

# Network Operator and Retail Supplier Licence Application Form

*Water Industry Competition Act 2006 (NSW)*

Application Form  
June 2013

FLOW SYSTEMS OPERATIONS PTY LTD

**Shepherds Bay**  **Plus**

NETWORK OPERATOR'S LICENCE  
PUBLIC APPLICATION  
Rev 2 August 2016

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PUBLIC

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[www.ipart.nsw.gov.au](http://www.ipart.nsw.gov.au)

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# 1 Instructions

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

Under the WICA, 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 WICA. Under section 8(1) of the WICA, an application for a licence can only be made by or on behalf of a corporation.

A copy of the WICA is available on the NSW Government's legislation website at [www.legislation.nsw.gov.au](http://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 WICA and the *Water Industry Competition (General) Regulation 2008* (NSW) (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.<sup>1</sup>

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<sup>1</sup> 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 WICA 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 WICA:

- ▼ the protection of public health, the environment, public safety and consumers generally
- ▼ 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.

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 WICA and General Regulation, as we are required to do under section 9(1)(b) of the WICA.

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 Independent Pricing and Regulatory Tribunal Level 8 1 Market Street Sydney NSW 2000	Attention: Water Licensing Independent Pricing and Regulatory Tribunal  <a href="mailto:compliance@ipart.nsw.gov.au">compliance@ipart.nsw.gov.au</a>	Attention: Water Licensing Independent Pricing and Regulatory Tribunal PO Box Q290 QVB Post Office 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](mailto: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* (NSW) and *Water Industry Competition (General) Regulation 2008* (NSW), 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 WICA 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

Risk and Compliance Manager

Email address

Business telephone number

Mobile telephone number

Postal address for correspondence

ADDRESS

PO Box R455, Royal Exchange, Sydney

STATE

NSW

POST CODE

1225

#### SECONDARY CONTACT

☒ Please check if the secondary contact should be copied into all correspondence.

Full name

Darren Wharton

Position title

Executive Manager, Project Delivery

Email address

Business telephone number

Mobile telephone number

Postal address for correspondence

ADDRESS

PO Box R455, Royal Exchange, Sydney

STATE

NSW

POST CODE

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)).
<p><i>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.</i></p> <p><i>* 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))</i></p>	
Corporation name	
Flow Systems Operations Pty Ltd (FSO)	
ABN/ARBN	ACN
11 603 106 305	603 106 305
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, 1 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	
<p><i>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)).</i></p>	
<b>PERSON ONE</b>	
Full name	Terence Leckie
Position title	Managing Director / Chief Executive Officer
Date of birth	

Residential address	
ADDRESS	
STATE	POST CODE
<b>PERSON TWO</b>	
Full name	Stephen McKewen
Position title	Director
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	
<p><i>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)) and for any retail supplier's licence application (Reg cl.10(1)(a) and 10(2)(a)).</i></p>	
3.2.1	<b>NETWORK OPERATOR</b> (to construct, maintain and operate water industry infrastructure)
	<input checked="" type="checkbox"/> Water infrastructure - drinking water
	<input checked="" type="checkbox"/> Water infrastructure – non potable water (including recycled water)
	<input checked="" type="checkbox"/> Sewerage infrastructure
3.2.2	<b>RETAIL SUPPLIERS</b> (to supply water or provide sewerage services)
	<input type="checkbox"/> Supply of drinking water
	<input type="checkbox"/> Supply of non-potable water
	<input type="checkbox"/> 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.	
	<input type="checkbox"/> Yes please go to 3.2.4 <input checked="" type="checkbox"/> 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.
<p><i>Your response to the following question will be used to determine whether transitional arrangements apply to the project.</i></p>	
Not applicable	
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.
<p><i>Your response to the following question will be used as background information for the project.</i></p>	
<p>Shepherds Bay Infrastructure Management Pty Ltd ("<b>Developer</b>"), is undertaking a new large-scale residential development known as Shepherds Bay North, located in Meadowbank in Sydney, NSW (the "<b>Development</b>").</p> <p>The Development will comprise approximately 1,700 new homes and approximately 6,000m<sup>2</sup> of retail floor space. The Development is to be developed in eight stages.</p> <p>Flow Systems Operations Pty Ltd (FSO), a wholly-owned subsidiary of Flow Systems, has been engaged by the Developer to establish a local water utility for the Development based</p>	

on the construction and operation of sewerage, drinking water and recycled water infrastructure and delivery of resulting services to end-users (the "**Scheme**").

The Developer's timeframe requires that FSO provide compliance certificates for the purposes of the Developer's subdivision registration in accordance with the following timetable:

Stage	Completion date
Stage 4-5	31 December 2017
Stage 2-3	31 March 2018
Stage 6-7	30 April 2019
Stage 8-9	30 April 2019

In accordance with Part 3A of the Water Industry Competition (General) Regulation 2008 ('**WICR**') and section 109J(1)(e1) of the *Environmental Planning and Assessment Act 1979* (NSW) ("**EP&A Act**"), FSO would need to be a licensed network operator for the Shepherds Bay scheme prior to this date to fulfill this requirement.

FSO needs to be a licensed network operator under WICA some 12 months prior to the first stage completing (**31 December 2016**) to hold licensed authority status in its dealings with the developer and Sydney Water and in the event that the construction program accelerates.

### **Scheme Infrastructure**

#### *1. Construction*

Scheme infrastructure is proposed to be constructed in the following phases:

Phase 1 - infrastructure is to be constructed as part of the Stage 2-3 and Stage 4-5 building works taking place throughout 2016 and 2017.

#### Sewerage

To enable servicing of Stages 2-3 and Stages 4-5 ("**Initial Stages**") during the interim servicing period, it is proposed that sewage be discharged to two local discharge points in Sydney Water's sewerage system in Belmore Street and Rothesay Avenue.

#### Drinking water

The drinking water reticulation network would be connected to Sydney Water's drinking water supply.

#### Recycled water

Recycled water reticulation will be constructed in Phase 1 but will be initially serviced by drinking water.

Phase 2 – infrastructure to commence in late 2017:

#### Sewerage

It is proposed that reticulation infrastructure be constructed to connect Stage 4-5 to the LWC flow balance tank in Stage 2-3. From here there are two possible scenarios: Either all sewage would then pass through the LWC balance tank through to a single discharge point in Sydney Water's sewerage network in Rothesay Avenue or flows will discharge to their closest discharge point into the Sydney Water sewerage system.

#### Drinking water

The drinking water reticulation network would be connected to Sydney Water's drinking water supply.

#### Recycled water

Recycled water reticulation would continue to be serviced by drinking water.

Phase 3 – estimated infrastructure construction commencement: September 2018.

To enable servicing of the Scheme, construction of a LWC, which will include mechanical and electrical fit out of an operations room and a water recycling facility comprising membrane bioreactor, reverse osmosis, UV and chlorination treatment processes, tanks and equipment, recycled water storage tanks and recycled water distribution pumps and storage. The location of the LWC will be within the basement of Stage 2-3. The fitout may be staged depending on the rate of lot sales.

## *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:

- Phase 1 - drinking water, sewerage and recycled water serviced by drinking water
- Phase 2 will be an expansion of Phase 1 and will not require a separate approval to commence commercial operations
- Phase 3 – drinking water, sewerage and recycled water.

Phase 1: FSO is targeting commencement of operation of Phase 1 drinking water, sewerage and recycled water infrastructure for October 2017 to service the initial stages.

Phase 2 will be an expansion of Phase 1 and will not require a separate approval to commence commercial operations

Phase 3: Commencement of operation of Phase 3 is planned for August 2018.

Other refinements such as the introduction of a sludge press / dehydrator may be introduced during the period of operation and maintenance.

#### **RELEVANT APPENDICES**

- Appendix 3.2.5(a) Development location
- Appendix 3.2.5(b) Development masterplan and LWC site
- Appendix 3.2.5(c) Proposed development staging



### 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)).*

FSO's insurance is summarised by type, provider and coverage amount below.

Type	Amount
Workers Compensation	Full amount of the employer's liability under the <i>Workers Compensation Act 1987</i>
Public & Products Liability	\$50,000,000
Professional Indemnity	\$20,000,000
Steadfast Contract Works and Legal Liability <ul style="list-style-type: none"> <li>Liability</li> </ul>	\$20,000,000
Plant and Equipment	\$6.630,000

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:

- identifies the key risks of undertaking the activities to be authorised under the licence (if granted)
- sets out the types and levels of insurance obtained by you in relation to the activities being undertaken
- 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
- provides reasons as to why the types and levels of insurance are appropriate for the size and nature of the activities being undertaken, and
- 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, prior to the Minister's approval for commercial operation.

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### 3.4 Third parties undertaking activities

3.4.1	If you intend on using third parties to undertake any <b>significant</b> 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.
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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 1:

Corporation name

**Flow Systems Pty Ltd** (Flow Systems)

ABN/ARBN

ACN

28 136 272 298

136 272 298

Corporation's registered office

ADDRESS

Level 22, 135 King Street, Sydney

STATE

POST CODE

NSW

2000

3.4.2	Please provide a detailed description of the activities that the third party, named above, will undertake on the applicant corporation's behalf.
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Flow Systems is the parent company of FSO, which in turn is a special-purpose wholly-owned subsidiary, established specifically for delivery and operation of utility schemes. Full business support (including all technical, financial, administrative and retail services) is provided by Flow Systems.

3.4.3	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).
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Commercial in confidence

#### CORPORATION 2:

Corporation name

**Shepherds Bay Infrastructure Management Pty Ltd** (Developer)

ABN/ARBN

ACN

18 608 913 766

608 913 766

Corporation's registered office

ADDRESS

STATE		POST CODE
3.4.2	Please provide a detailed description of the activities that the third party, named above, will undertake on the applicant corporation's behalf.	
FSO has been appointed by the Developer to establish a local water utility to deliver and operate the Scheme pursuant to a heads of agreement executed on 30 October 2015 and a project delivery agreement executed on 30 June 2016. Amongst other things, the Developer will provide the drinking water, sewerage and recycled water reticulation infrastructure in the Scheme. The Developer will also be providing land, tanks and access to all other areas within the Development for the purposes of FSO delivering the Scheme.		
3.4.3	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).	

