IPART
New South Wales

Independent Pricing and Regulatory Tribunal

Network Operator and Retail Supplier Licence Application Form

Water Industry Competition Act 2006

Cooranbong Water — Network Operator's Licence Application form

Version 3: March 2015

PUBLIC APPLICATION

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1 Instructions

The *Water Industry Competition Act 2006* (the WIC Act or Act) came into operation on 8 August 2008 and, among other things, provides for the licensing of private sector water utilities.

Under the WIC Act, the Minister for Finance and Services (the Minister) is responsible for granting the following licences:

- **Network Operator's Licence** for constructing, maintaining and operating water industry infrastructure.
- **Retail Supplier's Licence** to supply water or provide sewerage services, by means of water industry infrastructure.

The Independent Pricing and Regulatory Tribunal of NSW (IPART) is responsible for receiving and assessing licence applications and for the ongoing administration and enforcement of licences.

1.1 Who should complete this form?

This form is for corporations that wish to become licensees under the WIC Act. Under section 8(1) of the WIC Act, an application for a licence can only be made by or on behalf of a corporation.

A copy of the WIC Act is available on the NSW Government's legislation website at www.legislation.nsw.gov.au.

1.2 Information on filling out and submitting this form

1.2.1 General instructions to applicants

The questions asked in the application form are designed to allow you to establish your capacity and expertise to carry out the proposed activities in compliance with your licence (if granted), the WIC Act and the Water Industry Competition (General) Regulation 2008 (the General Regulation).

Your response should include sufficient information to demonstrate an extensive understanding of the activities you are proposing to undertake, the issues or impacts associated with these activities, and the processes required to address or manage these issues or impacts. The information provided in your application should reflect the type, size, complexity and level of risk associated with the activities to be licensed.[1]

[1] For example, a recycled water scheme involving a single source, basic treatment, and single pipeline to one commercial customer will be less complex and therefore require less supporting information than a multi-source scheme, with complex treatment and a pipe network ultimately supplying a mix of commercial and residential customers.

Following each question in the application form is an explanation (in italics) as to why we have requested the information and how it will be assessed in relation to the requirements of the WIC Act and the General Regulation. These explanations are provided as a general guide to help applicants understand the main ways in which the information sought is likely to be relevant for the assessment of their application. However, we may use the information provided for any other relevant purpose when we assess your application.

We will also have regard to the following licensing principles, in accordance with section 7 of the WIC Act:

- the protection of public health, the environment, public safety and consumers
- the encouragement of competition in the supply of water and the provision of sewerage services
- the ensuring of sustainability of water resources, and
- the promotion of production and use of recycled water.

Where more extensive information is required in response to a question (ie, example plans), the information is requested to be included as an appendix to the question. Unless indicated otherwise the appendices must be attached to the application to ensure there is sufficient information for IPART to make an assessment in accordance with the relevant legislation. An application that does not attach the necessary appendices may be considered to be an incomplete application resulting in a delay in processing. All appendices should be labelled as per the instructions.

1.2.2 Confidential information

IPART uses open public processes to consider applications and must invite submissions on applications from the public. Unless they are confidential, we treat your applications and appendices as public documents. We publish these documents on our website and distribute them to interested parties as appropriate.

Subject to our disclosure obligations (referred to below), we will treat as confidential the financial information that we request for the purposes of your application. We may share that information with our consultants, but will do so on a confidential basis.

You should let us know if you consider other aspects of your application to be confidential so that we can discuss your confidentiality concerns with you.

You should provide separate confidential and public copies of your application. In particular, you should provide:

- **a confidential application**, which is clearly marked "confidential" and clearly identifies the confidential information that should not be publicly released, and
- **a public application,** which does not contain the confidential information, for publication and distribution by IPART.

If we agree with all your confidentiality concerns, we will only publish the public application on our website. However we will furnish a copy of the confidential application to the Ministers specified by the WIC Act and regulations, as we are required to do under section 9(1)(b) of the WIC Act.

Please note that third parties may apply under the *Government Information (Public Access) Act 2009* for access to applications, including applications that contain confidential information. If we receive such an application, we will determine disclosure in accordance with that Act.

Where an application includes personal information, IPART will deal with that information in accordance with the information protection principles set out in the *Privacy and Personal Information Protection Act 1998*.

1.2.3 Is there an application fee?

The application fee for a network operator's licence is $2,500. The application fee for a retail supplier's licence is $2,500. If you are applying for both a network operator's licence and retail supplier's licence, the fee is $5,000.

The appropriate licence application fee should be paid either by cheque made payable to the Independent Pricing and Regulatory Tribunal of NSW or by electronic transfer to:

Westpac Banking Corporation
BSB: 032-001
Account No: 205717
Reference: WICA app

If payment is made electronically, please provide a copy of the electronic transfer receipt with your licence application.

Please note that once an application has been submitted, the application fee(s) will not be refunded if the application is rejected or withdrawn.

1.2.4 How do you submit the application?

You must submit one hard copy and one electronic copy of each of the versions (public and confidential) of the completed application form and appendices. You may wish to password protect your electronic confidential version. If so, we will contact you to request the password following submission of your application.

The electronic copy should consist of separate files for the application and the appendices for each of the sections. Where there is more than one appendix in a section, they should be combined into a single electronic file. For example, section 3 will have appendices 3.2.1 and 3.6.1 – these appendices should be combined into one electronic file. A summary of the appendices is included in attachment A to this form.

When you have completed your application, you should mark it to the attention of the Water Licensing team, and submit it to IPART in person, via email or via post:

In person	Via email	Via post
Attention: Water Licensing	Attention: Water Licensing	Attention: Water Licensing
Independent Pricing and Regulatory Tribunal	Independent Pricing and Regulatory Tribunal	Independent Pricing and Regulatory Tribunal
Level 8		PO Box Q290
1 Market Street	*compliance@ipart.nsw.gov.au*	QVB Post Office
Sydney NSW 2000		Sydney NSW 1230

1.3 If you require further information

If you have further questions about your application, you can contact the Water Licensing team in IPART by:

- emailing: compliance@ipart.nsw.gov.au, or
- telephoning: (02) 9290-8400 (general number).

We encourage you to discuss your licence application form and obtain assistance from the Water Licensing team *prior* to formally submitting your application. Once we receive your application, we will assign you a contact officer, who will manage your application and remain in contact with you throughout the process.

1.4 Where to from here?

1.4.1 What will happen next?

IPART will check that your application form is complete and that you have supplied all the necessary information and supporting documentation.

If your application is complete, we will undertake consultation and a detailed assessment before preparing a recommendation to the Minister to either grant or refuse the licence(s).

If the application is incomplete, it will not be processed and you will be asked in writing to supply the outstanding information. This is likely to delay the detailed assessment of your application. We may also request additional information in response to submission or our detailed assessment of your application.

If you wish you can withdraw your application at any stage during the process.

IPART uses our best endeavors to process applications quickly. Complete applications are generally processed between 6 to 8 months depending on the complexity of the project.

1.4.2 Audits and ongoing compliance obligations

Licensing obligations are set out in the *Water Industry Competition Act 2006* and *Water Industry Competition (General) Regulation 2008,* which also sets out standard licence conditions.

IPART has also prepared a series of fact sheets explaining the audit and compliance obligations following the grant of a WIC Act licence.

It is particularly important to note that the granting of a network licence does not allow the licensee to bring any *new* water or sewerage infrastructure into immediate commercial operation. **A licensee must also obtain approval from the Minister before commencing commercial operation of new water or sewerage infrastructure.**

For further information, please refer to the following fact sheets or contact the Water Licensing team at IPART on the details provided above.

Fact sheets:

- *Summary of Audit Framework*
- *Commercial operation of new infrastructure*
- *Register of licences and other publicly available information*
- *Potable water services - public health requirements*
- *Water recycling - public health requirement.*

These documents can be downloaded from the IPART website, at http://www.ipart.nsw.gov.au/water/private-sector-licensing/private-sector-licensing.asp.

2 Contact Information

To be completed by all applicants

2.1 Contact Details

You need to nominate a primary contact person for all communication and correspondence between the corporation applying for a licence and IPART. This person must be a senior officer of the applicant corporation and not an external consultant. Ideally, this person's role within the corporation will be related to the project/activity to be licensed, and they must have the authority to speak on behalf of the applicant.	
PRIMARY CONTACT	
Full name	
Laura Dixon	
Position title	Email address
Risk and Compliance Manager	
Business telephone number	Mobile telephone number
Postal address for correspondence	
ADDRESS	
PO Box R455, Royal Exchange, Sydney	
STATE	POST CODE
NSW	1225
SECONDARY CONTACT	
☒ Please check if the secondary contact should be copied into all correspondence.	
Full name	
Darren Wharton	
Position title	Email address
Project Manager	
Business telephone number	Mobile telephone number
Postal address for correspondence	
ADDRESS	
PO Box R455, Royal Exchange, Sydney	
STATE	POST CODE
NSW	1225

3 General Information

To be completed by all applicants

3.1 Applicant Details

3.1.1	Please provide the following information for the corporation applying for the licence. Please note an application may only be made by or on behalf of a corporation (s8(1)).

Your response to this question is used in ASIC, ITSA and CATSI searches conducted as part of our assessment of your application. The information will also be used to specify the corporation that holds the licence (Act s.6(1)(a)), if a licence is granted.*

** These are searches of databases kept by the Australian Securities and Investments Commission (**ASIC**), Insolvency and Trustee Service Australia (**ITSA**), and Office of the Registrar of Indigenous Corporations (for corporations registered under the Corporations (Aboriginal and Torres Strait Islander) Act 2006 (**CATSI**))*

Corporation name	
Cooranbong Water Pty Ltd ('**CW**')	
ABN/ARBN	ACN
66 169 450 453	169 450 453
Corporation's registered office	
ADDRESS	
Level 22, 135 King Street	
Sydney	
STATE	POST CODE
NSW	2000
Corporation's principal place of business	
ADDRESS	
Level 2, One Alfred Street	
Sydney	
STATE	POST CODE
NSW	2000

3.1.2	Please provide the following information for the Chief Executive Officer and ALL Directors of the applicant corporation

Your response to this question is used in ASIC, ITSA and CATSI searches to determine that the named individual(s) are not disqualified individual(s) and that the applicant corporation is not a disqualified corporation (Act, s10(3)). The information will also be used to assess, among other things, the applicant corporation's organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

PERSON ONE	
Full name	Terence Leckie
Position title	Chief Executive Officer
Date of birth	
Residential Address	

STATE	POST CODE
PERSON TWO	
Full name	Stephen McKewen
Position title	COO
Date of birth	
Residential address	
ADDRESS	
STATE	POST CODE

3.2 Activities for which a licence is sought

Please check ALL the applicable boxes for which you are seeking a licence		
Your response to this question will be used to specify the activities that the applicant corporation will be authorised to undertake (Act s.6(1) and s.11(1)), if a licence is granted. The response to this question is a requirement for any network operator's licence application (Reg cl.6(1)(a) and 6(2)(a)).		
3.2.1	**NETWORK OPERATOR** (to construct, maintain and operate water industry infrastructure)	
	☒ Water infrastructure - drinking water	
	☒ Water infrastructure – non potable water (including recycled water)	
	☒ Sewerage infrastructure	
3.2.2	**RETAIL SUPPLIERS** (to supply water or provide sewerage services)	
	☐ Supply of drinking water	
	☐ Supply of non-potable water	
	☐ Provision of sewerage services	
3.2.3	Have you commenced any of the activities for which you are seeking a licence?	
For example, you may have commenced construction, commercial operation and/or supply of services to customers.		
	☐ Yes please go to 3.2.4	☒ No please go to 3.2.5
3.2.4	Please briefly describe the activities that you have commenced including the date(s) on which they commenced.	
Your response to the following question will be used to determine whether transitional arrangements apply to the project.		
N/A		
3.2.5	Please outline the approximate date you anticipate commencing the activities for which you are seeking a licence, if they have not yet commenced. For example, construction of the network infrastructure July 2014, construction of the water treatment plant December 2014, operation of the water treatment plant June 2015,	

	supply to small retail customers August 2015.

Your response to the following question will be used as background information for the project.

North Cooranbong Development

Johnson Property Group Pty Ltd (the "**Developer**") is undertaking a new large-scale residential development located at Cooranbong, in the City of Lake Macquarie, NSW (the "**North Cooranbong Development**"). The North Cooranbong Development will comprise approximately 2,236 new homes of which 132 lots have already been developed or are in the process of being developed (the "**Developed Lots**").

Flow Systems Pty Ltd has been engaged by the Developer to establish a local water utility (Cooranbong Water Pty Ltd ("**CW**")) for the North Cooranbong Development excluding the Developed Lots, based on the construction and operation of sewerage, recycled water and drinking water infrastructure and delivery of resulting services to end-user residential and retail customers (the "**Scheme**").

Details regarding the Scheme are as follows:

- the location of the North Cooranbong Development is identified in Appendix 3.2.5(a)
- the Scheme comprises 12 residential stages and one stage of medium density residential (2,104 lots), the proposed composition and staging of which is as per Appendix 3.2.5(b)
- the North Cooranbong Development includes one primary school allotment, landscaped areas, drainage, public open space, recreation areas and a small retail precinct (total additional 95 equivalent tenements)

Scheme infrastructure

1. Construction

Scheme Infrastructure is proposed to be constructed in the following stages:

Phase 1 - estimated infrastructure construction commencement: February 2015. To enable servicing of up to the initial 156 lots ("**Initial Lots**") during the interim servicing period, sewage will be collected via CW's pressure sewerage system and discharged to Hunter Water's sewerage network. An interim sewage flow balance tank and associated mechanical and electrical equipment ("**Interim FBT**") may be used. The location of the Interim FBT would be on the site identified in Appendix 3.2.5(b). The drinking water reticulation network would also be connected to Hunter Water's drinking water supply. Construction of Phase 1 infrastructure is expected to commence in February 2015. Recycled water reticulation will be constructed in Phase 1 but will be serviced by drinking water in Phase 1.

Phase 2 - estimated infrastructure construction commencement: mid 2015. To enable servicing of the Scheme, construction of a Local Water Centre ("**LWC**"), which will include construction of the operations building and a water recycling facility comprising membrane bioreactor, UV and chlorination treatment processes, tanks and equipment, recycled water storage tanks and recycled water distribution pumps and storage, boosting and distribution capacity for drinking water. The location of the LWC will be on the site identified in Appendix 3.2.5(b). Mechanical and electrical fitout of Phase 2 may be sub-phased depending on the rate of lot sales.

As with most residential subdivisions, construction of the network reticulation infrastructure (drinking water, recycled water and sewerage systems) will be undertaken by the Developer in a sequence that is staged to meet the rate of lot sales demand. The reticulation infrastructure will be dedicated to CW following satisfaction of CW's compliance requirements including quality assurance inspections. Following dedication, CW will be responsible for operation and maintenance of the reticulation infrastructure and this forms part of this licence application.

2. Operation and Maintenance

Approval to bring new infrastructure into commercial operation will be sought on a phased basis in association with the infrastructure staging as described above (Phase 1 – drinking water and sewerage; Phase 2 – drinking water, sewerage & recycled water).

Phase 1: CW is targeting commencement of operation of Phase 1 drinking water infrastructure in March 2015 and Phase 1 sewerage infrastructure in May 2015 to service the Initial Lots. Phase 1 infrastructure operation will include discharge to Hunter Water's sewerage network.

Phase 2: Commencement of operation of Phase 2 is scheduled for August 2016.

Refer to Appendix 3.2.5(a) North Cooranbong Development Location

Refer to Appendix 3.2.5(b) North Cooranbong Development

3.3 Insurance Details

3.3.1	What types of insurance do you have or intend to obtain particularly in relation to the activities for which you are seeking a licence? Provide details of the level (i.e. amount) of insurance you are covered or intend to be covered by for each type. Include a summary of itemised inclusions and exclusions for each type of insurance you hold. **Attach copies of all relevant insurance certificates in Appendix 3.3.1.**

Types of insurance may include but are not limited to professional indemnity insurance, public liability insurance, workers' compensation and product liability insurance.

Your response to this question will be used to ascertain whether the applicant corporation has made appropriate arrangements with respect to insurance (Act s10(4)(c)).

