be excluded in revised DSP, subject to exhibition and Council adoption processes
Water Supply – Precinct B	Water DSP (2004)	
Recycled Water – Precinct A	Sewerage DSP (2004)	
Recycled Water – Precinct B	Sewerage DSP (2004)	Not included in 2004 DSP. Works that meet the criteria outlined in Section 10.3 are proposed to be excluded in revised DSP, subject to exhibition and Council adoption processes
Sewerage – Precinct A	Sewerage DSP (2004)	Arrangement required to service proposal differs to 2004 DSP allowance. Works that meet the criteria outlined in Section 10.3 are proposed to be excluded in revised DSP, subject to exhibition and Council adoption processes
Sewerage – Precinct B	Sewerage DSP (2004)	
Open Space - local and district parks and playing fields/courts (Precinct A and B)	BSC Contributions Plan (2008)	Rates of provision documented in the BSC Contributions Plan can be used for guidance.

10.3.2 Options for Delivery of Infrastructure

As part of the preparation of this IDP, Council has identified a number of options for infrastructure provision for CURA. Where infrastructure has been identified that is not included within a Contributions Plan, Council will need to be satisfied prior to rezoning that the infrastructure can be provided in a timely, coordinated manner and at minimal risk to the public purse. The infrastructure requirements will also need to be clearly articulated to ensure that existing and future parties with an interest in the land are fully aware of the requirements. The following options have been considered.

Planning Agreements

The provision of infrastructure required by the IDP would be documented in Voluntary Planning Agreement/s (VPA) prepared and adopted pursuant to section 93F of the *EP&A Amendment (Development Contributions) Act 2005*. The VPA/s would be offered by the developer and, subject to Council agreeing with the contents, exhibited for comment in accordance with the Act. Following adoption, the terms of the VPA are bound to the title of the land.

Single Planning Agreement

A single VPA could be prepared documenting all commitments by the developer concerning the provision of the required infrastructure by the IDP and the LES. This would be exhibited concurrently with the rezoning documentation. Whilst a single agreement provides certainty for all parties involved, it also requires a considerable level of detail to be resolved relatively early in the land development process.

Multiple Staged Planning Agreements

A broad VPA could be prepared and exhibited at rezoning stage (VPA 1). This document would broadly commit to meet the infrastructure requirements documented in the IDP and LEP, but would not contain details concerning the provision of said infrastructure.

Following approval of the rezoning, any future development proposal would need to address the items addressed by VPA 1. This could be achieved by way of subsequent Planning Agreement/s detailing the specific infrastructure requirements reflected in the subdivision development application. Additionally specific infrastructure requirements included in the subsequent Planning Agreement would be cross referenced in the Conditions of Consent (subject to approval).

10.3.3 Conditions of Consent

Infrastructure that is required to service a subdivision stage and will ultimately become a Council asset but is not considered 'capital works' infrastructure, will be imposed by Council as a condition of consent. The developer would be required to design and construct these works to the satisfaction of Council. Such infrastructure generally includes:

- ▶ Local roads;
- ▶ Footpaths, cycleways and bus shelters;
- ▶ Potable water reticulation mains;
- ▶ Recycled water reticulation mains;
- ▶ Sewerage mains and collections; and
- ▶ Interallotment drainage.

11. References

- Ardill Payne & Partners (May 2008) *Cumbalum Ridge Rezoning Application – Precinct A*
- Ardill Payne & Partners (January 2010) *Cumbalum Ridge Rezoning Application Revision – Precinct A*
- Ballina Shire Council (July 2006) *Cumbalum Structure Plan – Volume 1*
- Ballina Shire Council (December 2006) *Landholder Group (CURA) Workshop One: Minutes*
- Ballina Shire Council (October 2008) *Ballina Shire Contributions Plan*
- Ballina Shire Council (March, 2010) *Ballina Shire Roads Contributions Plan*
- Ballina Shire Council (March, 2010) *Contributions Plan Amendment No.1*
- Ballina Shire Council (2010) *Draft Community Gardens Policy*
- Cardno Eppell Olsen (September 2007, Adopted February 2008), *Ballina Strategic Road Network Update*
- Cardno Eppell Olsen (March 2011), *Cumbalum Urban Release Area, Ballina Shire – Traffic Study*
- GHD (May 2004a) *Ballina Shire Council Sewerage Infrastructure – Development Servicing Plans*
- GHD (May 2004b) *Ballina Shire Council Water Supply Infrastructure – Development Servicing Plans*
- GHD (May 2004c) *Ballina Shire Council Water and Sewerage Infrastructure Planning Report*
- GHD (March 2011) *Sewerage Infrastructure Planning – Summary of Updates* draft report
- Hydrosphere Consulting (April 2009) *Rous Water Development Servicing Plan – Bulk Supply Services*
- LandPartners (2009) *Cumbalum Precinct B Rezoning Request*
- New South Wales Department of Commerce (Water Solutions) (April 2009) *Concept Design for Catchment Diversion Works North Ballina, Ballina Heights and West Ballina SPS; Part of the Ultimate Upgrade of the Ballina Lennox Head Wastewater Scheme*
- New South Wales Public Works (December 2009) *Ballina Heights – Cumbalum Comparative Cost Estimation for Dual Supply Reservoirs & High Level Zone Options*
- NSW Water Solutions, Department of Services, Technology and Administration (September 2009) *Ballina - Lennox Head Recycled Water Master Plan, Environmental Impact Statement*
- Phillips Group (April 2008) *Ballina Shire Council – Ballina Recycled Water Communication and Education Plan*