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### 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

The Developer was granted Part 3A concept approval (ref: MP09\_0216) for the Shepherds Bay development on 6 March 2013 pursuant to section 75O of the EP&A Act and this was amended on 16 October 2014.

The Developer completed Stage 1 of the development, which sits outside of the scope of this licence application, in mid-2015. The Developer has lodged the following development applications with Ryde City Council pursuant to Part 4 of the EP&A Act, complete with Statements of Environmental Effects:

Stage	DA number	Status	Date	Properties
Stage 2-3	LDA2015/0018	Approved	20/10/2015	6 Nancarrow Ave, RYDE 41 Belmore St, RYDE
Stage 4-5	LDA2015/0019	Approved	18/09/2015	2 Constitution Rd, RYDE 4 - 6 Constitution Rd, RYDE 8 - 14 Constitution Rd, RYDE 16 Constitution Rd, RYDE 18 Constitution Rd, RYDE 7 Hamilton Cr, RYDE
Stage 6-7	LDA2015/0032	Approved	15/12/2015	37 Nancarrow Ave, RYDE 33 Nancarrow Ave, RYDE
Stage 8-9	LDA2015/0031	Approved	15/12/2015	116 Bowden St, MEADOWBANK

#### Reticulation

The Developer's development applications and their associated statement of environmental effects for each development stage have contemplated the detail of the drinking water, pressure sewerage and recycled water reticulation networks proposed.

To satisfy the requirements of WICA, FSO has also prepared a review of environmental factors for the sewage and recycled water reticulation networks.

### Local Water Centre

FSO will seek development consent under Part 4 of the EP&A Act for a water recycling facility in the basement of the residential building in Stage 2-3 of the development. FSO has prepared a Statement of Environmental Effects for the Local Water Centre for consideration under the environmental principles of WICA and WICR and to support FSO's development application.

'Water recycling facility' is currently a prohibited activity in the applicable land zoning and so FSO will apply to amend the Ryde Local Environmental Plan to change the land use description for the land zoning to allow water recycling facility as 'permitted with consent'.

FSO does not require an environmental protection licence ("EPL") pursuant to Schedule 1 Part 1 section 36(1) of the *Protection of the Environment Operations Act 1997 (NSW)* ("POEO Act") as it is proposed that excess sewage and wastes be discharged to a licensed public water authority sewer and the proposed treatment capacity does not exceed the threshold trigger in Schedule 1 of the POEO Act.

### RELEVANT APPENDICES

- Appendix 3.5.1(a) Development Concept Approval
- Appendix 3.5.1(b) Development Applications for the Development
- Appendix 3.5.1(c) LWC Statement of Environmental Effects
- Appendix 3.5.1(d) Reticulation Review of Environmental Factors

## 3.6 Monopoly supply

3.6.1	<p>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:</p> <ul style="list-style-type: none"><li>▼ a specified water supply or sewerage service</li><li>▼ a specified area, and</li><li>▼ a specified class of customers.</li></ul>
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*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 WICA.*

No. The supply of drinking water, recycled water and sewerage services by FSO is not a monopoly service. The licence area proposed by FSO is already within Sydney Water's area of operations for drinking water and sewerage.

## 3.7 Licensing principles

3.7.1	<p>How does your proposed activity address the following principles (if applicable):</p> <ul style="list-style-type: none"><li>▼ The protection of public health, the environment, public safety and consumers generally</li><li>▼ The encouragement of competition in the supply of water and the provision of sewerage services</li><li>▼ The ensuring of sustainability of water resources</li><li>▼ The promotion of production and use of recycled water</li><li>▼ The promotion of policies set out in any prescribed water policy document</li><li>▼ The potential for adverse financial implications for small retail customers generally arising from the activities proposed to be covered by the licence, and</li></ul>
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	<p>▼ 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?</p>
<p><i>Your response to this question will be used in consideration of the licensing principles, in accordance with section 7 of the WICA</i></p>	
<p><b>The protection of public health, the environment, public safety and consumers</b></p> <p>Public health, the environment, public safety and consumers will be protected through the following:</p> <ul style="list-style-type: none"> <li>• FSO will ensure that its infrastructure operations and maintenance arrangements are structured where relevant so that public health, the environment, 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 the Flow Systems group (i.e., Pitt Town Water, Central Park Water and Discovery Point Water)</li> <li>• FSO has prepared reviews of environmental factors with relation to the environmental protection principles of WICA and WICR. These assessments show that the proposal will not harm the environment.</li> <li>• FSO will ensure that all infrastructure is constructed in accordance with all relevant laws and regulations (e.g. Water Supply Code of Australia)</li> <li>• FSO will only supply recycled water that is treated in full compliance with all relevant Australian standards and guidelines</li> <li>• 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</li> <li>• The appropriate disclosure to and education of end user customers regarding the use of recycled water</li> </ul> <p><b>The encouragement of competition</b></p> <p>Currently each incumbent public water utility provider has a monopoly in its respective catchment areas on water services in NSW. The licence will enable the private sector to compete in the provision of requisite infrastructure and delivery of resulting services to owners of properties within the Scheme area.</p> <p>Hence, competition is promoted within the incumbent's area of operation.</p> <p><b>The sustainability of water resources</b></p> <p>The licensed activities will reduce unnecessary usage of drinking water for non-potable uses (e.g. toilet flushing, clothes washing machines, car washing, 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.</p> <p><b>The promotion of production and use of recycled water</b></p> <p>The licence will enable FSO 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 water cycle.</p> <p><b>The promotion of policies set out in any prescribed water policy document</b></p>	

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 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.**

FSO will provide drinking water to all participants/customers in the licence area at rates according to its price parity policy. As recycled water is provided at a reduced rate to these participants/ customers for end uses such as toilet flushing, clothes washing, car 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 number of participants.

**RELEVANT APPENDICES**

- Appendix 3.5.1c) LWC Statement of Environmental Effects
- Appendix 3.5.1(d) Reticulation Review of Environmental Factors



## 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.

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## 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. <b>Provide a detailed process flow diagram of the proposed infrastructure from source to end use in Appendix 4.1.1.</b>
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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)).*

### Source

Drinking water will be sourced from Sydney Water's drinking water supply system at the boundary of the Development.

FSO proposes to negotiate a commercial agreement with Sydney Water for the provision of drinking water. This agreement will be known as a Utility Services Agreement (USA) and will be substantially based on the agreements already in place between Sydney Water and Flow Systems for its other schemes in Sydney Water's area of operations at Central Park and Discovery Point and between Hunter Water and Flow Systems for its schemes at Huntlee and Cooranbong.

### Trunk Drinking Water infrastructure

FSO will work with Sydney Water and the Developer to determine the trunk drinking water infrastructure requirements that are required to service the drinking water system within the Development. Sydney Water has previously advised and has recently updated the Developer of infrastructure requirements through their Advice Letters and Notices of Requirements. This infrastructure does not form part of this licence application as it will become part of Sydney Water's network. The design and construction of any additional trunk drinking water infrastructure required will be performed by the Developer and dedicated to Sydney Water upon completion.

The Flow Systems-prepared drinking water reticulation masterplan and preliminary assessments by FSO indicate that drinking water will be sourced and serviced to the Scheme by development of a 200mm diameter trunk main east-west through the centre of the Development along Nancarrow Road.

### Drinking Water reticulation

Each stage of the Development will be serviced by a private drinking water pipe connected via a Sydney Water bulk water meter from the Sydney Water drinking water main. Each private main will be owned, operated and maintained by that building's owners' corporation. FSO has developed a drinking water masterplan to determine the infrastructure requirements.