Type	Amount
Workers Compensation	Full amount of the employer's liability under the *Workers Compensation Act 1987*
Public & Products Liability	$50,000,000
Professional Indemnity	$10,000,000 (to be maintained for a minimum of six years following the completion of the design works)
Plant and Equipment	$4,400,000

3.3.2	Explain why the level of cover provided or proposed by your insurer is sufficient for the size and nature of your proposed activities

For existing (brownfield) schemes, you must provide us with a report from an independent insurance broker which holds an Australian financial services licence under Part 7.6 of the *Corporations Act 2001 (Cth)* for the provision of insurance broking services ("Insurance Expert"), that:

(a) identifies the key risks of undertaking the activities to be authorised under the licence (if granted)

(b) sets out the types and levels of insurance obtained by you in relation to the activities being undertaken

(c) certifies whether, in the Insurance Expert's opinion, the type and level of insurance obtained by you is appropriate for the size and nature of the activities to be authorised under the licence

(d) provides reasons as to why the types and levels of insurance are appropriate for the size and nature of the activities being undertaken, and

(e) if any risks arising from undertaking the activities remain uninsured, provides reasons as to why.

Your response to this question will be used to ascertain whether the applicant corporation has made appropriate arrangements with respect to insurance (Act s.10(4)(c)).

The Protectors Insurance Brokers Pty Ltd has reviewed all insurances required by the Flow Systems group of utilities in connection with its business and has arranged the above insurance cover to match the business requirements. Flow Systems reviews its insurances annually with The Protectors Insurance Brokers Pty Ltd to ensure that its insurance arrangements are adequate for its requirements.

Also, a comprehensive whole-of-business and project-specific insurance risk assessment for the Scheme will be conducted in satisfaction of IPART's standard licensing condition.	
3.4 Third parties undertaking activities	
3.4.1	If you intend on using third parties to undertake any **significant** activities for which you are seeking a licence (eg, construction of the reticulation network, management of the billing system) please provide their details below. If there are multiple third parties please provide the details for each party as well as an explanation of the activities it will be undertaking.
Third parties undertaking minor sub-contracting works on behalf of the applicant corporation such as electrical or plumbing contractors do not need to be named in the application. If you are unsure of whether the works are significant or otherwise please include the details or contact IPART.	
Your response to this question will be used to determine whether any other persons should be specified on the licence (Act s.6(1)(a)), if a licence is granted. Where applicable, information from those third parties named may also be used to assess the applicant corporation's technical, organisational and financial capacity to undertake the activities for which it is seeking a licence.	
Corporation name:	
Flow Systems Pty Ltd ('Flow Systems')	
ABN/ARBN	ACN
28 136 272 298	136 272 298
Corporation's registered office	
ADDRESS	
L22, 135 King Street, Sydney	
STATE	POST CODE
NSW	2000
Please provide a detailed description of the activities that the third party, named above, will undertake on the applicant corporation's behalf.	
Flow Systems Pty Ltd is the parent company in the Flow Systems group (www.flowsystems.com.au). CW is a special purpose wholly-owned subsidiary of Flow Systems, established specifically for delivery and operation of the Scheme. Full business support (including all technical, financial, organisational, administrative, and retail supplier management services) is provided by Flow Systems to all of its subsidiaries, including CW, under standard guarantee and group corporate services arrangements.	
Please provide details of the contractual arrangements the applicant corporation has in place with the third party, named above, to ensure the third party undertakes the activities in accordance with the licence (if granted).	
Commercial in confidence	
Corporation name:	
Avondale Greens Developments Pty Ltd	
ABN/ARBN	ACN
27 106 910 598	106 910 598
Corporation's registered office	
ADDRESS	
STATE	POST CODE
Please provide a detailed description of the activities that the third party, named above, will	

undertake on the applicant corporation's behalf.
Flow Systems has been appointed by Avondale Greens Developments Pty Ltd, the special purpose delivery vehicle of Johnson Property Group Pty Ltd (together, the "**Developer**") to establish a local water utility (CW) to deliver and operate the Scheme pursuant to an agreement dated 18th February 2014. Amongst other things, the Developer will provide the sewerage, drinking water and recycled water reticulation infrastructure in the Scheme. The Developer will also be providing land and access to all other areas within the North Cooranbong Development for the purposes of CW delivering the Scheme.
Please provide details of the contractual arrangements the applicant corporation has in place with the third party, named above, to ensure the third party undertakes the activities in accordance with the licence (if granted).
Commercial in confidence

3.5 Other regulatory approvals

3.5.1	Please list any other regulatory approvals that have been obtained (or are being sought) for any of the activities for which the applicant corporation is seeking a licence. Include any regulatory approvals also related to the activities or the project. Such approvals may include development consents for a housing development under the *Environmental Planning and Assessment Act 1979*, section 68 approval under the *Local Government Act 1993*, an Environment Protection Licence under the *Protection of the Environment Operations Act 1997*. **Provide a copy of any other regulatory approvals and/or licences in Appendix 3.5.1.**

Your response to this question will be used to determine whether IPART needs to co-ordinate this approvals process with other regulatory authorities. Information required in other approval processes may also be requested and used by us in determining this licence application.

Development Approvals

The Developer obtained concept plan approval on 15 December, 2008 (Major Project No. 07_0147) from the Minister for Planning pursuant to s75O and s75P of Part 3A of the Environmental Planning and Assessment Act 1979 ('EPAA') in relation to the North Cooranbong Development (Appendix 3.5.1(a)).

As part of that application process, an environmental assessment dated June 2008 was prepared to address environmental considerations in relation to the development including the reticulation infrastructure within the North Cooranbong Development area (Appendix 3.5.1(b)).

The Developer lodged a Planning Proposal (RZ-3/2014) with Lake Macquarie City Council ("**LMCC**") on 7 May, 2014 for the re-zoning of the lot on which the LWC is proposed to be located (Lot 12 DP 1158508) and the lot on which the drinking water and recycled water storage reservoirs are proposed to be located (part Lot 1 DP 3533). This Planning Proposal includes application for re-zoning of the two sites to zone SP2 'Infrastructure' (Appendix 3.5.1(c)).

Further, CW has commissioned a Review of Environmental Factors (REF) report in relation to the Scheme's sewage and recycled water reticulation systems (Appendix 3.5.1(d)). The sewage and recycled water reticulation systems will not require development consent by virtue of operation of the State Environmental Planning Policy (Infrastructure) 2007 ("**ISEPP**").

Part 5 of the EPAA requires that consideration be given to matters that might affect the environment before approval to an activity is given. WICA requires assessment of an applicant's capability to protect the environment and capacity to carry out the activities that the licence would authorise in a manner that does not present a significant risk of harm to the environment. The REF will fulfil these requirements.

In parallel, the Developer lodged a Development Application and Statement of Environmental Effects (DA-714/2014) with LMCC on 14 May 2014 for the Cooranbong LWC. This will be assessed by LMCC under the provisions of Part 4 of the EPAA including the review of an Environmental Impact Statement (EIS) triggered by the classification of the LWC as a designated development under Schedule 3 of the Environmental Planning and Assessment Regulation 2000 ("**EPAR**"). The

EIS was submitted on 14 August 2014 following receipt of Secretary's Environmental Assessment Requirements (Appendix 3.5.1(e)).

Flow Systems has prepared a Frequently Asked Questions document to address the queries raised during the consultation period for the DA. Refer to Appendix 3.5.1(f).

We have advice from the NSW Office of Water that an extraction licence is not required where less than 10% of the stormwater of a catchment is harvested for reuse.

Refer to Appendix 3.5.1(a) North Cooranbong Concept Plan Approval

Refer to Appendix 3.5.1(b) North Cooranbong Environmental Assessment Report

Refer to Appendix 3.5.1(c) Planning Proposal RZ-3/2014

Refer to Appendix 3.5.1(d) Review of Environmental Factors for sewage and recycled water reticulation systems

Refer to Appendix 3.5.1(e) Development Application and Environmental Impact Statement

Refer to Appendix 3.5.1(f) Flow Systems' response to DA submissions

3.6 Monopoly supply

3.6.1	In your opinion, will the supply of water and/ or sewage services to customers be a monopoly service? If yes, please specify whether the monopoly service is in relation to: ▾ a specified water supply or sewerage service, and ▾ a specified area, and ▾ a specified class of customers.

Your response to this question will be used to determine whether the Minister should consider declaring the licensee a monopoly supplier in accordance with section 51 of the WIC Act.

No. The supply of drinking water, recycled water and sewerage services by CW is not a monopoly service. The licence area proposed by CW is already served by Hunter Water for drinking water and sewerage. All customer classes have the ability to choose who will provide their drinking water, recycled water and sewerage service.

3.7 Licensing principles

3.7.1	How does your proposed activity address the following principles (if applicable): ▾ The protection of public health, the environment, public safety and consumers ▾ The encouragement of competition in the supply of water and the provision of sewerage services ▾ The ensuring of sustainability of water resources ▾ The promotion of production and use of recycled water? ▾ The promotion of policies set out in any prescribed water policy document ▾ The potential for adverse financial implications for small retail customers generally arising from the activities proposed to be covered by the licence, and ▾ The promotion of the equitable sharing among participants in the drinking water market of the costs of water industry infrastructure that significantly contributes to water security?

Your response to this question will be used in consideration of the licensing principles, in accordance with section 7 of the WIC Act.

Protection of public health, the environment, public safety and consumers

Public health, the environment, public safety and consumers will be protected through the following:

- CW will ensure that its infrastructure operations and maintenance arrangements are structured where relevant so that public health, public safety and consumers are protected (including incident/emergency response plans, business continuity and disaster recovery plans). Flow Systems has already proven its expertise in delivering drinking water, recycled water and sewage management plans in full compliance with relevant laws and regulations, as confirmed by IPART audit, in relation to various other private water utility schemes operated by members of the Flow Systems group (i.e., Pitt Town Water, Central Park Water)
- CW will ensure that all infrastructure is constructed in accordance with all relevant laws and regulations (eg. Plumbing Code of Australia)
- CW will only supply recycled water that is treated in full compliance with all relevant Australian standards and guidelines
- Signage will be posted advising of the use of recycled water in public open space areas in accordance with the relevant guidelines and industry best practice
- The appropriate disclosure to and education of end user customers regarding the use of recycled water

Encouragement of competition

Currently each incumbent public water utility provider has a monopoly in its respective catchment areas on water services in NSW. The license will enable private sector to compete in the provision of requisite infrastructure and delivery of resulting services to owners of properties within the Scheme area.

Hence, competition is promoted within the incumbent's usual area of operation.

Sustainability of water resources

The licensed activities will reduce unnecessary usage of drinking water for non-potable uses (eg. toilet flushing, clothes washing machines, irrigation of lawns and gardens) by providing a reliable and sustainable supply of non-potable water. Further, traditional sewage treatment systems would otherwise contribute to diffuse source pollution of local waterways.

Promotion of production and use of recycled water

The license will enable CW to provide sustainable recycled water within the Scheme area. This will facilitate delivery of Government policy and further cements recycled water as an integral part of the whole-of-water lifecycle.

The promotion of policies set out in any prescribed water policy document

Flow Systems' communication program includes comprehensive information online. Not only does the company use this avenue to report on the progress of its licensed operations but it makes the case for the use of recycled water and sustainable water solutions. Our promotion of sustainable water solutions includes marketing and communication activities as well as community education, where appropriate. The company participates in public debate and government consultation about the development of water policies, including where it results in policy documents. Additionally, it contributes its skill and expertise in the water industry to further develop options and possibilities for improvement and further development of sustainable water policies being developed by government.

The potential for adverse financial implications for small retail customers generally arising from the activities proposed to be covered by the licence

As Flow Systems has a price parity policy with the local incumbent water authority there is no potential for adverse financial implications for small retail customers.

That means water and wastewater charges are in line with the local water authority. Customers benefit because our recycled water is 10 cents per kilolitre cheaper than the incumbent's drinking water price.

Because of this policy, changes to the incumbent's water and wastewater charges impact on Flow

Systems fees and charges and prices are reviewed annually and matched to the incumbent. The only pricing that is varied from the incumbent are the one off charges such as administration fees or connection fees where our business model differs.

Flow Systems also matches the incumbent water authority's concessions and medical dependency rebates even though Flow Systems has no access to government rebates for these social programs. In this way, no customers are disadvantaged by being part of our communities.

The promotion of the equitable sharing among participants in the drinking water market of the costs of water industry infrastructure that significantly contributes to water security.

BHNW will provide drinking water to all participants/customers in the licence area at rates according to its price parity policy. As recycled water is also provided at a reduced rate to these participants/ customers for end uses such as toilet flushing, clothes washing, and irrigation, this results in a reduction of drinking water of at least 50%. These savings will significantly contribute to water security in the region, and allows currently available drinking water stocks to be utilised by a greater amount of participants.

4 Network Operator

You need to complete the following section of this form if the applicant corporation is seeking a network operator's licence**.** Please note the sections are divided into the types of infrastructure as follows:

- 4.1 Water infrastructure - drinking water
- 4.2 Water infrastructure – non potable water (including recycled water and stormwater reuse)
- 4.3 Sewerage infrastructure.

Please complete only those sections that relate to your response in question 3.2.1 above.

4.1 Water infrastructure – drinking water

Only provide a response to the questions in the following section if the applicant corporation is seeking a licence for the construction, maintenance and operation of water infrastructure for the supply of drinking water.

4.1.1	Describe the proposed drinking water infrastructure from the source of the drinking water through to the end use (i.e. catchment to tap). Please include in your description all of the infrastructure for which the applicant corporation is seeking a licence. This will include any infrastructure that is to be used for the production, treatment, filtration, storage, conveyance or reticulation of the drinking water. Please list all sources and end uses in the description. Identify the infrastructure for which the applicant corporation is seeking a licence. **Provide a detailed process flow diagram of the proposed infrastructure from source to end use in Appendix 4.1.1.**

You must attach a process flow diagram in response to this question. The process flow diagram should only include the drinking water infrastructure where the scheme includes more than one type of infrastructure and must cover the process from source to end use. You may also include a piping and instrumentation diagram for additional information.

The response to this question will be used to draft a proposed licence. The licence will specify the type of water industry infrastructure, if a licence is granted (Act s.6(1)(a)). The response will also be used to ensure you have applied for the correct licence(s) and as a context for our assessment of the applicant corporation's technical, organisational and financial capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

Drinking water will be sourced from Hunter Water's drinking water system at the boundary of the Scheme.

Hunter Water has confirmed its commitment to negotiate terms and agree commercial arrangements for bulk drinking water supply to the Scheme (refer to Appendix 4.1.1(b) Letter of Support from Hunter Water). The outcome of this will be a commercial agreement known as a Utility Services Agreement.

Preliminary advice from Hunter Water during the development of the Water Servicing Strategy with them identifies locations to connect to the Hunter Water network at the boundary of the Scheme.

CW will work with Hunter Water and the Developer to determine the infrastructure requirements outside of the Scheme area that aligns with servicing the future Hunter Water

drinking water system within the Scheme. This infrastructure does not form part of this licence application.

Preliminary assessments carried out by CW indicate that drinking water will be sourced and serviced to the Scheme in the following phases:

Phase 1a – Direct connection from a 300mm diameter main in Wainman Drive to service the drinking water and recycled water reticulation networks of Stages 1E to 1H (81 lots)

Phase 1b – In addition to the above, connection to a 250mm diameter main that is yet to be built by the Developer for servicing some of the Developed Lots at a point within Lot 12 DP 1158508 . That main, to be constructed by the Developer will connect to the existing 250mm diameter main in Freemans Drive and into the LWC site for storage and boosting to service the drinking water and recycled water reticulation networks of the 'Twine' and 'Thomson' precincts (75 lots, cumulative 156 lots)

Phase 2a – Storage at and boosting from the LWC site to service the drinking water reticulation network of Stages 1E to 1H, Twine, Thomson and Stages 2 and 3 (cumulative 334 lots)

Phase 2b – Boosting from the LWC site to a high level storage reservoir within the Development from which the whole Scheme (cumulative 2,104 lots plus retail and other) will be serviced with drinking water through the drinking water reticulation network

Note that to enable servicing of Phase 2b, a section of main may need to be laid as part of Hunter Water's network (ie outside of the Scheme area) to remove a restriction in the supply network. This upgrade will be conducted by Cooranbong Water under contract to the Developer and will be dedicated to Hunter Water upon completion and therefore does not form part of this licence application.

The drinking water infrastructure will enable supply of drinking water to end users (being residential, retail and the LWC itself (for top-up and general use purposes)).