### RELEVANT APPENDICES

<ul style="list-style-type: none"> <li>Appendix 4.1.1(a) Process Flow Diagram (Drinking Water)</li> <li>Appendix 4.1.1(c) Drinking Water Reticulation Masterplan</li> <li>Appendix 4.1.10(a) Flow Systems Drinking Water Quality Plan (Table of Contents)</li> </ul>																																									
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 <b>identify the infrastructure as existing or to be constructed on the process flow diagram in Appendix 4.1.1.</b>																																								
<p><i>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).</i></p>																																									
All drinking water infrastructure under this licence application is to be constructed.																																									
4.1.3	<p>Describe the <u>location</u> of the proposed infrastructure. For example include:</p> <ul style="list-style-type: none"> <li>the identification of specific lot descriptors (e.g. lot and DP numbers) for the production, treatment, filtration and/or storage infrastructure.</li> <li>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.</li> </ul> <p><b>Provide a map showing the location of the proposed infrastructure from source to end use in Appendix 4.1.3.</b></p>																																								
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.																																									
<p><i>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).</i></p>																																									
All drinking water infrastructure described in section 4.1.1 above is contained within the Development area as shown in the Drinking Water Reticulation Masterplan.																																									
<p>The drinking water supply and distribution network will be located throughout the Development area.</p> <p>The Development area may be described as follows:</p> <table border="1"> <thead> <tr> <th>Lot</th> <th>DP</th> <th>Lot</th> <th>DP</th> </tr> </thead> <tbody> <tr> <td>1-7</td> <td>19585</td> <td>4</td> <td>548406</td> </tr> <tr> <td>9-17</td> <td>19585</td> <td>3</td> <td>7130</td> </tr> <tr> <td>1</td> <td>122205</td> <td>11-18</td> <td>7130</td> </tr> <tr> <td>2</td> <td>792836</td> <td>1</td> <td>703858</td> </tr> <tr> <td>102</td> <td>1037638</td> <td>1</td> <td>322641</td> </tr> <tr> <td>1-2</td> <td>810552</td> <td>1</td> <td>1205357</td> </tr> <tr> <td>1</td> <td>713706</td> <td>2</td> <td>550006</td> </tr> <tr> <td>1-2</td> <td>930584</td> <td>1-2</td> <td>982743</td> </tr> <tr> <td>1</td> <td>104280</td> <td></td> <td></td> </tr> </tbody> </table>		Lot	DP	Lot	DP	1-7	19585	4	548406	9-17	19585	3	7130	1	122205	11-18	7130	2	792836	1	703858	102	1037638	1	322641	1-2	810552	1	1205357	1	713706	2	550006	1-2	930584	1-2	982743	1	104280		
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4.1.4	<p>Describe any interconnections between the proposed drinking water infrastructure and other infrastructure not part of this scheme (eg, 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. <b>Identify all interconnections with other infrastructure on the process flow diagram in Appendix 4.1.1 and the map in Appendix 4.1.3.</b></p>
<p><i>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.</i></p>	
<p>All drinking water will be sourced from Sydney Water's drinking water system.</p> <p>All of the Scheme's drinking water infrastructure will connect to Sydney Water infrastructure within the boundary of the Development area.</p> <p>The drinking water infrastructure will supply the Initial Stages (as defined in 4.1.1) with temporary interconnection to the recycled water reticulation network until the LWC becomes fully operational.</p> <p>The detailed design and construction of the drinking water infrastructure up to but not including the drinking water meter inside each customer's apartment will be undertaken by the Developer. FSO 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 Sydney Water or the relevant owners corporation.</p> <p>FSO will not be responsible for the operation and maintenance of any drinking water infrastructure except for the drinking water meter inside each customer's tenement.</p> <p>A commercial agreement (USA) between Sydney Water and FSO's parent company, Flow Systems Pty Ltd and substantially based on the agreements already in place between Sydney Water and Flow Systems for its other schemes in Sydney Water's area of operations at Central Park and Discovery Point and in line with the USAs which are in final negotiation with Hunter Water for Flow's schemes at Huntlee and Cooranbong developments, will clearly outline the parties' respective responsibilities.</p> <p>.</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.1(a) Process Flow Diagram (Drinking Water)</li> <li>• Appendix 4.1.1(b) Flow Systems Water Servicing Strategy (Table of Contents)</li> <li>• Appendix 4.1.1(c) Drinking Water Reticulation Masterplan</li> </ul>	
4.1.5	<p>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. <b>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.</b></p>
<p><i>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.</i></p>	
<p>The detailed design and construction of the drinking water infrastructure up to but not including the drinking water meter inside each customer's property will be undertaken by the Developer.</p> <p>The Developer's builder will install the drinking water meters issued by Flow Systems. FSO will not be responsible for the operation and maintenance of any drinking water infrastructure.</p>	

<p>The Developer will install all drinking water infrastructure downstream of the drinking water meter and the owner and/or owners corporation will be responsible for its operation and maintenance.</p> <p>NSW Fair Trading is responsible for inspection and review of the customer's drinking water infrastructure downstream of the Sydney Water connection point.</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.1(a) Process Flow Diagram (Drinking Water)</li> <li>• Appendix 4.1.1(c) Drinking Water Reticulation Masterplan</li> </ul>	
4.1.6	<p>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. <b>Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix 4.1.6.</b></p>
<p><i>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)).</i></p>	
<p>Drinking Water will be sourced from Sydney Water.</p> <p>FSO and Sydney Water will work together to determine and implement the short and long term infrastructure requirements to service the Development area.</p> <p>Using the more conservative, WSAA Code demands, to service the ultimate drinking water needs of the Development, up to 1,045kL/day will be drawn from Sydney Water's supply network (peak day).</p> <p>To service the recycled water needs of the Development before the water recycling facility is constructed and commissioned, an additional 697 kL/day will be drawn from Sydney Water's supply network (peak day).</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.6(a) Shepherds Bay Servicing Strategy</li> </ul>	
4.1.7	<p>What volume of water will be treated by the scheme? Please provide the average and peak daily flow rates <u>treated by the scheme</u>.</p>
<p><i>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.</i></p>	
<p>Treated drinking water will be sourced from Sydney Water as outlined in section 4.1.6.</p> <p>No additional treatment will take place within the Scheme area.</p>	
4.1.8	<p>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.</p>
<p><i>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.</i></p>	
<p>Treated drinking water will be sourced from Sydney Water as outlined in section 4.1.6.</p> <p>Together with Sydney Water, FSO will refine the Servicing Strategy through detailed planning to provide a sufficient volume to supply the Development.</p> <p>Average volume of drinking water supplied to end users for the Development is estimated to be 653 kL/d average, 1,045 kL/day peak day demand and up to 100 kilolitres per hour peak hour demand.</p>	

To service the recycled water needs of the Development before the LWC is constructed and commissioned, an additional 383 kL/d average, 697 kL/day peak day demand and up to 52 kilolitres per hour peak hour demand will be drawn from Sydney Water's supply network (peak day)

#### RELEVANT APPENDICES

- Appendix 4.1.6(a) Shepherds Bay Servicing Strategy

4.1.9	<p><b>Provide your preliminary risk assessment for the scheme from source to end use in Appendix 4.1.9.</b> 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.</p> <p>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.</p>
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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 following sections of the "Australian Drinking Water Guidelines":

- 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

#### RELEVANT APPENDICES

- Appendix 4.1.9(a) Preliminary Risk Assessment Summary

4.1.10	<p>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. <b>Provide evidence of the applicant corporation's capacity to implement the 12 elements of the framework in the ADWG in Appendix 4.1.10.</b></p>
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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.



<p><i>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)).</i></p>	
<p>The majority of the 12 elements of the framework for the management of drinking water quality will be covered by Sydney Water as the producer and bulk supplier of drinking water. FSO will further address each of the 12 elements with adoption of the Flow Systems Drinking Water Quality Plan.</p> <p>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. FSO's parent company Flow Systems Pty Ltd and its various subsidiaries (e.g. Pitt Town Water, Central Park Water, Discovery Point water), have demonstrated previously that it has the capacity to implement and maintain the 12 element approach.</p> <p>Flow Systems' capacity to develop and implement a Water Quality Plan is evidenced by independent audits conducted at Pitt Town (recycled water only), Central Park and Discovery Point (drinking water and recycled water).</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.10(a) Flow Systems Drinking Water Quality Plan (Table of Contents)</li> <li>• Appendix 4.1.10(b) Shepherds Bay Scheme Management Plan (Table of Contents)</li> </ul>	
4.1.11	<p>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?</p> <p><i>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)).</i></p> <p>Continuity of drinking water supply will be achieved through:</p> <ul style="list-style-type: none"> <li>• It is proposed that FSO will have a commercial agreement (known as the Utility Services Agreement) with Sydney Water which will detail volume, pressure and reliability. The terms of this agreement will be similar to those used in Sydney Water's standard Customer Contract and Sydney Water's Utility Services Agreements with Flow Systems for other schemes at Central Park and Discovery Point.</li> </ul> <p>FSO has developed contingency plans in the event of infrastructure failure. These contingency plans are a component of the Flow Systems Infrastructure Operating Plan and include:</p> <ul style="list-style-type: none"> <li>• Minimisation of drinking water demand through customer notifications</li> <li>• Rapid response to infrastructure failure</li> </ul>
4.1.12	<p>Describe the systems and processes that the applicant corporation will have in place to manage the water infrastructure. <b>Provide evidence of the applicant corporation's capacity to develop and implement an infrastructure operating plan in Appendix 4.1.12(a).</b></p> <p>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.</p>



*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)).*

FSO will adopt 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 Flow Systems schemes at Pitt Town (recycled water only), Central Park, Discovery Point, Huntlee, Cooranbong and Green Square which have been reviewed through the audit process.

#### RELEVANT APPENDICES

- Appendix 4.1.12(a) Flow Systems Infrastructure Operating Plan (Table of Contents)
- Appendix 4.1.10(a) Flow Systems Drinking Water Quality Plan (Table of Contents)
- Appendix 4.1.10(b) Shepherds Bay 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, odour, 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.*

#### Development

The Developer was granted Part 3A concept approval (ref: MP09\_0216) for the Shepherds Bay development on 6 March 2013 pursuant to section 75O of the EP&A Act and this was amended on 16 October 2014.

The Developer completed Stage 1 of the development, which sits outside of the scope of this licence application, in mid-2015. The Developer has lodged the following development applications with Ryde City Council pursuant to Part 4 of the EP&A Act, complete with Statements of Environmental Effects:

Stage	DA number	Status	Date	Properties
Stage 2-3	LDA2015/0018	Approved	20/10/2015	6 Nancarrow Ave, RYDE 41 Belmore St, RYDE
Stage 4-5	LDA2015/0019	Approved	18/09/2015	2 Constitution Rd, RYDE 4 - 6 Constitution Rd, RYDE 8 - 14 Constitution Rd, RYDE 16 Constitution Rd, RYDE 18 Constitution Rd, RYDE 7 Hamilton Cr, RYDE

Stage 6-7	LDA2015/0032	Approved	15/12/2015	37 Nancarrow Ave, RYDE 33 Nancarrow Ave, RYDE
Stage 8-9	LDA2015/0031	Approved	15/12/2015	116 Bowden St, MEADOWBANK

### Reticulation

The Developer's development applications and their associated statement of environmental effects for each development stage have contemplated the drinking water, pressure sewerage and recycled water reticulation networks proposed.

To satisfy the requirements of WICA, FSO has also prepared a review of environmental factors for the sewage and recycled water reticulation networks.

### Local Water Centre

FSO will seek development consent under Part 4 of the EP&A Act for a water recycling facility in the basement of the residential building in Stage 2-3 of the development. FSO has prepared a Statement of Environmental Effects for the Local Water Centre for consideration under the environmental principles of WICA and WICR and to support FSO's development application. 'Water recycling facility' is currently a prohibited activity in the applicable land zoning and so FSO will apply to amend the Ryde Local Environmental Plan to change the land use description for the land zoning to allow water recycling facility as 'permitted with consent'.

### RELEVANT APPENDICES

- Appendix 3.5.1(a) Development Concept Approval
- Appendix 3.5.1(b) Development Applications for the Development
- Appendix 3.5.1(c) LWC Statement of Environmental Effects
- Appendix 3.5.1(d) Reticulation Review of Environmental Factors

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?
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*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)).*

FSO is not proposing to treat the drinking water which will be bulk supplied to FSO by Sydney Water.

## 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 (ie, 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. <b>Provide a detailed process flow diagram of the proposed infrastructure from source to end use in Appendix 4.2.1.</b>
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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 Development area. Wastewater collected from predominantly residential households will be delivered into the LWC via a flow balance tank which forms an integral part of the LWC itself. Further, note that the LWC is also designed for recycled water storage to be topped up with drinking water 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:

**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.

<p><b>Reverse osmosis</b> – Used to trim the concentration of total dissolved solids in the recycled water so that it is suitable for use in cooling towers.</p> <p><b>Recycled water network reticulation infrastructure</b> – 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. The FSO recycled water infrastructure includes the recycled water meters on each lot.</p> <p><b>WAS Dewatering</b> – The Waste Activated Sludge (WAS) from the membrane zone will be dewatered from 0.6% w/w solids to ~12% w/w solids. The filter cake will be collected and disposed off-site via an approved waste management contractor.</p> <p><b>Odour scrubbing</b> – 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</p> <p><b>Control System</b> – 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.</p> <p>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.</p> <p>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.</p> <p>Provision is also made on the LWC site for a future <b>reverse osmosis</b> treatment train should the colour or end use of the recycled water require it.</p> <p>The end use for recycled water is described in section 4.2.9 below.</p>	
<p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water)</li> <li>• Appendix 4.2.1(b) Recycled Water Reticulation Masterplan</li> <li>• Appendix 4.2.1(c) LWC concept layout</li> </ul>	

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 <b>identify the infrastructure as existing or to be constructed on the process flow diagram in Appendix 4.2.1.</b>
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: <ul style="list-style-type: none"> <li>▼ The identification of specific lot descriptors (e.g. lot and DP numbers) for the production, treatment, filtration and/or storage infrastructure.</li> <li>▼ 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.</li> </ul> <p><b>Provide a map showing the location of the proposed infrastructure from source to end use in Appendix 4.2.3.</b></p>
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.

The LWC is proposed to be located in the basement of Stages 3 of the Development spanning lots 12,13 and 14 of deposited plan 7130.

Recycled water storage and distribution pumps will be located alongside the LWC

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

The Development area may be described as follows:

Lot	DP	Lot	DP
1-7	19585	4	548406
9-17	19585	3	7130
1	122205	11-18	7130
2	792836	1	703858
102	1037638	1	322641
1-2	810552	1	1205357
1	713706	2	550006
1-2	930584	1-2	982743
1	104280		

#### RELEVANT APPENDICES

- Appendix 4.1.3(a) Scheme Lot and DP references
- Appendix 4.2.1(b) Recycled Water Reticulation Masterplan
- Appendix 4.2.1(c) LWC concept layout

4.2.4	Describe any interconnections between the proposed non-potable water infrastructure and other infrastructure not part of this scheme (eg, 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. <b>Identify all interconnections with other infrastructure on the process flow diagram in Appendix 4.2.1 and the map in Appendix 4.2.3.</b>
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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.*

There are no permanent interconnections required between the proposed recycled water infrastructure and other infrastructure not part of this scheme.

FSO will not be treating wastewater from outside the Scheme area under this licence application.

Provision is made for the recycled water storage system to be topped up via an air-gap by FSO's own drinking water connection at the LWC.

<p>Before the LWC is built, commissioned and producing recycled water, the recycled water reticulation network will need to be charged with drinking water via a temporary cross-connection from FSO's own drinking water reticulation network, complete with isolation valve, check valve and a removable spool piece. This spool piece will be removed once the recycled water storage tank top-up facility is commissioned and recycled water reticulation is connected to the LWC.</p>	
4.2.5	<p>Where applicable, describe the connection point to customers or end users (eg, 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. <b>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.</b></p>
<p><i>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.</i></p>	
<p>FSO is responsible for the design, construction, operation and maintenance of all recycled water infrastructure within the LWC.</p> <p>The detailed design and construction of the recycled water infrastructure from the LWC up to but not including the recycled water meter inside each customer's property will be undertaken by the Developer. FSO will establish the masterplan and design standards and carry out detailed design review and inspection and testing of the constructed infrastructure prior to developer infrastructure works practical completion.</p> <p>The Developer will install the recycled water meters issued by Flow Systems inside each property. Flow Systems will retain ownership, operation and maintenance responsibility of these meters.</p> <p>Following developer infrastructure works practical completion, FSO 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.</p> <p>Each individual customer will be responsible for the construction, operation and maintenance of the recycled water estate reticulation. Each owners corporation will be responsible to own, operate and maintain its own horizontal and vertical recycled water infrastructure downstream of the connection point to the estate reticulation.</p> <p>NSW Fair Trading is responsible for inspection and review of the customer's recycled water plumbing infrastructure.</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.1(a) Process Flow Diagram (Drinking Water)</li> <li>• Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water)</li> <li>• Appendix 4.2.1(b) Recycled Water Reticulation Masterplan</li> </ul>	
4.2.6	<p>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. <b>Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix 4.2.6.</b></p>
<p><i>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)).</i></p>	
<p>There are two likely sources for the recycled water, namely:</p> <p>1) <b>Sewage</b> – This source can provide at ultimate development an average of 398 kL/day of raw sewage. The conversion of raw sewage to recycled water is approximately 75% when reverse osmosis is used.</p>	



2) **Drinking water** – As outlined above, the Initial Stages will be supplied by a drinking water connection 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 FSO's own supply to the LWC will be used to supplement supply.

(NB: Recycled water will not be supplied until the infrastructure in Phase 3 is completed, existing lots are delivering sewage to the LWC, the LWC is commissioned and FSO has approval for commercial operation).

**RELEVANT APPENDICES**

- Appendix 4.1.6(a) Shepherds Bay Servicing Strategy
- Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water)

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 hydraulic capacity to treat average daily flows of up to 600kL/day but is expected to treat 449 kL/day of sewage on average at full development.

The catchment is expected to produce up to 950 kL/day on a peak day at full development. In relation to peak daily flow, however:

- The LWC flow balance tank will buffer flows
- 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.

**RELEVANT APPENDICES**

- Appendix 4.1.6(a) Shepherds Bay Servicing Strategy

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 LWC will have the capacity to produce up to 450kL/day of recycled water if there is enough source water available. The average volume of recycled water supplied to end users at full development build-out will be 203kL/day but will vary with time of year due to irrigation demands. The peak day demand is 339kL/day which will mostly be met by stored recycled water and then other sources for top up as required.

**RELEVANT APPENDICES**

- Appendix 4.1.6(a) Shepherds Bay Servicing Strategy

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 (cold water)
- Cooling tower top up
- Car washing
- Water features
- Irrigation by end users for watering plants, gardens, lawns etc.
- Irrigation of public open space with permanent irrigation systems as each area is established.

#### RELEVANT APPENDICES

- Appendix 4.1.6(a) Shepherds Bay Servicing Strategy

**4.2.10 Provide your preliminary risk assessment for the scheme from source to end use in Appendix 4.2.10.** 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

#### RELEVANT APPENDICES

- Appendix 4.1.9(a) 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. <b>Provide evidence of the applicant corporation's capacity to implement the 12 elements of the framework in the AGWR in Appendix 4.2.11.</b>
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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.*

FSO will address each of the 12 elements associated with recycled water by adoption of the Flow Systems Recycled Water Quality Plan. FSO's parent company, Flow Systems Pty Ltd, and its various subsidiaries (e.g. Pitt Town Water, Central Park Water and Discovery Point Water), have demonstrated previously that they have the capacity to implement and maintain the 12 element approach.

The systems and processes for the recycled water infrastructure are similar to those prepared for Pitt Town Water, Central Park Water and Discovery Point Water.

Flow Systems' capacity to develop and implement a Recycled Water Quality Plan is evidenced by independent audits conducted at Pitt Town and Central Park.

Evidence is also provided by Ministerial approval to commence commercial operation for recycled water for Pitt Town Water, Central Park Water and Discovery Point Water.