Refer to Appendix 4.1.1(a) Process Flow Diagram (Potable Water)

Refer to Appendix 4.1.1(b) Letter of Support from Hunter Water

Refer to Appendix 4.1.1(c) Water Servicing Strategy (extract)

Refer to Appendix 4.1.1(d) Potable Water Reticulation Masterplan

4.1.2	Describe whether the infrastructure is existing infrastructure or is to be constructed. If the infrastructure is existing, please describe its current condition and operability. If the infrastructure is a mixture of existing and to be constructed **identify the infrastructure as existing or to be constructed on the process flow diagram in Appendix 4.1.1**.

The response to this question will be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).

All drinking water infrastructure under this licence application is to be constructed.

4.1.3	Describe the location of the proposed infrastructure. For example include: ▾ the identification of specific lot descriptors (e.g. lot and DP numbers) for the production, treatment, filtration and/or storage infrastructure. ▾ the location of infrastructure for the conveyance and/or reticulation of drinking water by street name, local government area or other description as appropriate to the size of the scheme. **Provide a map showing the location of the proposed infrastructure from source to end use in Appendix 4.1.3.**

The map may include all water industry infrastructure (ie. drinking water, non-potable water and/or sewerage) where the scheme includes more than one type of infrastructure.

The response to this question is a requirement for any network operator's licence (Reg

cl.6(1)(a)). The response to this question will be used to specify the authorised area of operations (Act s.11(1)), if a licence is granted. The response will also be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).

The drinking water infrastructure described in section 4.1.1 above is contained within the Scheme area as shown in the Potable Water Reticulation Masterplan provided at Appendix 4.1.1(d).

Drinking water storage and distribution pumps will be located in a separate area alongside the LWC initially and then further storage and distribution pumps will be constructed on a site (part Lot 1 DP 3533) at a higher elevation, as indicated in Appendix 4.1.1(d) Potable Water Reticulation Masterplan.

The drinking water supply and distribution network will be located throughout the Scheme area.

The Scheme area may be described as follows:

Lot	DP	Description
11	129156	North of Alton Road
1-13	7352	13 lots off Alton Road
1	3533	North of Alton Road includes the location for the drinking water storage reservoirs
2	3533	North of Alton Road
3	3533	North of Avondale School
4	3533	North of Avondale School
7	3533	Land west of Avondale School, contains part of east-west runway
8	3533	North of Alton Road
10	3533	Land west of Avondale School, contains part of east-west runway
1	348173	North of Twine property
212	1037011	Twine property, off Freemans Drive
1	329367	103 Avondale Road
14	129157	109 Avondale Road
1	301305	109A Avondale Road
B	306673	111 Avondale Road
A	306673	113 Avondale Road
13	129157	115 Avondale Road
1	346776	Lot 1 Avondale Road
2	346776	110 Avondale Road
21	129159	108 Avondale Road
1	360725	106 Avondale Road
1	363639212	104 Avondale Road
22	129159	4 Blue Wren Drive
3	1029952	84 Avondale Road
2	663728	76 Avondale Road
219	755218	Triangular lot in western “point” of development
333	1183498	North-south runway and land around Avondale School
223	1179214	Stormwater detention pond off Wainman Drive
11	1158508	617 Freemans Drive, access to proposed Cooranbong

		Local Water Centre site
12	1158508	'Thomson' property, 617 Freemans Drive, proposed Cooranbong Local Water Centre site

Refer to Appendix 4.1.1(d) Potable Water Reticulation Masterplan

Refer to Appendix 4.1.3 Scheme Lot and DP references

4.1.4	Describe any interconnections between the proposed drinking water infrastructure and other infrastructure not part of this scheme (e.g. interconnections with other licensed network operators or public utilities). Identify in your description who is responsible for the construction, operation and maintenance of which infrastructure. **Identify all interconnections with other infrastructure on the process flow diagram in Appendix 4.1.1 and the map in Appendix 4.1.3.**

The response to this question will be used to ensure the correct area of operation is specified in the licence, if a licence is granted (Act s.11(1)). The response will also be used as a context for the assessment of risks from the proposed scheme and to identify possible additional licence conditions relating to the inter-connected systems and responsibilities for risks.

All drinking water will be sourced from Hunter Water's existing drinking water system.

All of the Scheme's drinking water infrastructure will connect to Hunter Water infrastructure at or within the boundary of the Scheme area as agreed with Hunter Water.

CW has identified points in the existing Hunter Water drinking water mains network for connection points at or within the boundary of the Scheme area. Those connection points will be located at:

1. Wainman Drive; and
2. A point on a proposed new 250mm diameter main within Lot 12 DP 1158508 that is yet to be built by the Developer for servicing some of the Developed Lots. That proposed main will connect to the existing 250mm diameter main in Freemans Drive

The drinking water infrastructure will supply the lots to be serviced during Phases 1a and 1b (as defined in 4.1.1) with temporary interconnection to the recycled water reticulation network until the LWC becomes fully operational.

Note that to enable servicing of Phase 2b onward a section of main will need to be laid as part of Hunter Water's network to remove a restriction in the supply network. This upgrade will be conducted by Cooranbong Water under contract to the Developer and will be dedicated to Hunter Water upon completion and therefore does not form part of this licence application.

CW is responsible for the construction, operation and maintenance of the drinking water infrastructure downstream of the Hunter Water connection points to the customer connection points.

A commercial agreement between Hunter Water and CW, known as the Utility Services Agreement, once complete, will clearly outline the parties' respective responsibilities.

Refer to Appendix 4.1.1(a) Process Flow Diagram (Potable Water)

Refer to Appendix 4.1.1(b) Letter of Support from Hunter Water

Refer to Appendix 4.1.1(c) Water Servicing Strategy (extract)

Refer to Appendix 4.1.1(d) Potable Water Reticulation Masterplan

4.1.5	Where applicable, describe the connection point to customers or end users (e.g. the customer connection point may be a water meter). Identify in your description who is responsible for the construction, operation and maintenance of which infrastructure. **Identify all customer and/or end user connections on the process flow diagram in Appendix 4.1.1 and the map in Appendix 4.1.3.**

The response to this question will be used to ensure the correct area of operation is specified in the licence, if a licence is granted (Act s.11(1)). The response will also be used as a

context for the assessment of risks from the proposed scheme.

The detailed design and construction of the drinking water infrastructure up to and including the drinking water meter inside each customer's property will be undertaken by the Developer, however CW will establish the masterplan and design standards, and carry out detailed design review and inspection and testing of the constructed infrastructure prior to dedication to CW.

Following dedication of the constructed infrastructure, CW is responsible for the operation and maintenance of all drinking water infrastructure up to and including the drinking water meter inside each customer's property.

Each individual customer will be responsible for the construction, operation and maintenance of the drinking water infrastructure downstream of the drinking water meter.

Refer to Appendix 4.1.1(a) Process Flow Diagram (Potable Water)

Refer to Appendix 4.1.1(d) Potable Water Reticulation Masterplan

4.1.6	What volume of water is available from the proposed source? Where applicable, please provide the capacity of the source and the (allowable) average daily extraction rate from the source. If there is more than one source, please provide the requested information for each of the sources. **Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix 4.1.6.**

The response will also be used as a context for the assessment of the technical, organisational and financial capacity of the applicant corporation (Act s.10(4)(a)).

Potable Water will be sourced from Hunter Water.

CW and Hunter Water will work together to determine the short and long term infrastructure requirements to service the Scheme area.

Based on this, to service the drinking water needs of the Scheme, up to 1,525 kL/day will be drawn from Hunter Water's supply network over a 12-hour period from 10pm to 10am and stored in the storage tanks at the LWC site. From there it will be pumped to further storage at the reservoir site and then distributed throughout the Scheme area to meet demand including diurnal peaks. The storage in the system and off-peak extraction of drinking water from Hunter Water's network will buffer peak demands, minimise energy costs, provide security of supply and minimise capital expenditure upstream in Hunter Water's network.

The land capability assessment for the project provides a high level, conservative view of water demands across the development. Flow Systems has separately prepared a Water Balance report which recognises that BASIX40 (and the potential change to BASIX50) has driven and will continue to drive (over the course of the 20-year development roll-out) a change in behaviour and a change in water fittings and appliances available in the market. The 'average' installation therefore has a lower water demand in new developments". This data is calibrated by observed demands in the market. Current water balance modelling shows that during the development roll-out, up to 120kL/day of top up may be required to meet recycled water demand at or around 2027. This will be minimised through further calibration of the model from observed demands and optimisation of the timing for implementation of new storage in the system. The water balance model shows that top up is not required at full build out.

Refer to Appendix 4.1.1(b) Letter of Support from Hunter Water

Refer to Appendix 4.1.1(c) Water Servicing Strategy (extract)

Refer to Appendix 4.3.13 Cooranbong Land Capability Assessment

4.1.7	What volume of water will be treated by the scheme? Please provide the average and peak daily flow rates treated by the scheme.

This information will be used to determine the fee category for the scheme, if a licence is granted. The response to this question may be used to draft a proposed licence, if a licence is granted.

Treated drinking water will be sourced from Hunter Water as outlined in section 4.1.6.

Requirements for any additional treatment within the Scheme (ie. dosing with sodium

hypochlorite) will be determined in conjunction with the long term supply arrangements jointly developed with Hunter Water as per section 4.1.6.	
4.1.8	What volume of drinking water will be produced by the scheme? Please provide the average and peak daily volume supplied to end users or retail suppliers.
This information will be used to assess the retail supplier's obligation not to over commit, if a licence is granted. The response to this question may be used to draft a proposed licence, if a licence is granted.	
Treated drinking water will be sourced from Hunter Water as outlined in section 4.1.6. Together with Hunter Water, CW will determine a drinking water servicing strategy that provides a sufficient volume to supply the Scheme. Average volume of drinking water supplied to end users for the Scheme is estimated to be 662 kL/d average and up to 34.5 litres per second peak hour demand and 1,525 kL/day peak day demand assuming supply of recycled water for non-potable uses.	
4.1.9	**Provide your preliminary risk assessment for the scheme from source to end use in Appendix 4.1.9**. It is important that your preliminary risk assessment accurately identifies any hazards present in the source water or likely to result from the proposed treatment process. The risk assessment will also address the intended, inadvertent and unauthorised end uses (and therefore routes of exposure) to the water. The preliminary risk assessment will identify any reasonably foreseeable risk event with the potential to expose people or the environment to hazards. The preliminary risk assessment will outline the broad mitigation measures where the risk of exposure to a hazard is unacceptable to human health or the environment in order to reduce the risk of exposure. The risk assessment must also identify the events and circumstances that could adversely affect the applicant corporation's ability to carry out the activities for which the licence is sought (including any activities undertaken by a nominated third party), the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.
The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks to health and the environment. We strongly recommend that the applicant corporation utilises an established risk management system, such as outlined in AS/NZS ISO 31000:2009 (Risk management – Principles and guidelines), which is consistent with the approach outlined in the Australian Drinking Water Guidelines (element 2).	
The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(b) and cl.6(1)(c)(ii)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response to this question will also be used to draft a proposed licence. The licence will specify the purpose for which the infrastructure can be used, if a licence is granted (Act s.6(1)(a)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
The preparation of the preliminary risk assessment was undertaken in accordance with the Australian Drinking Water Guidelines. Refer to Appendix 4.1.9 Preliminary Risk Assessment Summary	
4.1.10	Describe how the 12 elements of the framework for the management of drinking water quality, as detailed in the Australian Drinking Water Guidelines (ADWG), have been addressed and will be implemented and maintained. **Provide evidence of the applicant corporation's capacity to implement the 12 elements of the framework in the ADWG in Appendix 4.1.10.**

The evidence should be in the form of management plans for either the proposed scheme or other similar schemes undertaken by the applicant corporation, or in a comprehensive statement detailing the process by which the management plan will be developed. For existing (brownfield) schemes you should provide the actual water quality plan for the site.

The response to this question is a requirement for any network operator licence for water infrastructure (Reg cl.6(1)(d)(i)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

The majority of the 12 elements of the framework for the management of drinking water quality will be covered by Hunter Water as the producer and bulk supplier of drinking water. CW further addresses each of the 12 elements by way of the Flow Systems Drinking Water Quality Plan . Flow Systems has also assisted CW to develop a Draft CW-specific Scheme Management Plan to supplement the group-wide plans with scheme-specific information.

It is important to note that the 12 elements for the management of drinking water are analogous to the 12 elements of the framework for recycled water. CW's parent company Flow Systems and its various subsidiaries (eg. Pitt Town Water), have demonstrated previously that it has the capacity to implement and maintain the 12 element approach. Flow Systems' capacity to develop and implement a Water Quality Plan is evidenced by independent audits conducted at Pitt Town and Central Park.

Refer to Appendix 4.1.10(a) Flow Systems Drinking Water Quality Plan (Table of Contents)

Refer to Appendix 4.1.10(b) Draft CW Scheme Management Plan (Table of Contents)

4.1.11	How will the continuity of supply of the drinking water be ensured? What contingency plans are in place in the case of failure of the infrastructure? What alternative supplies of drinking water will be used when the infrastructure is inoperable?

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(c)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

Continuity of drinking water supply will be achieved through:

- CW will have a commercial agreement (known as the Utility Services Agreement) with Hunter Water which will detail volume, pressure and reliability. The terms of this agreement will be similar to those used in Hunter Water's standard Customer Contract
- Significant redundancy is provided by the local drinking water storage tanks (provided during the construction of the Scheme) which provides storage
- Drinking water distribution pumps will be installed in a duty/standby arrangement and supported by an on-site back up power generator.

CW will develop detailed contingency plans in the event of infrastructure failure. These contingency plans will be a component of the Infrastructure Operating Plan and will include:

- Minimisation of drinking water demand through customer notifications
- Rapid response to infrastructure failure
- Trucking of drinking water if supply interruption exceeds 48 hours

4.1.12	Describe the systems and processes that the applicant corporation will have in place to manage the water infrastructure. **Provide evidence of the applicant corporation's capacity to develop and implement an infrastructure operating plan in Appendix 4.1.12.**

The evidence may include examples of processes and procedures for either the proposed scheme or other similar schemes undertaken by the applicant corporation. The processes and/or procedures should demonstrate good operational practice including life cycle planning,

system redundancy, contingency planning, condition monitoring, management maintenance processes and processes of supporting skills needs. The examples should demonstrate links to a risk management process. For existing (brownfield) schemes you should provide the actual water quality plan for the site.

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(c)). The response will be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

CW utilises the Flow Systems Infrastructure Operating Plan for all services, which follows a risk based approach to operating infrastructure, including system redundancy, contingency planning, operational asset management and maintenance.

A similar approach has been implemented on existing local water centres at Pitt Town and Central Park, both of which have been reviewed through the audit process.

Flow Systems has also assisted CW to develop a Draft CW-specific Scheme Management Plan to supplement the group-wide plans with scheme-specific information.

Refer to Appendix 4.1.12 Flow Systems Infrastructure Operating Plan (Table of Contents)

Refer to Appendix 4.1.10(a) Flow Systems Drinking Water Quality Plan (Table of Contents)

Refer to Appendix 4.1.10(b) Draft CW Scheme Management Plan (Table of Contents)

4.1.13	Describe the studies that have been completed to investigate any environmental impacts (including but not limited to water quality, quantity, air, noise, sea level rise, biodiversity and Aboriginal cultural heritage) from the construction and operation of the infrastructure? Have the studies identified any significant environmental impacts from the scheme? If so, how are the environmental impacts proposed to be managed? **Provide a copy of any environmental study and/or risk assessment in Appendix 4.1.13.**

As a minimum, an application must be accompanied by a statement of environmental effects (SEE) (unless the development is designated development, Part 5 development or a major project, in which case either an environmental impact statement (EIS) or comprehensive environmental assessment is required). The SEE may be prepared by the applicant corporation or by a consultant acting on behalf of the applicant. The SEE must identify the environmental impacts of the proposed scheme, and the steps which will be taken to protect the environment or reduce the harm. Where the study is in the form of a comprehensive environmental assessment or EIS, please include only the executive summary.

The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7). The response to this question may be used to draft a proposed licence, if a licence is granted.

Local Water Centre (LWC)

The Developer has prepared an Environmental Impact Statement (EIS) for the LWC site that includes the treatment facility, local drinking water and recycled water storage tanks, dosing, distribution pumps and on-site backup generator at the LWC site. The EIS includes specialist studies of ecology, acoustic, odour, indigenous and non-indigenous heritage, bushfire and stormwater management.