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

Element	Comments
1	<p><b>Commitment to responsible use and management of recycled water</b></p> <p><i>Address</i> Key stakeholders (i.e. management, construction, operation and end users) were identified and have been involved in the development of the proposed recycled water scheme at Shepherds Bay. Commitment has been sought, and received, from these stakeholders in relation to the responsible use and management of recycled water at Shepherds Bay.</p> <p><i>Implement</i> 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.</p> <p><i>Maintain</i> 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.</p>
2	<p><b>Assessment of the recycled water system</b></p> <p><i>Address</i></p>

	<p>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:</p> <ul style="list-style-type: none"> <li>• Intended uses and sources of recycled water</li> <li>• Recycled water system analysis</li> <li>• Assessment of water quality data</li> <li>• Hazard identification and risk assessment</li> </ul> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>The registers will be updated as required as the project moves through construction, commissioning and operation.</p>
3	<p><b>Preventive measures for recycled water management</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• There is a significant change in the project or stakeholders</li> <li>• There is a change in regulation</li> <li>• There is an incident on this or a similar scheme</li> </ul> <p>The accuracy of critical control points will be confirmed via verification testing.</p>
4	<p><b>Operational procedures and process control</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>The operational procedures will be live documents over the life of the scheme. In addition to regular audits they will be reviewed/updated when:</p> <ul style="list-style-type: none"> <li>• There is a significant change in the project or stakeholders</li> <li>• There is a change in regulation</li> <li>• There is an incident on this or a similar scheme</li> </ul>

	Process control systems will be checked regularly for accuracy and to ensure logic around Critical Control Points remains valid.
5	<p><b>Verification of recycled water quality and environmental performance</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• There is a significant change in the project or stakeholders</li> <li>• There is a change in regulation</li> <li>• There is an incident on this or a similar scheme</li> </ul>
6	<p><b>Management of incidents and emergencies</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• There is a significant change in the project or stakeholders</li> <li>• There is a change in regulation</li> <li>• There is an incident on this or a similar scheme</li> </ul> <p>Employee training and regular incident simulations will be used to confirm system effectiveness and efficiency.</p>
7	<p><b>Operator, contractor and end user awareness and training</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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 FSO website.</p>

	<p><i>Maintain</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• There is a significant change in the project or stakeholders</li> <li>• There is a change in regulation</li> <li>• There is an incident on this or a similar scheme</li> </ul> <p>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.</p>
8	<p><b>Community involvement</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>The community consultation strategy will be incorporated into the management plan as part of the communications plan. The FSO 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.</p> <p><i>Maintain</i></p> <p>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:</p> <ul style="list-style-type: none"> <li>• There is a significant change in the project or stakeholders</li> <li>• There is a change in regulation</li> <li>• There is an incident on this project or a similar scheme</li> </ul>
9	<p><b>Validation, research and development</b></p> <p><i>Address</i></p> <p>Key focus areas in relation to the ongoing validation, research and development needs of the project will be captured in the management plan.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>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.</p>
10	<p><b>Documentation and reporting</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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</p>

	<p>agreed frequency. Incident reports will be distributed to internal and stakeholders in accordance with agreed protocols.</p> <p><i>Maintain</i></p> <p>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.</p>
11	<p><b>Evaluation and audit</b></p> <p><i>Address</i></p> <p>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.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>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.</p>
12	<p><b>Review and continual improvement</b></p> <p><i>Address</i></p> <p>Senior management of FSO will be provided with regular reports on system performance and copies of incident reports as required by protocols.</p> <p><i>Implement</i></p> <p>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.</p> <p><i>Maintain</i></p> <p>Training will be provided for senior managers to ensure they can actively take part in the review process.</p>

#### RELEVANT APPENDICES

- Appendix 4.1.10(b) Shepherds Bay Scheme Management Plan
- Appendix 4.2.11(a) Flow Systems Recycled Water Quality Plan (Table Of Contents)

4.2.12	<p>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?</p>
<p><i>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)).</i></p>	
<p>Continuity of recycled water supply will be achieved through:</p> <ul style="list-style-type: none"> <li>• Significant redundancy being provided by the recycled water storage tanks</li> <li>• Recycled water distribution pumps will be installed in duty/standby arrangement</li> <li>•</li> </ul>	

	<ul style="list-style-type: none"> <li>FSO proposes to have a commercial agreement with Sydney Water that will include drinking water availability as top up for recycled water</li> </ul> <p>FSO will develop detailed contingency plans in the event of infrastructure failure. These contingency plans are a component of the Flow Systems Infrastructure Operating Plan and include:</p> <ul style="list-style-type: none"> <li>Minimisation of demand through customer notifications.</li> <li>Rapid response to infrastructure failure.</li> </ul> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>Appendix 4.1.6(a) Shepherds Bay Servicing Strategy</li> <li>Appendix 4.1.10(b) Shepherds Bay Scheme Management Plan (Table of Contents)</li> <li>Appendix 4.1.12(a) Flow Systems Infrastructure Operating Plan (Table of Contents)</li> </ul>
4.2.13	<p>Describe the systems and processes that the applicant corporation will have in place to manage the non-potable water infrastructure. <b>Provide evidence of the applicant corporation's capacity to develop and implement an infrastructure operating plan in Appendix 4.2.13.</b></p>
	<p>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.</p>
	<p><i>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)).</i></p>
	<p>The systems and processes for the recycled water infrastructure are similar to those prepared for Pitt Town Water, Central Park Water and Discovery Point Water.</p> <p>Pitt Town Water, Central Park Water, Discovery Point Water and FSO are sister companies and are all wholly-owned subsidiaries of Flow Systems. FSO will adopt and implement Flow Systems' Recycled Water Quality Plan and Infrastructure Operating Plan.</p> <p>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 WICA have been met for the Pitt Town LWC, Central Park LWC and Discovery Point LWC.</p> <p>Evidence is also provided by Ministerial approval to commence commercial operation for Pitt Town LWC, Central Park LWC and Discovery Point Water LWC.</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>Appendix 4.1.10(b) Shepherds Bay Scheme Management Plan (Table of Contents)</li> <li>Appendix 4.1.12(a) Flow Systems Infrastructure Operating Plan (Table of Contents)</li> <li>Appendix 4.2.11(a) Flow Systems Recycled Water Quality Plan (Table of Contents)</li> </ul>
4.2.14	<p>Describe the studies that have been completed to investigate any environmental impacts (including but not limited to water quality, quantity, air, odour, 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? <b>Provide a copy of any environmental study and/or risk assessment in Appendix 4.2.14.</b></p>

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).*

### Development

The Developer was granted Part 3A concept approval (ref: MP09\_0216) for the Shepherds Bay development on 6 March 2013 pursuant to section 75O of the EP&A Act and this was amended on 16 October 2014.

The Developer completed Stage 1 of the development, which sits outside of the scope of this licence application, in mid-2015. The Developer has lodged the following development applications with Ryde City Council pursuant to Part 4 of the EP&A Act, complete with Statements of Environmental Effects:

Stage	DA number	Status	Date	Properties
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Stage 4-5	LDA2015/0019	Approved	18/09/2015	2 Constitution Rd, RYDE 4 - 6 Constitution Rd, RYDE 8 - 14 Constitution Rd, RYDE 16 Constitution Rd, RYDE 18 Constitution Rd, RYDE 7 Hamilton Cr, RYDE
Stage 6-7	LDA2015/0032	Approved	15/12/2015	37 Nancarrow Ave, RYDE 33 Nancarrow Ave, RYDE
Stage 8-9	LDA2015/0031	Approved	15/12/2015	116 Bowden St, MEADOWBANK

### Reticulation

The Developer's development applications and their associated statement of environmental effects for each development stage have contemplated the drinking water, pressure sewerage and recycled water reticulation networks proposed.

To satisfy the requirements of WICA, FSO has also prepared a review of environmental factors for the sewage and recycled water reticulation networks.

### Local Water Centre

FSO will seek development consent under Part 4 of the EP&A Act for a water recycling facility in the basement of the residential building in Stage 2-3 of the development. FSO has prepared a Statement of Environmental Effects for the Local Water Centre for consideration under the environmental principles of WICA and WICR and to support FSO's development application.

'Water recycling facility' is currently a prohibited activity in the applicable land zoning and so FSO will apply to amend the Ryde Local Environmental Plan to change the land use description for the land zoning to allow water recycling facility as 'permitted with consent'.

#### RELEVANT APPENDICES

- Appendix 3.5.1(a) Development Concept Approval
- Appendix 3.5.1(b) Development Applications for the Development
- Appendix 3.5.1(c) LWC Statement of Environmental Effects
- Appendix 3.5.1(d) Reticulation Review of Environmental Factors

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 three waste streams generated by the LWC, namely:

- Dewatered screenings – collected and disposed off-site via an approved waste management contractor.
- Waste activated sludge (WAS) – collected and disposed offsite via an approved waste management contractor or discharged into the Sydney Water sewerage system under a trade waster agreement if agreement is made with Sydney Water to do so.
- Brine – highly salinated water resulting from the reverse osmosis treatment process. This is proposed to be discharged to Sydney Water's licensed public sewerage system through a trade waste agreement between FSO and Sydney Water.

### 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 Development sewerage infrastructure consists of:

- domestic pressure sewer pumping systems at each building in the Development
- pressure sewer reticulation network connecting each building to the LWC

Phase 1 – Until the LWC flow balance tank is constructed in Stage 2-3, the first buildings in the Development (Stage 2-3 and 4-5) will initially discharge their sewage into the Sydney Water sewerage system at their closest discharge point.

Phase 2 - There are two possible scenarios: Either the entire Development area will deliver sewage to the LWC's flow balance tank where peaks will be buffered and odour scrubbed before discharging into a single point of Sydney Water's sewerage system on Rothesay Avenue or flows will discharge to their closest discharge point into the Sydney Water sewerage system.

Phase 3 – Sewage collected from the Development will pass through the membrane bioreactor, disinfection and reverse osmosis treatment process units to be redistributed as recycled water for reuse within the Development area. The biological treatment capacity will ultimately be 600 kL/day. Any sewage not required to be treated to maintain the recycled water demand will bypass the LWC and be discharged to Sydney Water's sewerage system at a single discharge point on Rothesay Avenue.

#### RELEVANT SCHEDULES

- Appendix 4.2.1(a) Process Flow Diagram (Sewerage and Recycled Water)
- Appendix 4.2.1(c) LWC Concept Layout
- Appendix 4.3.1(a) Process Flow Diagram (Interim Sewer)
- Appendix 4.3.1(b) Sewerage Reticulation Masterplan

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 <b>identify the infrastructure as existing or to be constructed on the process flow diagram in Appendix 4.3.1.</b>
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*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 <u>location</u> of the proposed infrastructure. For example include: <ul style="list-style-type: none"> <li>▾ the identification of specific lot descriptors (eg, lot and DP numbers) for the collection, treatment, filtration and/or storage infrastructure</li> <li>▾ 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.</li> </ul> <b>Provide a map showing the location of the proposed infrastructure from source to end use in Appendix 4.3.3.</b>
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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 Development area as shown in the Sewerage Reticulation Masterplan.