The Developer lodged a Planning Proposal (RZ-3/2014) with LMCC on 7 May, 2014 for the re-zoning of the lot on which the LWC is proposed to be located (Lot 12 DP 1158508) and the lot on which the drinking water and recycled water storage reservoirs are proposed to be located (part Lot 1 DP 3533). This Planning Proposal includes application for re-zoning of the two sites to zone SP2 'Infrastructure' (Appendix 3.5.1(c)).

The Developer lodged a Development Application and Statement of Environmental Effects (DA-714/2014) with LMCC on 14 May 2014 for the Cooranbong LWC. This will be assessed by LMCC under the provisions of Part 4 of the EPAA including the review of an Environmental Impact Statement (EIS) triggered by the classification of the LWC as a designated development under Schedule 3 of the Environmental Planning and Assessment Regulation 2000 ("**EPAR**"). The EIS was submitted on 14 August 2014 following receipt of Secretary's Environmental Assessment Requirements (Appendix 3.5.1(e)).

Flow Systems has prepared a Frequently Asked Questions document to address the queries raised during the consultation period for the DA. Refer to Appendix 3.5.1(f).

North Cooranbong Development

The North Cooranbong Development area is subject to the North Cooranbong Environmental Assessment Report which was prepared in support of the approval under Part 3A of the EPAA and includes environmental considerations for reticulation infrastructure within the North Cooranbong Development area.

Reticulation

As outlined in section 3.5.1, all regulatory approvals for the network reticulation infrastructure have been obtained by the Developer pursuant to Part 4 of the EPAA.

Refer to Appendix 3.5.1(b) North Cooranbong Environmental Assessment Report

Refer to Appendix 3.5.1(c) Planning Proposal RZ-3/2014

Refer to Appendix 3.5.1(d) Review of Environmental Factors for sewage and recycled water reticulation systems

Refer to Appendix 3.5.1(e) Development Application and Environmental Impact Statement

Refer to Appendix 3.5.1(f) Flow Systems' response to DA submissions

4.1.14	If a treatment process forms part of the infrastructure for which the applicant corporation is seeking a licence, what waste streams will be generated by the proposed treatment plant and how will the waste be disposed of or handled?

The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7). The response will also be used as a context for our assessment of the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

Apart from the possibility of dosing with sodium hypochlorite to ensure a free chlorine residual, CW is not proposing to treat the drinking water which will be bulk supplied to CW by Hunter Water. There is no waste stream from dosing with sodium hypochlorite.

4.2 Water infrastructure – non-potable water

Only provide a response to the questions in the following section if the applicant corporation is seeking a licence for the construction, maintenance and operation of water infrastructure for the supply of non-potable water.

4.2.1	Describe the proposed non-potable water infrastructure from the source of the water through to the end use (i.e. catchment to tap). Please include in your description all of the infrastructure for which the applicant corporation is seeking a licence. This will include any infrastructure that is to be used for the production, treatment, filtration, storage, conveyance or reticulation of the non-potable water. Please list all sources and end uses in the description. Identify the infrastructure for which the applicant corporation is seeking a licence. **Provide a detailed process flow diagram of the proposed infrastructure from source to end use in Appendix 4.2.1.**

You must attach a process flow diagram in response to this question. The process flow diagram should only include the non-potable water infrastructure where the scheme includes more than one type of infrastructure and must cover the process from source to end use. You may also include a piping and instrumentation diagram for additional information.

The response to this question will be used to draft a proposed licence. The licence will specify the type of water industry infrastructure, if a licence is granted (Act s.6(1)(a)). The response will also be used to ensure you have applied for the correct licence(s) and as a context for our assessment of the applicant corporation's technical, organisational and financial capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

The recycled water catchment is the Scheme area. Wastewater collected from predominantly residential households will be delivered into the LWC via a permanent flow balance tank which forms an integral part of the LWC itself. Further, note that the LWC is also designed to draw on drinking water and stormwater when recycled water demand exceeds the available supply (see section 4.2.6 below).

Infrastructure involved, and key steps, in the treatment process are as follows:

Permanent flow balance tank – Used to buffer incoming supply vs. treatment capacity.

Inlet screening – Material greater than 2mm will be removed from the raw sewage to protect the downstream equipment. Dewatered screenings will be collected and disposed off-site via an approved waste management contractor.

Membrane Bioreactor – A membrane bioreactor will form the core treatment process for the LWC. The biological reactor will be designed to achieve the required levels of BOD and nutrient reduction. Nitrogen will be removed biologically whereas phosphorus will be precipitated with alum and subsequently form part of the biomass. The membranes will separate the biomass from the treated water and provide the first disinfection barrier. The biomass is sent back to the start of the biological reactor and the treated water is sent onto further disinfection. Excess biomass is periodically wasted from the membrane zone. The bioreactor is configured into distinct zones via baffles to minimise short-circuiting.

UV Disinfection – UV disinfection provides the second disinfection barrier. Importantly, the low turbidity water (typically ~0.2NTU) produced from membrane filtration is well suited to UV disinfection.

Chlorination – A chlorine contact time provides the third disinfection barrier. Importantly, the low turbidity water (typically ~0.2NTU) produced from membrane filtration is well suited to chlorine disinfection.

Chemical storage and dosing – A variety of chemicals including sodium hypochlorite and citric acid will be used for treatment process purposes, disinfection and membrane cleaning.

Recycled water storage – Used to provide a buffer between production capacity and recycled water demand.

Recycled water network reticulation infrastructure – Recycled water will be supplied to end use customers through a pressurised distribution network. A pressure pump set will boost

recycled water from the recycled water storage tanks to the distribution network to achieve a minimum pressure of 15 metres static head at each property boundary measured for a continuous 30 minute period during normal system operation.

WAS Dewatering – The Waste Activated Sludge (WAS) from the membrane zone will be dewatered from 0.6% w/w solids to ~12% w/w solids using a belt filter press. The filter cake will be collected and disposed off-site through agreement with Hunter Water to take it via the existing sewerage system or it will be collected and disposed off-site via an approved waste management contractor.

Odour scrubbing – Foul air from the inlet screens and flow balance tank will be collected and processed via an odour scrubbing. The primary treatment process for odour will be biological followed by activated carbon

Control System – The control and operation of the overall scheme is based on a PLC/SCADA system which will be designed to ensure safe and correct functional operation of the LWC and associated ancillary components.

The PLC follows specific steps to automatically control valves, pumps, etc. during the operating states for the scheme and provides automated control of the equipment. All the programming for the control of the scheme is stored in the PLC.

The SCADA system software allows the full and complete interaction between the Scheme operators and the scheme. It supplies all the data from field transmitters and displays the values and statuses by the animation of graphic objects and colours in the required number of graphic pages.

The end use for recycled water is described in section 4.2.9 below.

Refer to Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water – Interim Facility)

Refer to Appendix 4.2.1(b) Process Flow Diagram (Sewerage and Recycled Water – Permanent Facility)

Refer to Appendix 4.2.1(c) Recycled Water Reticulation Masterplan

4.2.2	Describe whether the infrastructure is existing infrastructure or is to be constructed. If the infrastructure is existing, please describe its current condition and operability. If the infrastructure is a mixture of existing and to be constructed **identify the infrastructure as existing or to be constructed on the process flow diagram in Appendix 4.2.1**.

The response to this question will be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).

All scheme infrastructure under this licence application is to be constructed.

4.2.3	Describe the <u>location</u> of the proposed infrastructure. For example include: ▾ the identification of specific lot descriptors (e.g. lot and DP numbers) for the production, treatment, filtration and/or storage infrastructure. ▾ the location of infrastructure for the conveyance and/or reticulation of non-potable water by street name, local government area or other description as appropriate to the size of the scheme. **Provide a map showing the location of the proposed infrastructure from source to end use in Appendix 4.2.3.**

The map may include all water industry infrastructure (ie, drinking water, non-potable water and/or sewerage) where the scheme includes more than one type of infrastructure.

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(a)). The response to this question will be used to specify the authorised area of operations (Act s.11(1)), if a licence is granted. The response will also be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).

The recycled water infrastructure described in section 4.2.1 above is contained within the

Scheme area as shown in the Recycled Water Reticulation Masterplan provided at Appendix 4.2.1(c).

Recycled water storage and distribution pumps will be located in a separate area alongside the LWC initially and then further storage and distribution pumps will be constructed on a site (part Lot 1 DP 3533) at a higher elevation, as indicated in Appendix 4.2.1(c) Recycled Water Reticulation Masterplan.

The recycled water supply and distribution network will be located throughout the Scheme area.

At a later date, recycled water storage tanks and pumps will be constructed on the same site as the proposed drinking water reservoirs at a site within the Scheme area (per section 4.1.3 above).

The Scheme area may be described as follows:

Lot	DP	Description
11	129156	North of Alton Road
1-13	7352	13 lots off Alton Road
1	3533	North of Alton Road includes the location for the recycled water storage reservoirs
2	3533	North of Alton Road
3	3533	North of Avondale School
4	3533	North of Avondale School
7	3533	Land west of Avondale School, contains part of east-west runway
8	3533	North of Alton Road
10	3533	Land west of Avondale School, contains part of east-west runway
1	348173	North of Twine property
212	1037011	Twine property, off Freemans Drive
1	329367	103 Avondale Road
14	129157	109 Avondale Road
1	301305	109A Avondale Road
B	306673	111 Avondale Road
A	306673	113 Avondale Road
13	129157	115 Avondale Road
1	346776	Lot 1 Avondale Road
2	346776	110 Avondale Road
21	129159	108 Avondale Road
1	360725	106 Avondale Road
1	363639212	104 Avondale Road
22	129159	4 Blue Wren Drive
3	1029952	84 Avondale Road
2	663728	76 Avondale Road
219	755218	Triangular lot in western “point” of development
333	1183498	North-south runway and land around Avondale School
223	1179214	Stormwater detention pond off Wainman Drive
11	1158508	617 Freemans Drive, access to proposed Cooranbong Local Water Centre site

12	1158508	'Thomson' property, 617 Freemans Drive, proposed Cooranbong Local Water Centre site

Refer to Appendix 4.2.1(c) Recycled Water Reticulation Masterplan

Refer to Appendix 4.1.3 Scheme Lot and DP references

4.2.4	Describe any interconnections between the proposed non-potable water infrastructure and other infrastructure not part of this scheme (e.g. interconnections with other licensed network operators or public utilities such as sewers or water mains). Identify in your description who is responsible for the construction, operation and maintenance of which infrastructure. **Identify all interconnections with other infrastructure on the process flow diagram in Appendix 4.2.1 and the map in Appendix 4.2.3.**

Examples of interconnections may include potable water top up or trade waste disposal, as well as to other network operators.

The response to this question will be used to ensure the correct area of operation is specified in the licence, if a licence is granted (Act s.11(1)). The response will also be used as a context for the assessment of risks from the proposed scheme and to identify possible additional licence conditions relating to the inter-connected systems and responsibilities for risks.

The proposed non-potable water infrastructure will not interconnect with other sewer or water mains outside of the Scheme.

4.2.5	Where applicable, describe the connection point to customers or end users (e.g. the customer connection point may be a water meter). Identify in your description who is responsible for the construction, operation and maintenance of which infrastructure. **Identify all customer and/or end user connections on the process flow diagram in Appendix 4.2.1 and the map in Appendix 4.2.3.**

The response to this question will be used to ensure the correct area of operation is specified in the licence, if a licence is granted (Act s.11(1)). The response will also be used as a context for the assessment of risks from the proposed scheme.

CW is responsible for the design, construction, operation and maintenance of all recycled water infrastructure within the LWC.

The detailed design and construction of the recycled water infrastructure from the LWC up to and including the recycled water meter inside each customer's property will be undertaken by the Developer, in accordance with the masterplan and design standards prepared by CW. CW will carry out detailed design review and inspection and testing of the constructed infrastructure prior to dedication to CW.

Following dedication of the constructed infrastructure, CW is responsible for the operation and maintenance of all recycled water infrastructure up to and including the recycled water meter inside each customer's property.

Each individual customer will be responsible for the construction, operation and maintenance of the recycled water infrastructure downstream of the recycled water meter.

Refer to Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water – Interim Facility)

Refer to Appendix 4.2.1(b) Process Flow Diagram (Sewerage and Recycled Water – Permanent Facility)

Refer to Appendix 4.2.1(c) Recycled Water Reticulation Masterplan

4.2.6	What volume of water is available from the proposed source? Where applicable, please provide the capacity of the source and the (allowable) average daily extraction rate from the source. If there is more than one source, please provide the requested information for each of the sources. **Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix 4.2.6.**

The response will also be used as a context for the assessment of the technical, organisational and financial capacity of the applicant corporation (Act s.10(4)(a)).

There are three confirmed sources for the recycled water, namely:

1) **Sewage –** This source can provide up to 1,000kL/day of raw sewage based on the Water Balance Report. The conversion of raw sewage to recycled water is approximately 95%.

(NB: Recycled water will not be supplied until the infrastructure in Phase 2 is completed and existing lots are delivering sewage to the LWC).

2) **Stormwater** – Stormwater may be sourced from two stormwater detention basins (one adjacent to the LWC and one off Wainman Drive on Lot 223 DP 1179214) within the Scheme area within 'cut in' and 'cut out' levels consistent with the Development's stormwater design and environmental approvals

3) **Drinking water** – As outlined above, the initial 156 lots will be supplied by a drinking water connection from CW's drinking water reticulation network into the recycled water reticulation network until recycled water becomes available. Once recycled water is being produced and supplied by the LWC, if recycled water demand exceeds the supply of raw sewage and stormwater and prolonged use depletes the recycled water storages, then drinking water from CW's drinking water reticulation network will be used to supplement supply. CW will work with Hunter Water to develop the drinking water system such that sufficient drinking water is available to be used for top-up of recycled water storages.

The land capability assessment for the project provides a high level, conservative view of water demands across the development. Flow Systems has separately prepared a Water Balance report which recognises that BASIX40 (and the potential change to BASIX50) has driven and will continue to drive (over the course of the 20-year development roll-out) a change in behaviour and a change in water fittings and appliances available in the market. The 'average' installation therefore has a lower water demand in new developments". This data is calibrated by observed demands in the market. Current water balance modelling shows that during the development roll-out, up to 120kL/day of top up may be required to meet recycled water demand at or around 2027. This will be minimised through further calibration of the model from observed demands and optimisation of the timing for implementation of new storage in the system. The water balance model shows that top up is not required at full build out.

Refer to Appendix 4.1.1(b) Letter of Support from Hunter Water

Refer to Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water – Interim Facility)

Refer to Appendix 4.2.1(b) Process Flow Diagram (Sewerage and Recycled Water – Permanent Facility)

Refer to Appendix 4.3.13 Cooranbong Land Capability Assessment

4.2.7	What volume of water will be treated by the scheme? Please provide the average and peak daily flow rates treated by the scheme.

This information will be used to determine the fee category for the scheme, if a licence is granted. The response to this question may be used to draft a proposed licence, if a licence is granted.

The Scheme will have the capacity to treat average daily flows of up to 1,500kL/day (including stormwater top-up).

In relation to peak daily flow:

- Instantaneous and diurnal peaks will be buffered by the storage in the pressure sewer network and the permanent flow balance tank.
- The nature of the pressure sewer network prevents inflow/infiltration thereby eliminating the peak flow normally associated with wet weather in conventional sewer systems.
- The catchment is residential and population is expected to be relatively stable throughout the year.

Therefore peak daily flow is expected to be equivalent to average daily flow.

4.2.8	What volume of non-potable water will be produced by the scheme? Please provide the average and peak daily volume supplied to end users or retail suppliers.
This information will be used to assess the retail supplier's obligation not to over commit, if a licence is granted. The response to this question may be used to draft a proposed licence, if a licence is granted.	
The volume of recycled water produced will generally be up to 950 kL/day, however the water recycling facility will have the capacity to produce up to 1,425 kL/day if there is enough source water (stormwater) available. The average volume of recycled water supplied to end users will vary with time of year due to irrigation demands. The peak day demand for recycled water at full development build out is 1,250 kL/day. This will be buffered by 6.4ML of recycled water storage in the network. As outlined in section 4.2.6, stormwater and/or drinking water from CW's drinking water reticulation network will be used should recycled water demand temporarily exceed recycled water production.	
4.2.9	List all the intended end uses for the non-potable water generated by the scheme.
The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response to this question will also be used to draft a proposed licence. The licence will specify the purpose for which the infrastructure can be used, if a licence is granted (Act s.6(1)(a), Reg cl.8(1)).	