The LWC is proposed to be located in the basement of Stage 3 of the Development, spanning lots 12,13 and 14 of deposited plan 7130 .

The pressure sewer reticulation network will be located throughout the Development area.

The Development area may be described as follows:

Lot	DP	Lot	DP
1-7	19585	4	548406
9-17	19585	3	7130
1	122205	11-18	7130
2	792836	1	703858
102	1037638	1	322641
1-2	810552	1	1205357
1	713706	2	550006
1-2	930584	1-2	982743
1	104280		

#### RELEVANT APPENDICES

- Appendix 4.1.3(a) Scheme Lot and DP references
- Appendix 4.2.1(c) LWC Concept Layout
- Appendix 4.3.1(b) Sewerage Reticulation Masterplan

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. <b>Identify all interconnections with other infrastructure on the process flow diagram in Appendix 4.3.1 and the map in Appendix 4.3.3.</b>
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*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.*

Phase 1 – Until the LWC flow balance tank is constructed in Stage 2-3, the first buildings in the Development (Stage 2-3 and 4-5) will initially discharge their sewage into the Sydney Water sewerage system at their closest discharge point.

Phase 2 - There are two possible scenarios: Either the entire Development area will deliver sewage to the LWC's flow balance tank where peaks will be buffered and odour scrubbed before discharging into a single point of Sydney Water's sewerage system on Rothesay Avenue or flows will discharge to their closest discharge point into the Sydney Water sewerage system.

Phase 3 – Sewage collected from the Development will pass through the membrane bioreactor, disinfection and reverse osmosis treatment process units to be redistributed as recycled water for reuse within the Development area. The biological treatment capacity will ultimately be 600 kL/day. Any sewage not required to be treated to maintain the recycled water demand will bypass the LWC and be discharged to Sydney Water's sewerage system at a single discharge point on Rothesay Avenue.

<b>RELEVANT APPENDICES</b> <ul style="list-style-type: none"> <li>Appendix 4.3.1(b) Sewerage Reticulation Masterplan</li> </ul>	
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.
<i>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.</i>	
The maximum biological capacity treated by the scheme will be 600kL/day at ultimate capacity. In relation to peak daily sewage flow rates: <ul style="list-style-type: none"> <li>The LWC flow balance tank will buffer flows</li> <li>The nature of the pressure sewer network prevents inflow/infiltration thereby eliminating the peak flow normally associated with wet weather in conventional sewer systems</li> <li>The catchment is residential and population is expected to be relatively stable throughout the year</li> </ul>	
<b>RELEVANT APPENDICES</b> <ul style="list-style-type: none"> <li>Appendix 4.1.6(a) Shepherds Bay Servicing Strategy</li> </ul>	
4.3.6	What volume of treated effluent will be disposed of from the scheme? Please provide the average and peak daily disposal rates <u>disposed from</u> the scheme.
<i>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.</i>	
All sewage treated will be distributed throughout the Development for recycled water end uses. Any sewage not required to be treated to meet recycled water demand is proposed to bypass the LWC and be discharged directly into Sydney Water's sewerage network.	
<b>RELEVANT APPENDICES</b> <ul style="list-style-type: none"> <li>Appendix 4.1.6(a) Shepherds Bay Servicing Strategy</li> </ul>	
4.3.7	How will the treated effluent be disposed of from the scheme?
<i>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).</i>	

<p>The intended end uses for the recycled water will include:</p> <ul style="list-style-type: none"> <li>• Toilet flushing</li> <li>• Washing machines (cold water)</li> <li>• Water features</li> <li>• Cooling tower top up</li> <li>• Car washing</li> <li>• Irrigation by end users for watering plants, gardens, lawns etc.</li> <li>• Irrigation of public open space with permanent irrigation systems as each area is established.</li> </ul> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.6(a) Shepherds Bay Servicing Strategy</li> </ul>	
4.3.8	<p>What wastewater and/or catchment characterisation studies have been undertaken? <b>Provide a summary report of any wastewater characterisation or catchment studies including results in Appendix 4.3.8.</b></p> <p><i>This information will be used as a context to the potential health and environmental risks posed by the scheme.</i></p> <p>The wastewater catchment will be developed over the roll-out of the Development. The wastewater catchment will be predominantly residential with some retail space. The design wastewater characteristics have been based on values for similar catchments and allows for Flow Systems' trade waste policy which will require pre-treatment of wastewater emanating from non-residential customers where the quality of wastewater produced demands it.</p>
4.3.9	<p><b>Provide your preliminary risk assessment for the scheme from collection to disposal in Appendix 4.3.9.</b> 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.</p> <p>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.</p> <p>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.</p> <p><i>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)).</i></p>

<p>The preparation of the preliminary risk assessment was undertaken in accordance with the following sections of the “<i>Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 1) 2006</i>”:</p> <ul style="list-style-type: none"> <li>• Section 2.2.4 – Hazard identification and risk assessment</li> <li>• Section 2.3 – Preventative measures for recycled water management</li> <li>• Section 2.3.1 – Preventative measures and multiple barriers</li> <li>• Section 2.3.2 – Critical control points</li> </ul> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.9(a) Preliminary Risk Assessment Summary</li> </ul>	
4.3.10	<p>Describe the systems and processes that the applicant corporation will have in place to manage the sewerage infrastructure. <b>Provide evidence of the applicant corporation’s capacity to develop and implement an infrastructure operating plan in Appendix 4.3.10.</b></p> <p>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.</p> <p><i>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)).</i></p> <p>The systems and processes for the sewerage infrastructure are similar to those prepared by Pitt Town Water, Central Park Water and Discovery Point Water.</p> <p>Pitt Town Water, Central Park Water, Discovery Point Water and FSO are sister companies and are wholly-owned subsidiaries of Flow Systems. FSO will adopt and implement the Flow Systems Sewage Management Plan and Infrastructure Operating Plan.</p> <p>Flow Systems’ capacity to develop and implement these plans is evidenced by independent audit confirming that the requirements of the WICA have been met for Pitt Town Water, Central Park Water and Discovery Point Water.</p> <p>Evidence is also provided by Ministerial approval to commence commercial operation for sewerage for Pitt Town Water, Central Park Water, Discovery Point Water, Huntlee and Cooranbong.</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 4.1.10(b) Shepherds Bay Scheme Management Plan (Table of Contents)</li> <li>• Appendix 4.1.12(a) Flow Systems Infrastructure Operating Plan (Table of Contents)</li> <li>• Appendix 4.3.10(a) Flow Systems Sewage Management Plan (Table of Contents)</li> </ul>
4.3.11	<p>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?</p> <p><i>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)).</i></p> <p>Continuity of the provision of sewerage services will be achieved through:</p>

- Up to 24 hours storage at each wet well in each building's pressure sewage pumping station and overflow to Sydney Water's sewerage system
- Remote monitoring of failure alarms at each lot in the pressure sewer pumping system
- Storage in the flow balance tanks at the LWC
- Critical equipment at the LWC will be installed in duty/standby configuration to ensure adequate redundancy
- Dual power supplies onsite at the LWC.
- Remote monitoring of failure alarms on critical infrastructure at the LWC.

FSO has developed detailed contingency plans in the event of infrastructure failure. These contingency plans are a component of the Flow Systems Infrastructure Operating Plan and include:

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

#### RELEVANT APPENDICES

- Appendix 4.1.10(b) Shepherds Bay Scheme Management Plan (Table of Contents)
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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? <b>Provide a copy of any environmental study and/or risk assessment in Appendix 4.3.12.</b>
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### Reticulation

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To satisfy the requirements of WICA, FSO has also prepared a review of environmental factors for the sewage and recycled water reticulation networks.

### Local Water Centre

FSO will seek development consent under Part 4 of the EP&A Act for a water recycling facility in the basement of the residential building in Stage 2-3 of the development. FSO has prepared a Statement of Environmental Effects for the Local Water Centre for consideration under the environmental principles of WICA and WICR and to support FSO's development application. 'Water recycling facility' is currently a prohibited activity in the applicable land zoning and so FSO will apply to amend the Ryde Local Environmental Plan to change the land use description for the land zoning to allow water recycling facility as 'permitted with consent'.

### RELEVANT APPENDICES

- Appendix 3.5.1(a) Development Concept Approval
- Appendix 3.5.1(b) Development Applications for the Development
- Appendix 3.5.1(c) LWC Statement of Environmental Effects
- Appendix 3.5.1(d) Reticulation Review of Environmental Factors

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).*

Whilst recycled water will be used for irrigation of the Development's landscaped areas, these will be specially-designed spaces highly altered from the current light industrial land uses. It is therefore not applicable to undertake a 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?
<i>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)).</i>	
<p>There will be three waste streams generated by the LWC, namely:</p> <ul style="list-style-type: none"> <li>• Dewatered screenings – collected and disposed off-site via an approved waste management contractor.</li> <li>• Waste activated sludge (WAS) – collected and disposed offsite via an approved waste management contractor or discharged into the Sydney Water sewerage system under a trade waste agreement if agreement is made with Sydney Water to do so.</li> <li>• Brine – highly salinated water resulting from the reverse osmosis treatment process. This is proposed to be discharged to Sydney Water's licensed public sewerage system through a trade waste agreement between FSO and Sydney Water.</li> </ul>	



## 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. This section applies to the supply of drinking water and non-potable water.	
5.1.1	Describe the water industry infrastructure that the applicant corporation will access to supply water.
<i>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)).</i>	
Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	
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. <b>Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix 5.1.2.</b>
<i>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)).</i>	
Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	
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.	
<i>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)).</i>	
Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	
5.1.4	Will you be supplying small retail customers with water (ie, less than 15ML/year)?

<p>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.</p>	
<p><i>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.</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.1.5	<p><b>Provide your preliminary risk assessment for the retail activities related to the scheme in Appendix 5.1.5.</b> 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.</p>
<p>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).</p>	
<p><i>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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.1.6	<p>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?</p>
<p>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.</p>	
<p><i>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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.1.7	<p>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. <b>Provide evidence of the applicant corporation's capacity to develop and implement a retail supply management plan in Appendix 5.1.7.</b></p>
<p>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.</p>	

<p><i>The response to this question is a requirement for any retail supplier's licence (Reg cl.10(1)(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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
<h2>5.2 Provision of sewerage services</h2>	
<p>Please provide a response to the questions in the following section if you are seeking a licence for the <u>provision of sewerage services</u> by means of any water industry infrastructure.</p>	
5.2.1	Describe the water industry infrastructure that the applicant corporation will access to provide sewerage services.
<p><i>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).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.2.2	What customers or classes of customers does the applicant corporation propose to provide with sewerage services?
<p>Classes of customers may include residential, industrial, commercial or agricultural. The licence may also specify whether the customers are small retail customers.</p>	
<p><i>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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.2.3	Will you be providing small retail customers with sewerage services (i.e. less than 10.5 ML/year)?
<p>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.</p>	
<p><i>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.</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	

5.2.4	<p><b>Provide your preliminary risk assessment for the retail activities related to the scheme in Appendix 5.2.4.</b> 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.</p>
<p>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).</p>	
<p><i>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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.2.5	<p>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?</p>
<p><i>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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	
5.2.6	<p>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. <b>Provide evidence of the applicant corporation's capacity to develop and implement a retail supply management plan in Appendix 5.2.6.</b></p>
<p>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.</p>	
<p><i>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)).</i></p>	
<p>Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.</p>	

## 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 <u>network operator's licence</u>	
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. <b>Provide an organisational diagram in an Appendix 6.1.1.</b> The diagram should clearly show all entities that have an ownership interest in the applicant corporation.
<p><i>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)).</i></p> <p>FSO does not have any direct employees and will rely upon employees from its parent company, Flow Systems, pursuant to a Corporate Services Agreement. Further, Flow Systems has the benefit of significant additional resourcing and support from its parent, Brookfield Infrastructure Group.</p> <p><b>RELEVANT APPENDICES</b></p> <ul style="list-style-type: none"> <li>• Appendix 6.1.1(a) Flow Systems Operations Ownership Structure</li> <li>• Appendix 6.1.1(c) Brookfield Infrastructure Group profile</li> <li>• Appendix 6.1.1(d) Flow Systems Organisation Chart</li> </ul>	
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.
<p><i>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)).</i></p> <p>FSO is a wholly-owned subsidiary of Flow Systems.</p>	

FSO'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 FSO project delivery and operations team. This experience includes finance, equity, insurance, procurement, legal, equipment supply, design, construction, operation and maintenance.

Eight of Flow Systems' wholly-owned subsidiaries (Pitt Town Water Pty Ltd, Central Park Water Pty Ltd, Discovery Point Water Pty Ltd, Wyee Water Pty Ltd, Huntlee Water Pty Ltd, Cooranbong Water Pty Ltd, Green Square Water Pty Ltd and Flow Systems Operations Pty Ltd for the Box Hill scheme) hold network operator licences.

Flow Systems has delivered fully commissioned, validated and verified recycled water facilities at Pitt Town, Central Park and Discovery Point and has received Ministerial consent to commence their commercial operation. Flow Systems has delivered and facilitated the delivery of fully commissioned drinking water, recycled water and sewerage reticulation networks at Huntlee and Cooranbong and recycled water reticulation at Green Square and has received Ministerial consent to commence their commercial operation.

FSO has current licence applications with IPART for its Bellbird and Glossodia schemes.

Flow Systems' Chief Operating Officer, 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 and 2006, and as the Alliance Manager for Sydney Water's SewerFix Wet Weather Alliance between 2006 and 2011.

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, Darren Wharton, has extensive experience in the delivery of water, electricity and transport infrastructure in Australia and abroad fulfilling key design and construction roles in Sydney Water's Priority Sewerage Program Alliance, Sewerfix Wet Weather Alliance and Ausgrid's Energised Alliance as well as design and delivery roles with Sydney Water, Thames Water (London), Tube Lines (London Underground) and Ausgrid.

Flow Systems uses specialist consultants for advice where in house experience is not available. For example, whilst in-house resources have qualifications and considerable experience in environmental planning for large infrastructure projects, Flow Systems also seeks the professional advice of planning lawyers and planners.

The Flow Systems Executive Manager, Project Delivery and Risk and Compliance Manager are both key personnel involved in preparing and reviewing the environmental management aspects of the Flow Systems Operations scheme at Shepherds Bay. Both of these key personnel have environmental management qualifications and considerable relevant experience in the environmental assessment and compliance aspects of infrastructure delivery projects. The Executive Manager, Project Delivery particularly, has experience in environmental assessment and compliance on sewage treatment and reticulation projects in NSW.

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. <b>Provide a position description for each of the key personnel positions in Appendix 6.1.3.</b>
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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)).*



Terence Leckie – Flow Systems Managing Director/Chief Executive Officer and FSO Director  
 Stephen McKewen – Flow Systems' Deputy Managing Director and FSO Director  
 Steve Hall – Flow Systems' Chief Operating Officer  
 Andrew Horton – Flow Systems' Executive Manager, Utility Operations (responsible for operation and maintenance of the Scheme)  
 Darren Wharton – Flow Systems Executive Manager, Project Delivery (responsible for construction of the scheme, project planning, environmental assessment and project delivery including safety, environmental and quality compliance)  
 Laura Dixon – Flow Systems Risk and Compliance Manager (responsible for risk management, licensing and compliance with all regulatory requirements).

#### RELEVANT APPENDICES

- 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.	
<i>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)).</i>	
<p>Seven of FSO's sister companies and FSO itself hold WICA network operator's licences: Pitt Town Water Pty Ltd (recycled water and sewerage), Central Park Water Pty Ltd (drinking water, recycled water and sewerage), Discovery Point Water Pty Ltd (recycled water and sewerage), Wyee Water Pty Ltd (drinking water, recycled water and sewerage), Huntlee Water Pty Ltd (drinking water), Cooranbong Water Pty Ltd (drinking water, recycled water and sewerage) and Green Square Water Pty Ltd (recycled water) and Flow Systems Operations Pty Ltd for the Box Hill scheme.</p> <p>Flow Systems has delivered fully commissioned and validated water recycling facilities at Pitt Town, Central Park and Discovery Point and has received Ministerial consent to commence commercial operations at Pitt Town, Central Park and Discovery Point. Flow Systems has delivered and facilitated the delivery of fully commissioned drinking water, recycled water and sewerage reticulation networks at Huntlee and Cooranbong and recycled water reticulation at Green Square and has received Ministerial consent to commence their commercial operation.</p> <p>Flow Systems holds a state-wide retail suppliers licence for the provision of sewerage, drinking water and recycled water services.</p>	
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.	
<i>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)).</i>	
<p>FSO has in place the following risk management systems to address regulatory requirements:</p> <p><b>1. Compliance and Risk Management</b>          This covers all relevant laws and regulations, as well as ensuring compliance with all</p>	

relevant contractual arrangements. Reporting under management plans forms part of the Flow Systems' external reporting framework. Reporting includes:

- a. WIC Act (licences)
- b. BASIX (Planning)
- c. General Corporate (ASIC, tax, WHS etc.)

**2. Legal**

In house General Counsel to advise of changes in legislative and regulatory environment directly impacting Flow Systems' business and licensing obligations.

**3. Asset Management**

Forms part of the ERP system (Netsuite) delivering one platform for Asset Management and CRM.

**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. Flow Systems is certified to AS4801 and OSHAS18001 for safety management systems.

**5. Retail Platform**

Flow Systems has implemented NetSuite CRM as its customer relationship management platform. NetSuite is a best-in-class customer service management and support tool that supports Flow Systems' group wide customer interactions. Flow Systems is in the process of implementing a new online customer portal into its website to allow customers access to their monthly invoices and water usage. Customers are encouraged to provide feedback and otherwise lodge enquiries or complaints on-line.

Flow Systems' NetSuite platform is also integrated with SecurePay which uses a 128-bit digital server certificate provided by VeriSign™ and the highest level of PSI DSS compliance required for safe storage and usage of customer's electronic payment information.

Enquiry and complaint's tracking and management is facilitated via Zendesk "Case Management" logic. Zendesk case management assigns an individual "ticket" number to each enquiry and case and tracks the response timing according to priority, status and business rules.

- a. For more information regarding NetSuite see [www.netsuite.com](http://www.netsuite.com)
- b. For more information on Zendesk see [www.zendesk.com](http://www.zendesk.com)
- c. For more information regarding SecurePay see [www.securepay.com.au](http://www.securepay.com.au)

**6. Quality Assurance and Environmental Management**

Flow Systems has developed its business using the principles of ISO 9001 and is certified to ISO 9001 for quality management systems and ISO 14001 for environmental management systems.

**7. Document Control System**

Flow Systems uses a Document Control System to control all documents that form part of the Flow Business Management System such as policies, procedures, management plans, work instructions and forms. All Flow Systems staff have access to this system, this is where staff will find information on the Flow position on all business related business activities including various plans, policies, how the policies will be implemented (procedures), step by step instructions (work instructions), and where to record information (forms).

**8. Incident Management Plan**



Flow Systems' has an Incident Management Plan which addresses how the organisation manages incidents from an operational and business perspective. This forms a part of Flow's:

- commitment to compliance with WICA
- commitment to compliance with the *Public Health Act 2010 (NSW)*
- overall management plan framework for the provision of drinking water, recycled water and sewage management services.

PUBLIC

## 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. <b>Provide an organisational diagram in Appendix 6.2.1.</b> The diagram should clearly show all entities that have an ownership interest in the applicant corporation.
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*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)).*

Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.

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.
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*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)).*

Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.

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

Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.