The intended end uses for the recycled water will include:

- Toilet flushing
- Washing machines
- Water features
- Irrigation by end users for watering plants, gardens, lawns etc.
- Irrigation of newly developed land release stages (using relocatable surface irrigation systems) in readiness for sale.
- Dust suppression for construction activities within the North Cooranbong Development area, and the establishment of new tree plantings within the public open space.
- Irrigation of public open space with permanent irrigation systems as each area is established.

There are a number of longer term options for the use of recycled water (ie. during the period of developing the Scheme over an expected 15 to 20 year timeframe):

- Prior to completion of development, an off-site customer base will be established to use excess recycled water including possible irrigation of the Avondale College of Higher Education, Avondale School and the Horse Stud Farm adjacent to the Avondale School.
- CW is in negotiation with Hunter Water for a permanent connection to its sewerage network for the discharge of excess wastewater.
- Storage will be designed when required in response to learnings from the actual operation of the network and the observed water cycle demands. In addition, there may be an opportunity to optimise designs based on available "natural" storage in the development (eg stormwater detention ponds), depending on legislative requirements at the time and through advances in hydraulic management technology available at the time. This will ensure that investment in further infrastructure is appropriate.

In the unlikely scenario that all of these options are exhausted and there still remains excess recycled water, an environment protection licence for discharge to local waterways will be sought at that time with the excess recycled water likely to be used for topping up the stormwater detention basin in the first instance.

4.2.10	**Provide your preliminary risk assessment for the scheme from source to end use in Appendix 4.1.10**. It is important that your preliminary risk assessment accurately identifies any hazards present in the source water or likely to result from the proposed treatment process. The risk assessment will also address the intended, inadvertent and unauthorised end uses (and therefore routes of exposure) to the non-potable water. The preliminary risk assessment will identify any reasonably foreseeable risk event with the potential to expose people or the environment to hazards. The preliminary risk assessment will outline the broad mitigation measures where the risk of exposure to a hazard is unacceptable to human health or the environment in order to reduce the risk of exposure. The risk assessment must also identify the events and circumstances that could adversely affect the applicant corporation's ability to carry out the activities for which the licence is sought (including any activities undertaken by a nominated third party), the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.

The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks to health and the environment. We strongly recommend that the applicant corporation utilises an established risk management system, such as outlined in AS/NZS ISO 31000:2009 (Risk management – Principles and guidelines), which is consistent with the approach outlined in the Australian Guidelines for Water Recycling (element 2).

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(b) and cl.6(1)(c)(ii)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response to this question will also be used to draft a proposed licence. The licence will specify the purpose for which the infrastructure can be used, if a licence is granted (Act s.6(1)(a), Reg. cl.8(1)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

The preparation of the preliminary risk assessment was undertaken in accordance with the following sections of the *"Australian Guidelines for Water Recycling : Managing Health and Environmental Risks (Phase 1) 2006"*:

- Section 2.2.4 – Hazard identification and risk assessment
- Section 2.3 – Preventative measures for recycled water management
- Section 2.3.1 – Preventative measures and multiple barriers
- Section 2.3.2 – Critical control points

Refer to Appendix 4.1.9 Preliminary Risk Assessment Summary

4.2.11	Describe how the 12 elements of the framework for the management of recycled water, as detailed in the Australian Guidelines for Water Recycling (AGWR), have been addressed and will be implemented and maintained. **Provide evidence of the applicant corporation's capacity to implement the 12 elements of the framework in the AGWR in Appendix 4.2.11.**

The evidence should be in the form of management plans for either the proposed scheme or other similar schemes undertaken by the applicant corporation, or in a comprehensive statement detailing the process by which the management plan will be developed. For existing (brownfield) schemes you should provide the actual water quality plan for the site.

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(d)(i)). The response to this question will also be used to draft a proposed licence. The licence will specify the purpose for which the infrastructure can be used, if a licence is granted (Act s.6(1)(a), Reg. cl.8(2)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence.

CW utilises the Flow Systems Recycled Water Quality Plan to address each of the 12 elements associated with recycled water. CW's parent company Flow Systems and its various subsidiaries (eg. Pitt Town Water), have demonstrated previously that it has the capacity to implement and maintain the 12 element approach.

Pitt Town Water and CW are sister companies and both are wholly owned subsidiaries of Flow Systems.

Flow Systems has also assisted CW to develop a Draft CW-specific Scheme Management Plan to supplement the group-wide plans with scheme-specific information.

The systems and processes for the recycled water infrastructure are similar to those prepared for Pitt Town Water. Flow Systems' capacity to develop and implement a Water Quality Plan – Recycled Water is evidenced by independent audit confirming that the requirements of the WIC Act have been met for Pitt Town Water Recycling Facility. Similarly we have undertaken audit at Central Park and are awaiting notification of outcomes.

Evidence is also provided by Ministerial approval to commence commercial operation for Pitt Town Water (1 June 2012).

Refer to Appendix 4.2.11 Flow Systems Recycled Water Quality Plan (Table of Contents)

Refer to Appendix 4.1.10(b) Draft CW Scheme Management Plan (Table of Contents)

The following table provides further information on how CW will address, implement and maintain each of the 12 elements of the AGWR.

Element	Comments

	1	**Commitment to responsible use and management of recycled water** *Address* Key stakeholders (ie. management, construction, operation and end users) were identified and have been involved in the development of the proposed recycled water scheme at Cooranbong. Commitment has been sought, and received, from these stakeholders in relation to the responsible use and management of recycled water at Cooranbong. *Implement* Regular communication will be maintained with the stakeholders during the design, construction and operation of the recycled water scheme to ensure it continues to be responsible/ sustainable. Specialist consultants will be engaged as required to ensure the project team has the necessary expertise. *Maintain* Stakeholder engagement and end user education will be a continuous process during the operation of the scheme to ensure the responsible use and management of recycled water.
	2	**Assessment of the recycled water system** *Address* Representatives from each of the key stakeholders have been engaged to assess the recycled water system for compliance with project objectives, integration with the Development, regulatory requirements and risks (technical/commercial). The assessment includes: • Intended uses and sources of recycled water • Recycled water system analysis • Assessment of water quality data • Hazard identification and risk assessment *Implement* Design workshops and commercial/technical risk registers will be used to capture the assessment of the recycled water system. Specialist consultants will be engaged as required to ensure the project team has the necessary expertise. *Maintain* The registers will be updated as required as the project moves through construction, commissioning and operation.
	3	**Preventive measures for recycled water management** *Address* For each identified risk, preventive measures will be developed to eliminate or mitigate the likelihood or consequence of the impact. Where appropriate, a multiple barrier approach will be adopted. *Implement* During the development of the risk registers, the risk will be assessed with and without preventive measures. Greater focus will be placed on events where the residual risk is still rated High to Very High. Critical Control Points will be developed and implemented to ensure recycled water quality is always safe for the intended end uses. *Maintain* The risk register will be a live document over the life of the scheme. In addition to regular audits it will be reviewed/updated when: • There is a significant change in the project or stakeholders • There is a change in regulation

	• There is an incident on this or a similar scheme The accuracy of critical control points will be confirmed via verification testing.
4	**Operational procedures and process control** *Address* Operational procedures will be developed for all processes and activities associated with the recycled water system from source to end use. A comprehensive SCADA based control and monitoring system will provide continuous feedback/monitoring on system performance and Critical Control Points. *Implement* Operational procedures will be developed in the later stages of the project construction phase and will be included in the management plan. The process control system will be based on the agreed functional description for the system including the Critical Control Points. *Maintain* The operational procedures will be live documents over the life of the scheme. In addition to regular audits they will be reviewed/updated when: • There is a significant change in the project or stakeholders • There is a change in regulation • There is an incident on this or a similar scheme Process control systems will be checked regularly for accuracy and to ensure logic around Critical Control Points remains valid.
5	**Verification of recycled water quality and environmental performance** *Address* Verification of the recycled water quality will involve monitoring and analysis of key parameters to confirm the Critical Control Points remain valid. Environmental performance will be confirmed by monitoring discharges for compliance and the sustainability of irrigation. *Implement* The ongoing sampling and monitoring program detailed in the management plan will include a list of key parameters, the location of the monitoring point and monitoring frequency. The incident and emergency response plan will include protocols for recording and reacting to any environmental issues. *Maintain* The monitoring program will be a live document over the life of the scheme. In addition to regular audits it will be reviewed/updated when: • There is a significant change in the project or stakeholders • There is a change in regulation • There is an incident on this or a similar scheme
6	**Management of incidents and emergencies** *Address* To ensure efficient/effective communication, protocols will be developed detailing how incidents are recorded, actioned and followed up. These protocols will also include contact details for key operational personnel, stakeholders and regulators. *Implement* The incident and emergency response protocols will be included in the management plan. To test the adequacy of these protocols a number of incidents will be simulated during commissioning. The protocols will be

		integrated with the communication plan. *Maintain* The incident and emergency management plan will be a live document over the life of the scheme. In addition to regular audits it will be reviewed/updated when: • There is a significant change in the project or stakeholders • There is a change in regulation • There is an incident on this or a similar scheme Employee training and regular incident simulations will be used to confirm system effectiveness and efficiency.
	7	**Operator, contractor and end user awareness and training** *Address* Awareness and training requirements will be developed for operators, managers, contractors and end users. These requirements will be clearly detailed in the management plan. Internal and external training programs will be used to ensure the required skills and knowledge is sufficient and current. Inductions will be used for Contractors, visitors and new employees. *Implement* Awareness and training requirements will be included in the management plan together with records of any training or inductions that are carried out. End users will be updated and educated through regular communication via newsletters and the CW website. *Maintain* The awareness and training requirements will be a live document over the life of the project. In addition to regular audits it will be checked / updated when: • There is a significant change in the project or stakeholders • There is a change in regulation • There is an incident on this or a similar scheme End users will be consulted on a regular basis regarding their knowledge of recycled water and the restrictions on end use. Awareness programs will be updated accordingly.
	8	**Community involvement** *Address* A comprehensive community consultation strategy will be developed which takes into account the nature of the project and the specific requirements of end users and the broader community. *Implement* The community consultation strategy will be incorporated into the management plan as part of the communications plan. The CW website will be used as the primary interface for customer engagement. Records will be maintained of any incoming or outgoing communication with end users and the broader community. *Maintain* The community consultation strategy will be a live document over the life of the scheme. In addition to regular audits it will be reviewed/updated when: • There is a significant change in the project or stakeholders • There is a change in regulation • There is an incident on this project or a similar scheme
	9	**Validation, research and development** *Address*

		Key focus areas in relation to the ongoing validation, research and development needs of the project will be captured in the management plan. *Implement* All new equipment critical to recycled water quality will be validated in accordance with regulatory requirements and industry best practice. Research and development areas will be identified during the first year of operation and prioritised. *Maintain* Project performance will be benchmarked against similar facilities to ensure the recycled water scheme incorporates industry best practice. Technology developments will be monitored for the relevance to and impact on the scheme.
	10	**Documentation and reporting** *Address* Documentation, data and reporting will be managed and secured through the management plan and control system. Internal and external reports will transmit important information to project stakeholders. *Implement* A hard copy of the management plan will be kept on site in the WRF control room adjacent to the SCADA. Electronic copies of the management plan will be available to all key operational personnel. The SCADA will be configured to enable remote access and collection of data. Reports on system performance will be distributed to internal and external stakeholders on an agreed frequency. Incident reports will be distributed to internal and stakeholders in accordance with agreed protocols. *Maintain* As noted previously all documentation will be considered 'live' and will be reviewed and updated (as required) on a regular basis. Document control procedures will be utilised to ensure the current version is in use. All important data will be securely backed up off-site.
	11	**Evaluation and audit** *Address* The design of the control system will enable the efficient capture and management of system data which will subsequently be used to evaluate long term performance. Internal and external audits will be used to verify the adequacy of the management systems. *Implement* Evaluation will commence during the first year of operating following validation and in parallel with verification. Audits will be conducted before and after commissioning and then in accordance with internal/external requirements. *Maintain* Regular checks will be made of the data collection system for accuracy and completeness. All system data will be securely backed up off-site. Recommendations of internal and external audits will be reviewed and implemented where appropriate.
	12	**Review and continual improvement** *Address* Senior management of CW will be provided with regular reports on system performance and copies of incident reports as required by protocols. *Implement* Key areas for improvement will be identified during formal review meetings and progressed as agreed. Industry benchmarking and audits will be used to

		continuously improve system documentation, operation and control. *Maintain* Training will be provided for senior managers to ensure they can actively take part in the review process.

4.2.12	How will the continuity of supply of the non-potable water be ensured? What contingency plans are in place in the case of failure of the infrastructure? What alternative supplies of non-potable water will be used when the infrastructure is inoperable?

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(c)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

Continuity of recycled water supply will be achieved through:

- Significant redundancy is provided by the recycled water storage tanks
- Recycled water distribution pumps will be installed in duty/standby arrangement
- Stormwater will be sourced from two of the stormwater detention basins within the Scheme area (within environmental constraints)
- CW will have a commercial agreement with Hunter Water that will include drinking water availability as top up for recycled water

CW will develop detailed contingency plans in the event of infrastructure failure. These contingency plans will be a component of the Infrastructure Operating Plan and will include:

- Minimisation of demand through customer notifications.
- Rapid response to infrastructure failure.

Refer to Appendix 4.1.12 Flow Systems Infrastructure Operating Plan (Table of Contents)

Refer to Appendix 4.1.10(b) Draft CW Scheme Management Plan (Table of Contents)

4.2.13	Describe the systems and processes that the applicant corporation will have in place to manage the non-potable water infrastructure. **Provide evidence of the applicant corporation's capacity to develop and implement an infrastructure operating plan in Appendix 4.2.13.**

The evidence may include examples of processes and procedures for either the proposed scheme or other similar schemes undertaken by the applicant corporation. The processes and/or procedures should demonstrate good operational practice including life cycle planning, system redundancy, contingency planning, condition monitoring, management maintenance processes and processes of supporting skills needs. The examples should demonstrate links to a risk management process. For existing (brownfield) schemes you should provide the actual water quality plan for the site.

The response to this question is a requirement for any network operator's licence for water infrastructure (Reg cl.6(1)(c)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

The systems and processes for the recycled water infrastructure are similar to those prepared by Pitt Town Water.

Pitt Town Water and CW are sister companies and both are wholly owned subsidiaries of Flow Systems. Flow Systems will utilise the Flow Systems Recycled Water Quality Plan (as outlined in section 4.2.11) and Flow Systems Infrastructure Operating Plan.

Flow Systems has also assisted CW to develop a Draft CW-specific Scheme Management Plan to supplement the group-wide plans with scheme-specific information.

Flow Systems' capacity to develop and implement appropriate Water Quality Plans and

Infrastructure Operating Plans is evidenced by independent audit confirming that the requirements of the WIC Act have been met for Pitt Town Water Recycling Facility.

Evidence is also provided by Ministerial approval to commence commercial operation for Pitt Town Water Factory (1 June 2012).

Refer to Appendix 4.2.11 Flow Systems Recycled Water Quality Plan (Table of Contents)

Refer to Appendix 4.1.12 Flow Systems Infrastructure Operating Plan (Table of Contents)

Refer to Appendix 4.1.10(b) Draft CW Scheme Management Plan (Table of Contents)

4.2.14	Describe the studies that have been completed to investigate any environmental impacts (including but not limited to water quality, quantity, air, noise, sea level rise, biodiversity and Aboriginal cultural heritage) from the construction and operation of the infrastructure? Have the studies identified any significant environmental impacts from the scheme? If so, how are the environmental impacts proposed to be managed? **Provide a copy of any environmental study and/or risk assessment in Appendix 4.2.14.**

As a minimum an application must be accompanied by a statement of environmental effects (SEE) (unless the development is designated development, Part 5 development or a major project, in which case either an environmental impact statement (EIS) or comprehensive environmental assessment is required). The SEE may be prepared by the applicant corporation or by a consultant acting on behalf of the applicant. The SEE must identify the environmental impacts of the proposed scheme, and the steps which will be taken to protect the environment or reduce the harm. Where the study is in the form of a comprehensive environmental assessment or EIS, please include only the executive summary.

The response to this question may be used to draft a proposed licence, if a licence is granted. The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7).

Local Water Centre (LWC)

The Developer has prepared an Environmental Impact Statement (EIS) for the LWC site that includes the treatment facility, local drinking water and recycled water storage tanks, dosing, distribution pumps and on-site backup generator at the LWC site. The EIS includes specialist studies of ecology, acoustic, odour, indigenous and non-indigenous heritage, bushfire and stormwater management.

The Developer lodged a Planning Proposal (RZ-3/2014) with LMCC on 7 May, 2014 for the re-zoning of the lot on which the LWC is proposed to be located (Lot 12 DP 1158508) and the lot on which the drinking water and recycled water storage reservoirs are proposed to be located (part Lot 1 DP 3533). This Planning Proposal includes application for re-zoning of the two sites to zone SP2 'Infrastructure' (Appendix 3.5.1(c)).

The Developer lodged a Development Application and Statement of Environmental Effects (DA-714/2014) with LMCC on 14 May 2014 for the Cooranbong LWC. This will be assessed by LMCC under the provisions of Part 4 of the EPAA including the review of an Environmental Impact Statement (EIS) triggered by the classification of the LWC as a designated development under Schedule 3 of the Environmental Planning and Assessment Regulation 2000 ("**EPAR**"). The EIS was submitted on 14 August 2014 following receipt of Secretary's Environmental Assessment Requirements (Appendix 3.5.1(e)).

Flow Systems has prepared a Frequently Asked Questions document to address the queries raised during the consultation period for the DA. Refer to Appendix 3.5.1(f).

We have advice from the NSW Office of Water that an extraction licence is not required where less than 10% of the stormwater of a catchment is harvested for reuse.

North Cooranbong Development

The North Cooranbong Development area is subject to the Cooranbong Environmental Assessment Report which was prepared in support of the North Cooranbong Development approval and includes environmental considerations for reticulation infrastructure within the North Cooranbong Development area.

Reticulation

CW has commissioned a Review of Environmental Factors (REF) report in relation to the Scheme's sewage and recycled water reticulation systems (Appendix 3.5.1(d)). The sewage and recycled water reticulation systems will not require development consent by virtue of operation of the State Environmental Planning Policy (Infrastructure) 2007 ("**ISEPP**").

Part 5 of the EPAA requires that consideration be given to matters that might affect the environment before approval to an activity is given. WICA requires assessment of an applicant's capability to protect the environment and capacity to carry out the activities that the licence would authorise in a manner that does not present a significant risk of harm to the environment. The REF will fulfil these requirements.

As outlined in section 3.5.1, regulatory approvals for the network reticulation infrastructure will also be obtained by the Developer pursuant to Part 4 of the EPAA.Refer to Appendix 3.5.1(b) North Cooranbong Environmental Assessment Report

Refer to Appendix 3.5.1(c) Planning Proposal RZ-3/2014

Refer to Appendix 3.5.1(d) Review of Environmental Factors for sewage and recycled water reticulation systems

Refer to Appendix 3.5.1(e) Development Application and Environmental Impact Statement

Refer to Appendix 3.5.1(f) Flow Systems' response to DA submissions

4.2.15	If a treatment process forms part of the infrastructure for which the applicant corporation is seeking a licence, what waste streams will be generated by the proposed treatment plant and how will the waste be disposed of or handled?

The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7). The response will also be used as a context for our assessment of the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

There will be two waste streams generated by the LWC, namely:

- Screenings and grit – collected and disposed off-site via an approved waste management contractor.
- Waste activated sludge (WAS) – agreement will be sought with Hunter Water to take this in its existing sewerage system. If this cannot be achieved, it will be collected and disposed offsite via an approved waste management contractor.

4.3 Sewerage infrastructure

Only provide a response to the questions in the following section if the applicant corporation is seeking a licence for the construction, maintenance and operation of sewerage infrastructure.

4.3.1	Describe the proposed sewerage infrastructure from the collection to disposal or reuse. Include in your description all of the sewerage infrastructure for which the applicant corporation is seeking a licence. This will include any infrastructure that is to be used for the collection, treatment, filtration, storage, conveyance or disposal of the sewerage or treated effluent. **Provide a detailed process flow diagram of the proposed infrastructure from collection to disposal or reuse in Appendix 4.3.1.**

You must attach a process flow diagram in response to this question. The process flow diagram should only include the sewerage infrastructure where the scheme includes more than one type of infrastructure and must cover the process from source to end use. You may also include a piping and instrumentation diagram for additional information.

The response to this question will be used to draft a proposed licence. The response to this question is a requirement for any network operator's licence for sewerage infrastructure (Reg cl.6(2)(d)(ii)). The licence will specify the type of water industry infrastructure, if a licence is granted (Act s.6(1)(a)). The response will also be used to ensure you have applied for the correct licence(s) and as a context for our assessment of the applicant corporation's technical, organisational and financial capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

The total Scheme sewerage infrastructure consists of:

- domestic pressure sewer pumping systems at each individual lot
- pressure sewer reticulation network connecting each lot to the LWC

Phase 1 (up to the first 156 lots or four litres per second peak discharge in the Scheme area) will deliver sewage from the customer lot via the pressure sewer reticulation network and discharged to Hunter Water's sewerage network (ie. without treatment) possibly via the Interim FBT. If required, the storage volume in the Interim FBT would be 40kL initially and expanded to up to 160kL.

Phase 2 (to service the entire Scheme area) will deliver sewage to the permanent flow balance tank forming an integral part of the LWC before passing through the membrane bioreactor and disinfection treatment process units to be redistributed as recycled water for reuse within the Scheme area. The biological treatment capacity is 1,000kL/day.

Refer to Appendix 4.2.1(a) Process Flow Diagram (Sewerage & Recycled Water – Interim Facility)

Refer to Appendix 4.2.1(b) Process Flow Diagram (Sewerage and Recycled Water – Permanent Facility)

4.3.2	Describe whether the infrastructure is existing infrastructure or is to be constructed. If the infrastructure is existing, please describe its current condition and operability. If the infrastructure is a mixture of existing and to be constructed **identify the infrastructure as existing or to be constructed on the process flow diagram in Appendix 4.3.1**.

The response to this question will be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).

All sewerage infrastructure under this licence application is to be constructed.

4.3.3	Describe the location of the proposed infrastructure. For example include: ▾ the identification of specific lot descriptors (eg, lot and DP numbers) for the

collection, treatment, filtration and/or storage infrastructure

- the location of infrastructure for the conveyance and/or reticulation of sewage by street name, local government area or other description as appropriate to the size of the scheme.

Provide a map showing the location of the proposed infrastructure from source to end use in Appendix 4.3.3

The map may include all water industry infrastructure (ie, drinking water, non-potable water and/or sewerage) where the scheme includes more than one type of infrastructure.

The response to this question is a requirement for any network operator's licence for sewerage infrastructure (Reg cl.6(2)(a)). The response to this question will be used to specify the authorised area of operations (Act s.11(1)), if a licence is granted. The response will also be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).

The sewerage infrastructure described in 4.3.1 above is contained within the Scheme area as shown in the Pressure Sewer Reticulation Masterplan provided at Appendix 4.3.3.

The Scheme area may be described as follows:

Lot	DP	Description
11	129156	North of Alton Road
1-13	7352	13 lots off Alton Road
1	3533	North of Alton Road
2	3533	North of Alton Road
3	3533	North of Avondale School
4	3533	North of Avondale School
7	3533	Land west of Avondale School, contains part of east-west runway
8	3533	North of Alton Road
10	3533	Land west of Avondale School, contains part of east-west runway
1	348173	North of Twine property
212	1037011	Twine property, off Freemans Drive
1	329367	103 Avondale Road
14	129157	109 Avondale Road
1	301305	109A Avondale Road
B	306673	111 Avondale Road
A	306673	113 Avondale Road
13	129157	115 Avondale Road
1	346776	Lot 1 Avondale Road
2	346776	110 Avondale Road
21	129159	108 Avondale Road
1	360725	106 Avondale Road
1	363639212	104 Avondale Road
22	129159	4 Blue Wren Drive
3	1029952	84 Avondale Road
2	663728	76 Avondale Road
219	755218	Triangular lot in western "point" of development
333	1183498	North-south runway and land around Avondale School

223	1179214	Stormwater detention pond off Wainman Drive
11	1158508	617 Freemans Drive, access to proposed Cooranbong Local Water Centre site
12	1158508	'Thomson' property, 617 Freemans Drive, proposed Cooranbong Local Water Centre site

Refer to Appendix 4.3.3 Pressure Sewer Reticulation Masterplan

Refer to Appendix 4.1.3 Scheme Lot and DP references

4.3.4	Describe any interconnections between the proposed sewerage infrastructure and other infrastructure not part of this scheme (eg, interconnections with other licensed network operators or public utilities such as sewers). Identify in your description who is responsible for the construction, operation and maintenance of which infrastructure. **Identify all interconnections with other infrastructure on the process flow diagram in Appendix 4.3.1 and the map in Appendix 4.3.3.**

The response to this question will be used to ensure the correct area of operation is specified in the licence, if a licence is granted (Act s.11(1)). The response will also be used as a context for the assessment of risks from the proposed scheme and to identify possible additional licence conditions relating to the inter-connected systems and responsibilities for risks.

There will be a connection from the pressure sewerage infrastructure to the existing Hunter Water sewerage infrastructure at an existing maintenance hole in Lot 223 DP 1179214. This connection will allow discharge of sewage for the first 156 lots of the Scheme while the LWC is developed and commissioned. When the LWC is built and a second connection to an existing Hunter Water maintenance hole in Lot 212 DO 1037011 ('Twine property') will be made.This connection would remain as a permanent connection for the diversion of excess sewage and the possible disposal of waste activated sludge if required and approved by Hunter Water.

Refer to Appendix 4.1.1(b) Letter of Support from Hunter Water

Refer to Appendix 4.3.3 Pressure Sewer Reticulation Masterplan

4.3.5	What volume of sewage will be treated by the scheme? Please provide the average and peak daily (hydraulic and biological, where relevant) flow rates <u>treated by</u> the scheme.

This information will be used to determine the fee category for the scheme, if a licence is granted. The response to this question may be used to draft a proposed licence, if a licence is granted.

The average biological capacity treated by the scheme will be 1,000kL/day and hydraulic capacity will be 1,500kL/day at ultimate Scheme capacity.
The land capability assessment for the project provides a high level, conservative view of water demands across the development. Flow Systems has separately prepared a Water Balance report which recognises that BASIX40 (and the potential change to BASIX50) has driven and will continue to drive (over the course of the 20-year development roll-out) a change in behaviour and a change in water fittings and appliances available in the market. The 'average' installation therefore has a lower water demand and therefore lower sewage production in new developments". This data is calibrated by observed demands in the market.

In relation to peak daily sewage flow rates:

- Instantaneous and diurnal peaks will be buffered by the pressure sewer network and the permanent flow balance tank
- The nature of the pressure sewer network prevents inflow/infiltration thereby eliminating the peak flow normally associated with wet weather in conventional sewer systems
- The catchment is predominantly residential and population is expected to be relatively stable throughout the year

Therefore peak daily flow is expected to be equivalent to average daily flow.
Refer to Appendix 4.3.13 Cooranbong Land Capability Assessment

4.3.6	What volume of treated effluent will be disposed of from the scheme? Please provide the average and peak daily disposal rates disposed from the scheme.
The response will be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7). The response to this question may be used to draft a proposed licence, if a licence is granted.	
All of the sewage will be collected under the scheme. Under Phase 1 (up to the initial 156 lots), up to around 2 days' storage of the collected sewage (160kL) will be provided by the pressure sewer collection tanks and, if required, the Interim FBT, which will then be discharged to Hunter Water's sewerage network (ie. without treatment). Under Phase 2 (to service the entire Scheme area), all sewage will be collected and treated by the LWC, with 95% of the incoming sewage recycled and re-used throughout the Scheme area for non-potable water usage (as outlined in section 4.2 above). The remaining 5% will be discharged to tanker truck and appropriately disposed of by an approved waste management contractor.	
4.3.7	How will the treated effluent be disposed of from the scheme?
The response to this question may be used to draft a proposed licence, if a licence is granted. The response will also be used as a context for the assessment of environmental risks from the proposed scheme (Act s.10(4)(e), Reg cl.7).	

The intended end uses for the recycled water will include:

- Toilet flushing
- Washing machines
- Water features
- Irrigation by end users for watering plants, gardens, lawns etc.
- Irrigation of newly developed land release stages (using relocatable surface irrigation systems) in readiness for sale.
- Dust suppression for construction activities within the North Cooranbong Development area, and the establishment of new tree plantings within the public open space.
- Irrigation of public open space with permanent irrigation systems as each area is established.

There are a number of longer term options for the use of recycled water (ie. during the period of developing the Scheme over an expected 15 to 20 year timeframe):

- Prior to completion of development, an off-site customer base will be established to use excess recycled water including possible irrigation of the Avondale College of Higher Education, Avondale School and the Horse Stud Farm adjacent to the Avondale School.
- CW is negotiating a permanent connection to Hunter Water's sewerage network for discharging excess sewage.
- Storage will be designed when required in response to learnings from the actual operation of the network and the observed water cycle demands. In addition, there may be an opportunity to optimise designs based on available "natural" storage in the development (eg stormwater detention ponds), depending on legislative requirements at the time and through advances in hydraulic management technology available at the time. This will ensure that investment in further infrastructure is appropriate.

In the unlikely scenario that all of these options are exhausted and there still remains excess recycled water, an environment protection licence for discharge to local waterways will be sought at that time with the excess recycled water likely to be used for topping up the stormwater detention basin in the first instance.

4.3.8	What wastewater and/or catchment characterisation studies have been undertaken? **Provide a summary report of any wastewater characterisation or catchment studies including results in Appendix 4.3.8.**

This information will be used as a context to the potential health and environmental risks posed by the scheme.

The sewerage catchment will be predominantly residential with some retail space. The design sewage characteristics have been based on conservative values for similar catchments including Flow Systems' trade waste policy which will require pre-treatment of sewage emanating from non-residential customers where the quality of sewage produced demands it.

4.3.9	**Provide your preliminary risk assessment for the scheme from collection to disposal in Appendix 4.3.8**. It is important that your preliminary risk assessment accurately identifies any hazards present in the sewage or likely to result from the proposed treatment process. The risk assessment should also address the intended method of disposal and any inadvertent releases (and therefore routes of exposure) to the treated effluent. The preliminary risk assessment will identify any reasonably foreseeable risk event with the potential to expose people or the environment to hazards. The preliminary risk assessment will outline the broad mitigation measures where the risk of exposure to a hazard is unacceptable to human health or the environment in order to reduce the risk of exposure.

	The risk assessment must also identify the events and circumstances that could adversely affect the applicant corporation's ability to carry out the activities for which the licence is sought (including any activities undertaken by a nominated third party), the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.
The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks to health and the environment. We strongly recommend that the applicant corporation utilises an established risk management system, such as outlined in AS/NZS ISO 31000:2009 (Risk management – Principles and guidelines). Where relevant, the risk assessment should identify and include any environmental risks and/or management actions identified in the development approval.	
The response to this question is a requirement for any network operator's licence for sewerage infrastructure (Reg cl.6(2)(b), cl.6(2)(c)(ii), cl.6(2)(d)(i)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response to this question will also be used to draft a proposed licence. The licence will specify the purpose for which the infrastructure can be used, if a licence is granted (Act s.6(1)(a)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
The preparation of the preliminary risk assessment was undertaken in accordance with the following sections of the *"Australian Guidelines for Water Recycling : Managing Health and Environmental Risks (Phase 1) 2006"*: • Section 2.2.4 – Hazard identification and risk assessment • Section 2.3 – Preventative measures for recycled water management • Section 2.3.1 – Preventative measures and multiple barriers • Section 2.3.2 – Critical control points Refer to Appendix 4.1.9 Preliminary Risk Assessment Summary	
4.3.10	Describe the systems and processes that the applicant corporation will have in place to manage the sewerage infrastructure. **Provide evidence of the applicant corporation's capacity to develop and implement an infrastructure operating plan in Appendix 4.3.10.**
The evidence may include examples of processes and procedures for either the proposed scheme or other similar schemes undertaken by the applicant corporation. The processes and/or procedures should demonstrate good operational practice including life cycle planning, system redundancy, contingency planning, condition monitoring, management maintenance processes and processes of supporting skills needs. The examples should demonstrate links to a risk management process. For existing (brownfield) schemes you should provide the actual water quality plan for the site.	
The response to this question is a requirement for any network operator's licence for sewerage infrastructure (Reg cl.6(2)(c)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
The systems and processes for the sewerage infrastructure are similar to those prepared by Pitt Town Water. Pitt Town Water and CW are sister companies and both are wholly owned subsidiaries of Flow Systems. Flow Systems now utilises a group-wide Sewage Management Plan and Infrastructure Operating Plan. Flow Systems has also assisted CW to develop a Draft CW-specific Scheme Management Plan to supplement the group-wide plans with scheme-specific information. Flow Systems' capacity to develop and implement appropriate Management Plans and Infrastructure Operating Plans is evidenced by independent audit confirming that the	

requirements of the WIC Act have been met for Pitt Town Water Recycling Facility.