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.
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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)).*

Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	
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.	
<i>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)).</i>	
Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	

PUBLIC

## 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
<b>Retail supply licence only</b>	✓	✓	✓			
<b>Network operator licence</b>						
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 <sup>a</sup>	✓	✓	✓	✓	✓	✓

<sup>a</sup> 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.
<p>Events and circumstances may include but are not limited to:</p> <ul style="list-style-type: none"> <li>▼ Government or other investigation of the applicant corporation or related entities</li> <li>▼ Contract terminated</li> <li>▼ 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</li> <li>▼ Any outstanding tax liabilities</li> <li>▼ Any other particulars which are likely to adversely affect the applicant corporation's capacity to undertake the services under the licence (if granted).</li> </ul>	
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 <b>Appendix 7.3.1</b> .
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?
<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)).</i>	
Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	
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.

Commercial in confidence	
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 <b>Appendix 7.4.2</b> .
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 <b>Appendix 7.4.3</b> .
Not applicable. See Flow Systems' separate application to vary its existing retail supplier's licence to include the Shepherds Bay development.	
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 <b>Appendix 7.4.4(a)</b> . Provide financial statements for the last 3 years in <b>Appendix 7.4.4(b)</b> . Where the latest annual financial statements are more than 3 months old, provide the latest available management reports showing: <ul style="list-style-type: none"> <li>▼ a trading statement</li> <li>▼ a profit and loss statement, and</li> <li>▼ a trial balance.</li> </ul>
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)	
Commercial in confidence	
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 <b>Appendix 7.4.5</b> .
Commercial in confidence	
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?
Commercial in confidence	
7.5.3	If required, may we contact the accountant and/or external auditor registered taxation agent to clarify any information provided?
Commercial in confidence	
7.6 Internal accounting records	
7.6.1	Provide bank reconciliations, aged accounts receivable reports, and aged accounts payable reports in <b>Appendix 7.6.1</b> at the dates of: <ul style="list-style-type: none"> <li>▼ The latest management accounting reports (if applicable) and annual financial statements</li> <li>▼ 30 September (most recent)</li> <li>▼ 31 December (most recent)</li> <li>▼ 31 March (most recent), and</li> <li>▼ 30 June (most recent)</li> </ul> for the applicant corporation.
Commercial in confidence	
7.6.2	Provide an extract of the superannuation payable ledger in <b>Appendix 7.6.2</b> for: <ul style="list-style-type: none"> <li>▼ the 12 months ending on the date of the latest annual financial statements, and</li> <li>▼ 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)</li> </ul> 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 <b>Appendix 7.6.3</b> .
Commercial in confidence	

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## 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 neither:

- ▼ a disqualified corporation for the purpose of section 10(3)(a) of the *Water Industry Competition Act 2006* (NSW) (**WIC Act**); nor
- ▼ for the purpose 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), if granted, would authorise.

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 (e.g. 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, for the purpose of section 10(3)(a) of the WIC Act, a disqualified corporation (as defined in the Dictionary of the WIC Act);
5. the applicant corporation is not, for the purpose of section 10(3)(b) of the WIC Act, a related entity of a disqualified corporation (as defined in the Dictionary of the WIC Act) 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), if granted, would authorise;
6. 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, 1 Alfred Street, Sydney, 2000**

On: 26.8.16

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: \_\_\_\_\_

Date: 26.8.16

I, do solemnly and sincerely declare that:

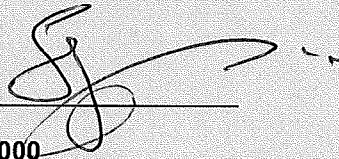
1. I am a director of the applicant (named in the application form accompanying this declaration);
2. the information provided in this application is true and correct to the best of my knowledge;
3. I am aware of the requirements under the *Water Industry Competition Act 2006* (NSW) (WIC Act) for the licence being applied for;
4. the applicant corporation is not, for the purpose of section 10(3)(a) of the WIC Act, a disqualified corporation (as defined in the Dictionary of the WIC Act);
5. the applicant corporation is not, for the purpose of section 10(3)(b) of the WIC Act, a related entity of a disqualified corporation (as defined in the Dictionary of the WIC Act) 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), if granted, would authorise;
6. 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, 1 Alfred Street, Sydney, 2000**

On: 26/8/16

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: \_\_\_\_\_

Date: 26 . viii . 16

## 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.

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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* (NSW) (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: **Terence Leckie**

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

On: 26.8.16

Signature of person making the acknowledgement: \_\_\_\_\_

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

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

On: 26/8/16

Signature of person making the acknowledgement: \_\_\_\_\_



## Attachment A: Summary of appendices

<b>Applicant:</b>	Flow Systems Operations Pty Ltd
<b>Scheme name:</b>	Shepherds Bay
<b>Date:</b>	Rev 2 August 2016

Are the following supporting documents labelled and attached as appendices?

Item	Confirm complete
<b>Part 3: general information</b>	
■ Copies of relevant insurance certificates (Appendix 3.3.1)	
■ Other regulatory approvals/licences (Appendix 3.5.1)	Y
<b>Part 4: network operator (if applicable)</b>	
For <b>drinking water</b> infrastructure	
■ A process flow diagram from source to end use showing infrastructure that is existing or to be constructed, interconnections and customers and/or end users (Appendix 4.1.1)	Y
■ A map of the proposed infrastructure from source to end use showing interconnections and customers and/or end users (Appendix 4.1.3)	Y
■ Where relevant, a copy of any agreements and/or licences to access the source water (Appendix 4.1.6)	Y
■ A preliminary risk assessment for the scheme from source to end use (Appendix 4.1.9)	Y
■ Evidence of the applicant's capacity to implement the 12 elements of the Australian Drinking Water Guidelines Framework (Appendix 4.1.10)	Y
■ Evidence of the applicant's capacity to develop and implement an infrastructure operating plan (Appendix 4.1.12(a))	Y
■ Any environmental study and/or risk assessment (Appendix 4.1.13)	N/A
For <b>non-potable water</b> infrastructure	
■ A process flow diagram from source to end use showing infrastructure that is existing or to be constructed, interconnections and customers and/or end users (Appendix 4.2.1)	Y

Item	Confirm complete
■ A map of the proposed infrastructure from source to end use showing interconnections and customers and/or end users (Appendix 4.2.3)	Y
■ Where relevant, a copy of any agreements and/or licences to access the source water (Appendix 4.2.6)	Y
■ A preliminary risk assessment for the scheme from source to end use (Appendix 4.2.10)	Y
■ Evidence of the applicant's capacity to implement the 12 elements of the Australian Guidelines for Water Recycling Framework (Appendix 4.2.11)	Y
■ Evidence of the applicant's capacity to develop and implement an infrastructure operating plan (Appendix 4.2.13)	Y
■ Any environmental study and/or risk assessment (Appendix 4.2.14)	Y
<b>For sewerage infrastructure</b>	
■ A process flow diagram from collection to disposal or reuse showing infrastructure that is existing or to be constructed, and interconnections (Appendix 4.3.1)	Y
■ A map of the proposed infrastructure from collection to disposal or reuse showing interconnections (Appendix 4.3.3)	Y
■ A summary report of any wastewater characterisation or catchment studies (Appendix 4.3.8)	Y
■ A preliminary risk assessment for the scheme from collection to disposal (Appendix 4.3.9)	Y
■ Evidence of the applicant's capacity to develop and implement an infrastructure operating plan (Appendix 4.3.10)	Y
■ Any environmental study and/or risk assessment (Appendix 4.3.12)	Y
■ Where relevant, a copy of a soil capability assessment (Appendix 4.3.13)	Y
<b>Pat 5: retail supplier (if applicable)</b>	
<b>For the supply of water</b>	
■ Where relevant, a copy of any agreements and/or licences to access the source water (Appendix 5.1.2)	N/A
■ A preliminary risk assessment for the retail activities related to the scheme (Appendix 5.1.5)	N/A
■ Evidence of the applicant's capacity to develop and implement a retail supply management plan (Appendix 5.1.7)	N/A

Item	Confirm complete
For the <b>provision of sewerage services</b>	
■ A preliminary risk assessment for the retail activities related to the scheme (Appendix 5.2.4)	N/A
■ Evidence of the applicant's capacity to develop and implement a retail supply management plan (Appendix 5.2.6)	N/A
<b>Part 6: applicant experience and systems</b>	
For a <b>network operator</b> (if applicable)	
■ An organisational diagram (Appendix 6.1.1)	Y
■ Position descriptions for each of the key personnel positions (Appendix 6.1.3)	Y
For a <b>retail supplier</b> (if applicable)	
■ An organisational diagram (Appendix 6.2.1)	Y
■ Position descriptions for each of the key personnel positions (Appendix 6.2.3)	Y
<b>Part 7: financial capacity</b>	
■ Evidence of any financial guarantees or commitment of financial support (Appendix 7.1.1)	
■ Where relevant, projected cash flows for minimum 5 years and key financial modelling assumptions (Appendix 7.3.1)	
■ Where relevant, the guarantee or cross deed of indemnity provided by the parent entity, and financial statements for the parent entity for the last 3 years (Appendix 7.4.2)	
■ Where relevant, evidence of alternative funding arrangements such as a letter, guarantee or cross deed of indemnity provided by the guarantor (Appendix 7.4.3)	N/A
■ Where relevant, tax return for the applicant for the last 3 years (Appendix 7.4.4(a))	
■ Where relevant, financial statements for the applicant for the last 3 years (Appendix 7.4.4(b))	
■ Where relevant, the applicant's credit rating memorandum (Appendix 7.4.5)	N/A
■ Where relevant, bank reconciliations, aged accounts receivable reports, and aged accounts payable reports (Appendix 7.6.1)	
■ Where relevant, extracts of the superannuation payable ledger (Appendix 7.6.2)	



Item	Confirm complete
<ul style="list-style-type: none"> <li>■ Where relevant, bank statements for the 3 months to date or annual financial statements (Appendix 7.6.3)</li> </ul>	

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