Evidence is also provided by Ministerial approval to commence commercial operation for Pitt Town Water (1 June 2012).

Refer to Appendix 4.3.10 Flow Systems Sewage Management Plan (Table of Contents)

Refer to Appendix 4.1.12 Flow Systems Infrastructure Operating Plan (Table of Contents)

Refer to Appendix 4.1.10(b) Draft CW Scheme Management Plan (Table of Contents)

4.3.11	How will the continuity of the provision of sewerage services be ensured? What contingency plans are in place in the case of failure of the infrastructure?

The response to this question is a requirement for any network operator's licence for sewerage infrastructure (Reg cl.6(2)(c)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (act s.10(4)(a)).

Continuity of the provision of sewerage services will be achieved through:

- Up to 48 hours storage at each lot in the pressure sewer pumping system
- Flexibility in the operation of the pressure sewer network
- Remote monitoring of failure alarms at each lot in the pressure sewer pumping system
- Storage in the permanent flow balance tank at the LWC
- Critical equipment at the LWC will be installed in duty/standby configuration to ensure adequate redundancy
- Back-up generator onsite at the LWC.
- Remote monitoring of failure alarms on critical infrastructure at the LWC.

CW will develop detailed contingency plans in the event of infrastructure failure. These contingency plans will be a component of the Infrastructure Operating Plan and will include:

- Minimisation of sewage production through customer notifications
- Rapid response to infrastructure failure
- Trucking of sewage off-site via an approved waste management contractor

4.3.12	Describe the studies that have been completed to investigate any environmental impacts (including but not limited to water quality, quantity, air, noise, sea level rise, biodiversity and Aboriginal cultural heritage) from the construction and operation of the infrastructure? Have the studies identified any significant environmental impacts from the scheme? If so, how are the environmental impacts proposed to be managed? **Provide a copy of any environmental study and/or risk assessment in Appendix 4.3.12.**

As a minimum an application must be accompanied by a statement of environmental effects (SEE) (unless the development is designated development, Part 5 development or a major project, in which case either an environmental impact statement (EIS) or comprehensive environmental assessment is required). The SEE may be prepared by the applicant corporation or by a consultant acting on behalf of the applicant. The SEE must identify the environmental impacts of the proposed scheme, and the steps which will be taken to protect the environment or reduce the harm. Where the study is in the form of a comprehensive environmental assessment or EIS, please include only the executive summary.

The response to this question may be used to draft a proposed licence, if a licence is granted. The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7).

Local Water Centre (LWC)

The Developer has prepared an Environmental Impact Statement (EIS) for the LWC site that includes the treatment facility, local drinking water and recycled water storage tanks, dosing,

distribution pumps and on-site backup generator at the LWC site. The EIS includes specialist studies of ecology, acoustic, odour, indigenous and non-indigenous heritage, bushfire and stormwater management.

The Developer lodged a Planning Proposal (RZ-3/2014) with LMCC on 7 May, 2014 for the re-zoning of the lot on which the LWC is proposed to be located (Lot 12 DP 1158508) and the lot on which the drinking water and recycled water storage reservoirs are proposed to be located (part Lot 1 DP 3533). This Planning Proposal includes application for re-zoning of the two sites to zone SP2 'Infrastructure' (Appendix 3.5.1(c)).

The Developer lodged a Development Application and Statement of Environmental Effects (DA-714/2014) with LMCC on 14 May 2014 for the Cooranbong LWC (Appendix 3.5.1(e)). This will be assessed by LMCC under the provisions of Part 4 of the EPAA including the review of an Environmental Impact Statement (EIS) triggered by the classification of the LWC as a designated development under Schedule 3 of the Environmental Planning and Assessment Regulation 2000 ("**EPAR**"). The EIS was submitted on 14 August 2014 following receipt of Secretary's Environmental Assessment Requirements.

North Cooranbong Development

The North Cooranbong Development area is subject to the North Cooranbong Environmental Assessment Report which was prepared in support of approval under Part 3A of the EPAA and includes environmental considerations for reticulation infrastructure within the North Cooranbong Development area.

Reticulation

CW has commissioned a Review of Environmental Factors (REF) report in relation to the Scheme's sewage and recycled water reticulation systems (Appendix 3.5.1(d)). The sewage and recycled water reticulation systems will not require development consent by virtue of operation of the State Environmental Planning Policy (Infrastructure) 2007 ("**ISEPP**").

Part 5 of the EPAA requires that consideration be given to matters that might affect the environment before approval to an activity is given. WICA requires assessment of an applicant's capability to protect the environment and capacity to carry out the activities that the licence would authorise in a manner that does not present a significant risk of harm to the environment. The REF will fulfil these requirements.

Flow Systems has prepared a Frequently Asked Questions document to address the queries raised during the consultation period for the DA. Refer to Appendix 3.5.1(f).

As outlined in section 3.5.1, regulatory approvals for the network reticulation infrastructure will also be obtained by the Developer pursuant to Part 4 of the EPAA.

Refer to Appendix 3.5.1(b) North Cooranbong Environmental Assessment Report

Refer to Appendix 3.5.1(c) Planning Proposal RZ-3/2014

Refer to Appendix 3.5.1(d) Review of Environmental Factors for sewage and recycled water reticulation systems

Refer to Appendix 3.5.1(e) Development Application and Environmental Impact Statement

Refer to Appendix 3.5.1(f) Flow Systems' response to DA submissions

4.3.13	Where relevant, what land capability assessments have been undertaken on the proposed land disposal area? **Provide a copy of any soil capability assessment in Appendix 4.3.13.**

The response to this question may be used to draft a proposed licence, if a licence is granted. The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7).

CW has prepared a land capability assessment for the reuse of recycled water on the developed and undeveloped land.

The land capability assessment for the project provides a high level, conservative view of water demands across the development. Flow Systems has separately prepared a Water Balance report which recognises that BASIX40 (and the potential change to BASIX50) has driven and will continue to drive (over the course of the 20-year development roll-out) a

change in behaviour and a change in water fittings and appliances available in the market. The 'average' installation therefore has a lower water demand and therefore lower sewage production in new developments". This data is calibrated by observed demands in the market. Refer to Appendix 4.3.13 Cooranbong Land Capability Assessment	
4.3.14	If a treatment process forms part of the infrastructure for which the applicant corporation is seeking a licence, what waste streams will be generated by the proposed treatment plant (such as screenings and biosolids but not including the treated effluent) and how will the waste be disposed of or handled?
The response to this question will be used to determine whether the activities authorised by a licence (if granted) present a significant risk of harm to the environment (Reg cl.7). The response will also be used as a context for our assessment of the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
There will be two waste streams generated by the LWC, namely: • Screenings and grit – collected and disposed off-site via an approved waste management contractor. • Waste activated sludge (WAS) – agreement will be sought with Hunter Water to take this in its existing sewerage system. If this cannot be achieved, it will be collected and disposed offsite via an approved waste management contractor.	

5 Retail Supplier

Only to be completed by applicants seeking a retail supplier's licence.

Note a retail supplier's licence may only be granted if sufficient quantities of the water supplied will have been obtained otherwise than from a public water utility (Act s.10(4)(d)).

5.1 Supply of water

Please provide a response to the questions in the following section if you are seeking a licence for the supply of water by means of any water industry infrastructure.	
5.1.1	Describe the water industry infrastructure that the applicant corporation will access to supply water.
The response to this question is a requirement for any retail supplier's licence for water industry infrastructure (Reg cl.10(1)(a). The response will also be used to ensure you have applied for the correct licence(s)).	
N/A	
5.1.2	What volume of water is available from the proposed source? Where applicable, please provide the capacity of the source and the (allowable) average daily extraction rate from the source. If there is more than one source, please provide the requested information for each of the sources. **Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix 5.1.2.**
The response to this question will be used to determine whether sufficient quantities of the water supplied will have been obtained otherwise than from a public water utility (Act s.10(4)(d)).	
N/A	
5.1.3	What customers or classes of customers does the applicant corporation propose to supply with water?
Classes of customers may include residential, industrial, commercial or agricultural.	
The response to this question is a requirement for any retail supplier's licence (Act s.6(1)(b)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	
5.1.4	Will you be supplying small retail customers with water (i.e. less than 15Ml/year)?
A person is a small retail customer in relation to water supply if the maximum rate at which water is supplied, pursuant to one or more water supply contracts, to all premises that the person owns, leases or occupies is less than 15 megalitres per year.	
The response will be used as context to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)). The response will also be used as a context for the assessment of risks from the proposed scheme and to identify possible additional licence conditions relating to the supply of water to small retail customers.	

N/A	
5.1.5	**Provide your preliminary risk assessment for the retail activities related to the scheme in Appendix 5.1.5.** The risk assessment must identify the events and circumstances that could adversely affect the applicant corporation's ability to carry out the activities for which the licence is sought (including any activities undertaken by a nominated third party), the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.
The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks. We strongly recommend that the applicant corporation utilises an established risk management system such as outlined in AS/NZS 4360 (Risk Management).	
The response to this question is a requirement for any retail supplier's licence (Reg cl.10(1)(b). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)).	
N/A	
5.1.6	How will the continuity of the supply of water to customers be ensured? What contingency plans are in place in the case of failure of the infrastructure?
The continuity of supply may differ between customer classes. If this is the case for your project please define the different levels of service for each customer class and how the continuity of supply of water, relevant to that class of customer, will be maintained.	
The response to this question is a requirement for any retail supplier's licence (Reg cl.10(1)(b)(iii)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	
5.1.7	Describe the systems and processes that the applicant corporation will have in place to manage retail activities including billing systems, complaint and debt recovery procedures. **Provide evidence of the applicant corporation's capacity to develop and implement a retail supply management plan in Appendix 5.1.7.**
The evidence may include examples of processes and procedures for either the proposed scheme or other similar schemes undertaken by the applicant corporation. The examples should demonstrate links to a risk management process. For existing (brownfield) schemes you should provide the actual systems and procedures.	
The response to this question is a requirement for any retail supplier's licence (Reg cl.10(2)(b)(iv)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	

5.2 Provision of sewerage services

Please provide a response to the questions in the following section if you are seeking a licence for the provision of sewerage services by means of any water industry infrastructure.

5.2.1	Describe the water industry infrastructure that the applicant corporation will access to provide sewerage services.

The response to this question is a requirement for any retail supplier's licence for water industry infrastructure (Reg cl.10(2)(a)). The response will also be used to ensure you have applied for the correct licence(s).

N/A

5.2.2	What customers or classes of customers does the applicant corporation propose to provide with sewerage services?

Classes of customers may include residential, industrial, commercial or agricultural. The licence may also specify whether the customers are small retail customers.

The response to this question is a requirement for any retail supplier's licence (Act s.6(1)(b)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

N/A

5.2.3	Will you be providing small retail customers with sewerage services (i.e. less than 10.5 ML/year)?

A person is a small retail customer in relation to the provision of sewerage services if the maximum rate at which sewage is discharged, pursuant to one or more sewerage service contracts, from all premises that the person owns, leases or occupies is less than 10.5 megalitres per year, as determined in accordance with guidelines issued by IPART.

The response will be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)). The response will also be used as a context for the assessment of risks from the proposed scheme and to identify possible additional licence conditions relating to the supply of water to small retail customers.

N/A

5.2.4	**Provide your preliminary risk assessment for the retail activities related to the scheme in Appendix 5.2.4.** The risk assessment must also identify the events and circumstances that could adversely affect the applicant corporation's ability to carry out the activities for which the licence is sought (including any activities undertaken by a nominated third party), the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.

The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks. We strongly recommend that the applicant corporation utilises an established risk management system such as outlined in AS/NZS 4360 (Risk Management).

The response to this question is a requirement for any retail supplier's licence (Reg cl.10(2)(b)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)).

N/A

5.2.5	How will the continuity of the provision of sewerage services be ensured? What contingency plans are in place in the case of failure of the infrastructure?
The response to this question is a requirement for any retail supplier's licence (Reg cl.10(2)(b)(iii)). The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	
5.2.6	Describe the systems and processes that the applicant corporation will have in place to manage retail activities including billing systems, complaint and debt recovery procedures. **Provide evidence of the applicant corporation's capacity to develop and implement a retail supply management plan in Appendix 5.1.4.**
The evidence may include examples of processes and procedures for either the proposed scheme or other similar schemes undertaken by the applicant corporation. The examples should demonstrate links to a risk management process. For existing (brownfield) schemes you should provide the actual systems and procedures.	
The response to this question is a requirement for any retail supplier's licence (Reg cl.10(2)(b)(iv)). The response will also be used to assess the applicant corporation's technical capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	

6 Applicant experience and systems

The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

6.1 Network operator	
Only provide a response to the questions in the following section if the applicant corporation is seeking a network operator's licence	
6.1.1	Describe the structure of the applicant corporation. Include in the description a list of the entities that have an ownership interest in the applicant corporation, whether legal or equitable. **Provide an organisational diagram in an Appendix 6.1.1.** The diagram should clearly show all entities that have an ownership interest in the applicant corporation.
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
CW does not have any direct employees and will rely upon employees from its parent company, Flow Systems Pty Ltd, pursuant to a Corporate Services Agreement between CW and Flow Systems. Further, Flow Systems has the benefit of significant additional resourcing and support from its parent, Brookfield Infrastructure Group. Refer to Appendix 6.1.1(a) Cooranbong Water Ownership Structure Refer to Appendix 6.1.1(c) Brookfield Infrastructure Group profile Refer to Appendix 6.1.1(d) Flow Systems Organisation Chart	
6.1.2	Describe the applicant corporation's (and, where relevant, the nominated third parties) current experience in the construction, maintenance and operation of water and/or other utility infrastructure such as gas, electricity or telecommunications.
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
CW is a wholly-owned subsidiary of Flow Systems. CW's experience is based on the collective experience of Flow Systems' Directors and other key personnel in the executive management team who are integral members of the CW project delivery and operations team. This experience includes finance, equity, insurance, procurement, legal, equipment supply, design, construction, operation and maintenance. Three of Flow Systems' other wholly-owned subsidiaries (Pitt Town Water Pty Ltd, Central Park Water Pty Ltd, and Discovery Point Water Pty Ltd) hold network operator licenses. Flow Systems has delivered a fully commissioned, validated and verified recycled water facility at Pitt Town and has received Ministerial consent to commence commercial operations. Flow Systems is currently constructing its Central Park and Discovery Point recycled water facilities and has current licence applications with IPART for its Wyee and Green Square schemes (to be conducted through other wholly-owned subsidiaries Wyee Water Pty Ltd and Green Square Water Pty Ltd). Flow Systems' Executive Manager Utility Operations, Andrew Horton, was integrally involved in the delivery and operation of the Sydney Olympic Park Water Reclamation & Management Scheme (WRAMS), and also commissioned Sydney Water's St Marys Recycled Water Plant (Replacement Flows) Project in 2010. Flow Systems' Executive Manager Project Delivery, Steve Hall, has extensive experience in	

the delivery of water infrastructure in NSW including numerous backlog sewerage schemes for Sydney Water's Priority Sewerage Program between 2002-2006, and as the Alliance Manager for Sydney Water's SewerFix Wet Weather Alliance between 2006-2011.	
6.1.3	List the key personnel involved in each of the significant activities (construction, maintenance and operation) and summarise their required skills, qualifications and experience. **Provide a position description for each of the key personnel positions in Appendix 6.1.3.**
Clearly identify whether the key personnel are employees of the applicant corporation or, where relevant, the nominated third party. It is not necessary to list all the employees. Ensure that the key personnel include the person or persons responsible for managing the applicant corporation's compliance with their legislative responsibilities.	
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
Terry Leckie – Flow Systems' Managing Director/Chief Executive Officer, CW Director Stephen McKewen – Flow Systems' Chief Operating Officer, CW Director Steve Hall – Flow Systems' Executive Manager Project Delivery (responsible for construction of the Scheme) Andrew Horton – Flow Systems' Executive Manager Operations (responsible for operation and maintenance of the Scheme) Refer to Appendix 6.1.3(a) Position Descriptions (Key Personnel)	
6.1.4	Please provide details of any other regulatory approvals or licences the applicant corporation or nominated third party holds in relation to the infrastructure activities for which you are seeking a licence.
Include relevant approvals for similar projects interstate or overseas to demonstrate the experience of the applicant corporation. We may seek confirmation of your compliance history in relation to other regulatory approvals or licences as part of our assessment.	
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
Three of CW's sister companies hold WICA network operator's licences including Central Park Water Pty Ltd (drinking water, recycled water and sewerage), Pitt Town Water Pty Ltd (recycled water and sewerage), Discovery Point Water Pty Ltd (recycled water and sewerage). In addition, Flow Systems is of the understanding that IPART has recommended the granting of a network operator's licence for drinking water, recycled water and sewerage for Wyee Water Pty Ltd, another wholly-owned subsidiary of Flow Systems. Flow Systems has delivered a fully commissioned and validated recycled water facility at Pitt Town and has received Ministerial consent to commence commercial operations for recycled water and sewerage. Flow Systems has also been granted Ministerial approval to commence commercial operation of drinking water and sewerage at Central Park Flow Systems holds a state-wide retail suppliers licence for the provision of sewerage, drinking water and recycled water services.	
6.1.5	What business systems will the applicant corporation have in place to ensure they can comply with your regulatory requirements? Are any of the systems certified or will they be certified?
Business systems may include but not be limited to quality assurance, asset management and environmental management systems.	
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	

CW has in place the following risk management systems to address regulatory requirements:

1. Compliance and Risk Management Framework – this covers all relevant laws and regulations, as well as ensuring compliance with all relevant contractual arrangements in relation to the LWC. Reporting under management plans forms part of the Flow Systems Group external reporting framework. Reporting includes:
    a. WIC Act (licences)
    b. BASIX (Planning)
    c. General Corporate (ASIC, tax, WHS etc.)
2. Legal – secondment and retention arrangements with Sparke Helmore to advise of changes in legislative and regulatory environment directly impacting the LWC.
3. Asset Management – CW will be using the Asset Management system employed by the Flow Systems group (currently NetSuite).
4. Workplace Health and Safety (WHS) – monitoring and managing WHS performance and recording any workplace incidents to ensure application of safety processes, procedures, consultation and training of all our employees and contractors.

6.2 Retail supplier

Only provide a response to the questions in the following section if the applicant corporation is seeking a retail supplier's licence

6.2.1	Describe the structure of the applicant corporation. Include in the description a list of the entities that have an ownership interest in the applicant corporation, whether legal or equitable, and a list of the entities that the applicant corporation has an ownership interest in. **Provide an organisational diagram in Appendix 6.2.1.** The diagram should clearly show all entities that have an ownership interest in the applicant corporation.

The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

N/A

6.2.2	Describe the applicant corporation's (and, where relevant, the nominated third parties) current experience in the supply of water or the provision of sewerage services. Please also outline any previous experience in the retailing of other services such as gas, electricity or telecommunications.

The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

N/A

6.2.3	List the key personnel involved in the retail activities and summarise their required skills, qualifications and experience. **Provide a position description for each of the key personnel positions in Appendix 6.2.3.**

Clearly identify whether the key personnel are employees of the applicant corporation or, where relevant, the nominated third party. Ensure that the key personnel include the person or persons responsible for managing the applicant corporation's compliance with their legislative responsibilities.

The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

N/A

6.2.4	Please provide details of any other regulatory approvals or licences the applicant corporation or nominated third party holds in relation to the retail activities for which you are seeking a licence.
Include relevant approvals for similar projects interstate or overseas to demonstrate the experience of the applicant corporation. We may seek confirmation of your compliance history in relation to other regulatory approvals or licences as part of our assessment.	
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	
6.2.5	What business systems will the applicant corporation have in place to ensure they can comply with your regulatory requirements? Are any of the systems certified or will they be certified?
Business systems may include but not be limited to quality assurance and environmental management systems. Retails systems such as billing and complaint management should be included in the response to this question.	
The response will be used to assess the applicant corporation's technical and organisational capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).	
N/A	

7 Financial capacity

The response to the following questions will be used to assess the applicant corporation's financial capacity to undertake the activities for which you are seeking a licence (Act s.10(4)(a)).

Provide a response to the financial questions according to the following matrix:

	Question					
	7.1	**7.2**	**7.3**	**7.4**	**7.5**	**7.6**
Retail supply licence only	✓	✓	✓			
Network operator licence						
For infrastructure used for self supply	✓	✓				
For infrastructure used to supply large retail customers	✓	✓	✓			
For infrastructure used to supply small retail customers with non-essential services	✓	✓	✓	✓	✓	
For infrastructure used to supply small retail customers with essential services[a]	✓	✓	✓	✓	✓	✓

[a] Applicant corporations who are providing essential services to small retail customers will be required to meet with our financial assessment team following submission of the application to discuss the information requirements for making the financial capacity assessment.

7.1 How will the applicant corporation finance the proposed activity?

7.1.1	Describe the mechanisms by which the applicant corporation's activities are financed or to be financed. **Provide evidence of any financial guarantees or commitment of financial support in Appendix 7.1.1.**
Evidence of financial support may include, but is not limited to; a letter from a financial institution (being a bank, credit union or the government) confirming indicative financing of the applicant corporation's activities, including: ▾ the nature of finance (eg, bridging, long term, corporate debt, government funding) ▾ type and limit of the facility ▾ type and limit of any guarantee, and ▾ terms and conditions.	
Commercial in confidence	

7.2 Are there any events that could affect the applicant corporation's future financial capacity?

7.2.1	Are there any events or circumstances, that you are currently aware of, that could affect the applicant corporation's future financial capacity? If applicable, provide details of all such events relevant to the applicant corporation for the last 3 years from the date of this application.

Events and circumstances may include but are not limited to:

- Government or other investigation of the applicant corporation or related entities
- Contract terminated
- Factors which might impact on the applicant corporation such as significant litigation, business commitments, contingent liabilities, collections by debt collection agencies on behalf of creditors or liquidation proceedings
- Any outstanding tax liabilities
- Any other particulars which are likely to adversely affect the applicant corporation's capacity to undertake the services under the licence (if granted).

Commercial in confidence

7.3 What is the projected financial performance of the proposed activities?

7.3.1	Summarise the projected cash flows (net EBITDA), including key financial modelling assumptions, such as capex, for the first 5 years of operation (at minimum). **Provide the projected cash flows for a minimum of the next five (5) years of operation (including projected closing balance sheets and profit and loss statements), taking into account the licensing agreements, with details of all key financial modelling assumptions in Appendix 7.3.1**.

If necessary, a longer period may be provided to demonstrate financial viability of the project.

Commercial in confidence

7.3.2	Where the applicant corporation is seeking a network operator's licence, who is the owner of the infrastructure for which the applicant corporation is seeking a licence?

Commercial in confidence

7.3.3	Where the applicant corporation is applying for a retail supplier's licence to supply water or provide sewerage service to residential households, provide an estimate of the cost per household per year to supply water and/or provide sewerage services (as is relevant). Who will pay the cost? What is the proposed price level and structure for the first five years of operation?

The response to this question will be used to determine whether there are any issues of public interest arising from the proposed scheme (Act s.10(4)(f)).

N/A

7.4 What is the applicant corporation's financial history?

7.4.1	Does the applicant corporation have a financial history? If not, explain why.

No, as CW was incorporated on 8 May 2014 it does not have a financial history.

7.4.2	Where the applicant is a new corporation, supported by one or more parent entities,

	provide a copy of guarantee or cross deed of indemnity provided by the parent entity, and financial statements for the parent entity for the last 3 years in **Appendix 7.4.2**.
Please include any parent entity with more than 20 per cent of equity in the applicant corporation.	
Commercial in confidence	
7.4.3	Where the applicant is a new corporation financed through alternative arrangements (eg, debt or equity), provide a letter from a financial institution (eg, bank, credit union or the government) certifying an existing or proposed line of credit or financial support, and a copy of guarantee or cross deed of indemnity provided by an entity such as a holding company or Director (provide financial statements demonstrating the financial viability of the guarantor) in **Appendix 7.4.3**.
N/A	
7.4.4	Where the applicant is not a new corporation, summarise the performance of the applicant corporation over the past 3 years below. Provide copies of tax returns for the corporation for the last 3 years in **Appendix 7.4.4(a)**. Provide financial statements for the last 3 years in **Appendix 7.4.4(b)**. Where the latest annual financial statements are more than 3 months old, provide the latest available management reports showing: ▾ a trading statement ▾ a profit and loss statement, and ▾ a trial balance.
It is preferable that these financial statements are audited. It is recognised that not all corporations are required to have their annual financial statements audited. However, where you are required to lodge audited financial statements with the Australian Securities and Investments Commission (ASIC), provide copies of these statements. (Note: consolidated accounts for the parent organisation or group to which the applicant corporation belongs would not be considered acceptable)	
Not applicable (ie. the applicant is a new corporation having been incorporated on 8 May 2014).	
7.4.5	If applicable, what is the applicant corporation's credit rating? Provide the applicant corporation's Credit rating memorandum (eg, Standard & Poor's, Moody's or Fitch), if available in **Appendix 7.3.6**.
N/A	
7.4.6	Provide details of the applicant corporation's debt/equity finance and any debt covenants on existing borrowings.
Commercial in confidence	
7.5 Contacts	
7.5.1	Does the applicant corporation have an accountant? If yes, what are the accountant's contact details?
Yes Charge Thoo & Co	
7.5.2	Does the applicant corporation have an external auditor? If yes, what are the external

	auditor's contact details?
No	
7.5.4	If required, may we contact the accountant and/or external auditor registered taxation agent to clarify any information provided?
Yes	

7.6 Internal accounting records

7.6.1	Provide bank reconciliations, aged accounts receivable reports, and aged accounts payable reports in **Appendix 7.6.1** at the dates of: ▾ The latest management accounting reports (if applicable) and annual financial statements ▾ 30 September (most recent) ▾ 31 December (most recent) ▾ 31 March (most recent), and ▾ 30 June (most recent) for the applicant corporation.
Commercial in confidence	
7.6.2	Provide an extract of the superannuation payable ledger in **Appendix 7.6.2** for: ▾ The 12 months ending on the date of the latest annual financial statements, and ▾ The period commencing on the date of the latest annual financial statements and ending on the date of the latest management accounting reports (if applicable) for the applicant corporation
Commercial in confidence	
7.6.3	Provide bank statements for the 3 months to the date of the latest management accounting reports (if applicable) or annual financial statements for the applicant corporation, whichever has been submitted with the application in **Appendix 7.6.3**.
Commercial in confidence	

8 Statutory declaration and acknowledgement

To be completed by all applicants

8.1 Statutory declaration

Provide a statutory declaration from:

(a) the Chief Executive Officer and a director of the applicant corporation (each must complete a separate declaration); or

(b) the sole director and Chief Executive Officer of the applicant corporation; or

(c) such other person that IPART agrees may provide the statutory declaration/s;

to the effect that the information provided in the application is true and correct. For the purposes of Part 3 of this application form, the statutory declaration should also state that the applicant corporation is not a disqualified corporation and that no director or person concerned in the management of the applicant corporation is or would be a disqualified individual within the meaning of the WIC Act. The statutory declaration should also state that the applicant corporation is not, within the meaning of section 10(3)(b) of the WIC Act, a related entity of a disqualified corporation that would have a direct or indirect interest in, or influence on, the carrying out of the activities that the licence (the subject of the application in relation to which this declaration is made) would authorise if granted.

A statutory declaration must be signed by an authorised witness.

This is a list of NSW authorised witnesses:

- a justice of the peace;
- a solicitor or barrister with a current New South Wales or interstate practising certificate;
- a commissioner of the court for taking affidavits;
- a notary public; and
- a person by law authorised to administer an oath (eg, authorised witnesses in other jurisdictions).

I, do solemnly and sincerely declare that:

1. I am the Chief Executive Officer of the applicant (named in the application form accompanying this declaration);
2. the information provided in this application is true and correct to the best of my knowledge;
3. I am aware of the requirements under the *Water Industry Competition Act 2006* (NSW) (WIC Act) for the licence being applied for;
4. the applicant corporation is not a disqualified corporation within the meaning of the WIC Act;
5. the applicant corporation is not, within the meaning of section 10(3)(b) of the WIC Act, a related entity of a disqualified corporation that would have a direct or indirect interest in, or influence on, the carrying out of the activities that the licence (the subject of the application in relation to which this declaration is made) would authorise if granted;
6. no director or person concerned in the management of the applicant corporation is, or would be, a disqualified individual within the meaning of the WIC Act;
7. I have the authority to make this application on behalf of the applicant (named in the application form accompanying this declaration);

and I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the *Oaths Act 1900* (NSW).

Name of person making the declaration: **Terence Leckie**

Title of person making the application: **Chief Executive Officer**

Signature of person making the declaration: _____

Declared at: **Level 2, One Alfred Street, Sydney, 2000**

On:

In the presence of an authorised witness, who states:

I, **Jonathan Gunn**,

a **Solicitor of the Supreme Court of NSW, NSW Law Society Number: 11246** certify the following matters concerning the making of this statutory declaration by the person who made it:

1. I saw the face of the person.
2. I have known the person for at least 12 months.

Signature of authorised witness: _____

I, do solemnly and sincerely declare that:

1. I am a Director of the applicant (named in the application form accompanying this declaration);
2. the information provided in this application is true and correct to the best of my knowledge;
3. I am aware of the requirements under the *Water Industry Competition Act 2006* (NSW) (WIC Act) for the licence being applied for;
4. the applicant corporation is not a disqualified corporation within the meaning of the WIC Act;
5. the applicant corporation is not, within the meaning of section 10(3)(b) of the WIC Act, a related entity of a disqualified corporation that would have a direct or indirect interest in, or influence on, the carrying out of the activities that the licence (the subject of the application in relation to which this declaration is made) would authorise if granted;
6. no director or person concerned in the management of the applicant corporation is, or would be, a disqualified individual within the meaning of the WIC Act;
7. I have the authority to make this application on behalf of the applicant (named in the application form accompanying this declaration);

and I make this solemn declaration conscientiously believing the same to be true and by virtue of the provisions of the *Oaths Act 1900* (NSW).

Name of person making the declaration: **Stephen McKewen**

Title of person making the application: **Director**

Signature of person making the declaration:

_____

Declared at: **Level 2, One Alfred Street, Sydney, 2000**

On: 13th March 2015.

In the presence of an authorised witness, who states:

I, **Jonathan Gunn**

a **Solicitor of the Supreme Court of NSW, NSW Law Society Number: 11246** certify the following matters concerning the making of this statutory declaration by the person who made it::

1. I saw the face of the person.
2. I have known the person for at least 12 months.

Signature of witness:_____

8.2 Acknowledgement

An acknowledgement should be provided by:

(a) company secretary and a director, or

(b) 2 directors, or

(c) in the case of a sole director, the sole director, or

(d) such other person that IPART agrees may provide the acknowledgement.

The applicant (named in the application form accompanying this acknowledgement) agrees to IPART furnishing a copy of the applicant's completed application form, including any confidential information contained in that application form, to:

- the Minister administering the *Water Industry Competition Act 2006* (except Part 3)
- the Minister administering the *Public Health Act 1991* (NSW)
- the Minister administering Chapter 2 of the *Water Management Act 2000* (NSW)
- the Minister administering the *Environmental Planning and Assessment Act 1979* (NSW), and
- the Minister administering the *Protection of the Environment Operations Act 1997* (NSW),

in accordance with section 9(1) of the *Water Industry Competition Act 2006* (NSW) and clause 17 of the *Water Industry Competition (General) Regulation 2008* (NSW).

In the interest of expediting the processing of your application, would you please indicate below whether you agree to a copy of your completed application form (including any confidential information contained in that application form) being provided on a confidential basis directly to relevant departmental staff with responsibility to advise the Ministers named above on issues relating to the provision of water and sewerage services.

☑ I **agree** that a copy of my completed application form (including any confidential information contained in that application form) may be provided to relevant departmental staff as outlined above.

☐ I **do not agree** that a copy of my completed application form (including any confidential information contained in that application form) may be provided to relevant departmental staff as outlined above.

Name of person making the acknowledgement: **Stephen McKewen**

Title of person making the acknowledgement: **Director**

On: 13th MARCH 2015

Signature of person making the acknowledgement:

Name of person making the acknowledgement: **Terence Leckie**

Title of person making the acknowledgement: **Chief Executive Officer**

On: 13 MARCH 2015

Signature of person making the acknowledgement: