IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Licence Application Form

Network Operator and Retail Supplier Licence
Water Industry Competition Act 2006 (NSW)

Applicant: Flow Systems Pty Ltd
Scope: Variation to Retail Supplier Licence 13_001R
Scheme: Shepherds Bay
Submission Date: September 2019
Version: 2
Type: PUBLIC

Application
Water

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Disclaimer

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The Independent Pricing and Regulatory Tribunal (IPART)

IPART provides independent regulatory decisions and advice to protect and promote the ongoing interests of the consumers, taxpayers and citizens of NSW. IPART's independence is underpinned by an Act of Parliament. Further information on IPART can be obtained from IPART's website: https://www.ipart.nsw.gov.au/Home.

Tribunal Members

The Tribunal members are:

Dr Peter J Boxall AO, Chair

Mr Ed Willett

Ms Deborah Cope

Enquiries regarding this document should be directed to a staff member:

Erin Cini	(02) 9113 7778
Robert Aposhian	(02) 9290 8406

Contents

1 Introduction

The *Water Industry Competition Act 2006* (NSW) (WIC Act) came into force on 8 August 2008 and includes provisions for the licensing of private sector water utilities.

Under the WIC Act, the responsible portfolio Minister[1] (the Minister) is in charge of making decisions on granting or refusing the following licences:

- A **network operator's licence** for constructing, maintaining and operating water industry infrastructure
- A **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 for these licences. It is also responsible for the ongoing administration and enforcement of these licences.

1.1 Who should complete this form?

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

A copy of the WIC Act and the Water Industry Competition (General) Regulation 2008 (WIC Regulation) are available on the NSW Government's legislation website at www.legislation.nsw.gov.au.

You should complete this form according to the instructions outlined in the Application Form Guidance Document: Network Operator and Retail Supplier Licence, Water Industry Competition Act 2006 (NSW) **(**the Guidance Document**)**. The Guidance Document and the Application Form are available on our website at www.ipart.nsw.gov.au.

Direct any questions to the Director, Regulation and Compliance via email, wica@ipart.nsw.gov.au or telephone, (02) 9113 7778.

1.2 How this form is structured

This form is structured into the following parts:

- Part 1 provides an introduction to the form
- Part 2 contains the Statutory Declaration that must accompany the application form
- Part 3 contains the Acknowledgement that must accompany the application form

1 Currently the Minister for Energy and Utilities, December 2018.

- Part 4 contains the licence application form schedules. These schedules are:
  - A) Applicant corporation information (to be completed by all applicants corporation)
  - B) Financial capacity (to be completed by all applicant corporations)
  - C) Network operator's licence – technical capacity
  - D) Retail supplier's licence – technical capacity – water supply
  - E) Retail supplier's licence – technical capacity – sewerage services.

2 Statutory declaration

A statutory declaration must be completed by all applicant corporations and submitted with their application.

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
- 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, for the purpose of section 10(3)(b) of the WIC Act.

A statutory declaration must be certified by a NSW authorised witness from the following list:

- 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, or
- a person by law authorised to administer an oath (eg, authorised witnesses in other jurisdictions).

I, do solemnly and sincerely declare that:

1. I am a director~~/the Chief Executive Officer/the sole director and Chief Executive Officer [delete as applicable]~~ of the applicant corporation (named in this application form).
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 corporation (named in this application form).

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:

Cameron Renwick Evans

Title of person making the declaration:

Director, Flow Systems Pty Ltd

Signature of person making the declaration:

Declared at [place]: NORTH SYDNEY

On [date]: 24/09/2019

In the presence of an authorised witness, who states:

I *[insert name of authorised witness]*

MARK SARAKIS,

a *[insert qualification to be authorised witness]*

NSW LEGAL PRACTITIONER NO. 37466,

certify the following matters concerning the making of this statutory declaration by the person who made it:

[*cross out any text that does not apply]

1. *I saw the face of the person ~~or *I did not see the face of the person because the person was wearing a face covering, but I am satisfied that the person had a special justification for not removing the covering~~.
2. *I have known the person for at least 12 months ~~or *I have confirmed the person's identity using an identification document and the document I relied on was:~~

[describe identification document relied on] N/A

Signature of authorised witness:

Date: 24/09/2019

I, do solemnly and sincerely declare that:

1. I am ~~a director/~~the Chief Executive Officer (Acting)~~/the sole director and Chief Executive Officer [delete as applicable]~~ of the applicant corporation (named in this application form).
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 corporation (named in this application form).

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:

Robert Charles Gittins

Title of person making the declaration:

Chief Executive Officer (Acting), Flow Systems Pty Ltd

Signature of person making the declaration:

Declared at [place]: Sydney

On [date]: 25 September 2019

In the presence of an authorised witness, who states:

I *[insert name of authorised witness]*

Jonathan CM Gunn

a *[insert qualification to be authorised witness]*

Legal practitioner admitted in NSW PN 11246

certify the following matters concerning the making of this statutory declaration by the person who made it:
[*cross out any text that does not apply]

1. *I saw the face of the person ~~or *I did not see the face of the person because the person was wearing a face covering, but I am satisfied that the person had a special justification for not removing the covering.~~
2. *I have known the person for at least 12 months ~~or *I have confirmed the person's identity using an identification document and the document I relied on was~~

[describe identification document relied on]

Signature of authorised witness: Date: 25 September 2019

3 Acknowledgement

All applicant corporations must sign an acknowledgement of IPART's intention to give copies of the application to relevant stakeholders.

An acknowledgement should be provided by:

- Company secretary and a director
- Two directors
- In the case of a sole director, the sole director, or
- Such other person that IPART agrees may provide the acknowledgement.

Acknowledgement

The applicant corporation (as named in the application form accompanying this acknowledgement) acknowledges that IPART will give a copy of the applicant corporation'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)
- Minister administering the *Public Health Act 2010* (NSW)
- Minister administering Chapter 2 of the *Water Management Act 2000* (NSW)
- Minister administering the *Environmental Planning and Assessment Act 1979* (NSW)
- 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 streamlining the processing of your application, indicate below whether or not 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 who have the 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:
Cameron Renwick Evans

Title of person making the acknowledgement:
[Director / Company Secretary]
Director, Flow Systems Pty Ltd

On [date]: 24/09/2019

Signature of person making the acknowledgement:

Name of person making the acknowledgement:
Robert Charles Gittins

Title of person making the acknowledgement:
[Director / Company Secretary]
Chief Executive Officer (Acting), Flow Systems Pty Ltd

(pursuant to an email from IPART Director dated 6 June 2019, agreeing to this acknowledgement being provided by the Chief Executive Officer along with a director)

On [date]: 25/09/2019

Signature of person making the acknowledgement:

4 Licence application form schedules

All applicant corporations must complete the licence application form schedules relevant to its application for a licence.

Template documents to assist applicant corporations in completing the licence application form schedules are available in the Guidance Document.[2]

There are two types of licence covered by the licence application form schedules:

- A network operator's licence
- A retail supplier's licence.

4.1 Network operator's licence

Under the WIC Act, a network operator's licence is required by proponents who wish to construct, maintain and operate water industry infrastructure. This includes all infrastructure required to produce, filter, store, convey, reticulate or treat water and sewage, and to dispose of any waste produced. Water includes potable (drinking) water and non-potable (recycled) water.

Applicant corporations applying for a network operator's licence must complete the following schedules (see Table 4.1):

A. Applicant corporation information

B. Financial capacity

C. Network operator's licence – technical capacity.

4.2 Retail supplier's licence

Under the WIC Act a retail supplier's licence is required by proponents who wish to supply water or provide sewerage retailing services.

Applicant corporations applying for a retail supplier's licence must complete the following schedules (see Table 4.1):

A. Applicant corporation information

B. Financial capacity.

2 IPART, *Application Form – Guidance Document,* [March 2019]. Located on the IPART website, https://www.ipart.nsw.gov.au/files/sharedassets/website/shared-files/licensing-administrative-wica-licence-assessment-improvement-project/working-papers-process-general/wic-act-licence-application-form-%E2%80%93-guidance-document-%E2%80%93-march-2019.pdf

Applicant corporations applying for a retail supplier's licence that will supply water (including drinking water and/or non-potable water) must also complete the following schedule (see Table 4.1):

D. Retail supplier's licence – technical capacity – water supply.

Applicant corporations applying for a retail supplier's licence that will supply sewerage services must also complete the following schedule (see Table 4.1):

E. Retail supplier's licence – technical capacity – sewerage supply.

Applicant corporations applying for a retail supplier's licence that will supply both water and sewerage services must also complete both of schedules D and E (see Table 4.1).

Table 4.1 Completing the licence application form schedules

	Licence application form schedule				
Applies to	**A**	**B**	**C**	**D**	**E**
Network operator's licence	✓	✓	✓		
Retail supplier's licence					
Water supply (drinking water and/or non-potable water)	✓	✓		✓	
Sewerage services	✓	✓			✓
Both water supply and sewerage services	✓	✓		✓	✓

A Applicant corporation information

Table A.1 Corporation details

Provide applicant corporation's name, ABN/ACN, registered and business addresses.	
Corporation name	Flow Systems Pty Ltd (Flow Systems)
ABN	28 136 272 298
ACN	136 272 298
Address of registered office	Suite 2, Level 40 259 George Street, Sydney NSW, 2000
Address of principal place of business	Suite 2, Level 40 259 George Street, Sydney NSW, 2000

Table A.2 Contact details

Provide primary and secondary contacts, with all relevant details (ie, names, addresses, email and telephone/mobile phone contacts).	
Primary Contact	
Full name and position/title	Kirsten Evans Executive Manager, Risk and Compliance
Business telephone number Mobile number Email	
Postal address	PO Box R455, Royal Exchange, Sydney NSW, 1225
Secondary Contact	
Full name and position/title	Darren Wharton Executive Manager, Project Delivery
Business telephone number Mobile number Email	
Postal address	PO Box R455, Royal Exchange, Sydney NSW, 1225

Table A.3 Directors

Provide the following information (details may be included in an Appendix A3).	
a) The names, position title, date of birth and address of the Chief Financial Officer, Chief Executive Officer and any other persons concerned in the management of the applicant corporation.	
For each person	
Full name	Cameron Renwick Evans
Position title	Director
Date of birth	
Residential address	
Full name	Raymond John Neill
Position title	Director
Date of birth	
Residential address	
Full name	Jonathan Michael Sellar
Position title	Director
Date of birth	
Residential address	
Full name	Robert Charles Gittins
Position title	Chief Executive Officer (Acting)
Date of birth	
Residential address	
b) A chart outlining the relationship between the applicant corporation and its ultimate Australian holding company, including the names of any intermediate holding companies. **Attach the organisation chart as Appendix A3(b).**	
APPENDICES • Appendix A3(b) Flow Systems Ownership Structure (public)	
c) Resumes for CEO (or equivalent) and relevant key managers outlining relevant local and international experience in the water industry and matching role descriptions. **Attach resumes/CVs/experience and role descriptions as Appendix A3(c).**	
APPENDICES • Appendix A3(c) Position Descriptions	
d) Referees for relevant schemes. **Attach the list of referees/schemes as Appendix A3(d).**	
APPENDICES • Appendix A3(d) Scheme overview and retail supplier experience	

Table A.4 Scheme summary

Provide scheme details below.	
Scheme name	Shepherds Bay (**Scheme**)

Location (include local government area, Lot and DPs)

The Scheme is located in the suburb of Meadowbank, 15km north-west of Sydney Central Business District (CBD). The scheme is within the City of Ryde Local Government Area (LGA). The Scheme comprises:

1. the construction, operation and maintenance of drinking water, sewerage and recycled water infrastructure within the Development; and
2. the delivery of resulting sewerage and drinking water and recycled water supply services to end user customers.

In relation to 1, Flow Systems has established Flow Systems Operations Pty Ltd (**FSO**). Network Operator's Licence number 17_042 (**Existing NOL**) under the *Water Industry Competition Act 2006* (**WICA**) was granted to FSO on the 13th October 2017 to provide recycled water, drinking water and sewerage services to the Shepherds Bay development precinct (the **Development**).

An application for the variation to the construction, operation and maintenance of the water and sewerage infrastructure to include the Stage 7A precinct of the Development located at 102-104 Bowden Street Meadowbank and the sewage pumps at each building in the precinct (**NOLV1 Application**) was submitted to IPART by FSO to accompany this application.

In relation to 2, Flow Systems holds a retail supplier's licence (Licence No. 13_001R most recently amended 13th October 2017, **RSL**) and applies herein for its variation to extend the provision of sewerage, drinking water and recycled water services to end user customers in the development area proposed in the NOLV1 Application.

The lot identifiers for the Stage 7A precinct within which FSO applies to extend sewerage, drinking water and recycled water services are:

Lot	Plan
1	DP 730371
5	DP 12534

Note that with development of the buildings within the existing Scheme area, lot identifiers for the Existing Scheme area of operations has now changed and may yet continue to change. The current lot identifiers for the Existing RSL area are:

Lot	Plan
7	DP 1239998
	SP 98936
	SP 95296
	SP 95272
9	DP 1239999
10	DP 1239999
	SP 98937
4	DP 548406
7	DP 1242853
6	DP 1242853
17	DP 7130
	SP 97601
5	DP 1242853
	SP 97600

Provide scheme details below.

Flow Systems will rely on FSO to ensure access to services delivered through FSO in order to provide sewerage, drinking water and recycled water services to end user customers. Flow Systems, and its subsidiary Meter 2 Cash Solutions Pty Ltd, will provide all related customer services including billing, customer enquiries, complaints handling, debt collection, and tariff setting.

APPENDICES

- Appendix A4(a) Proposed NOLV and RSLV area

Describe the scheme:

Provide a summary of each type of product to be captured by the scheme (eg, drinking water, recycled water, sewage, stormwater), the volumes generated and the treatment process to be used, including average and maximum capacity.

FSO will be constructing, operating and maintaining drinking water, recycled water and sewerage infrastructure and Flow Systems will provide the services.

Drinking Water

Flow Systems will access the drinking water supply from FSO's network for the purposes of delivering drinking water services to its end-user customers to the Stage 7A development area.
Flow Systems will source treated drinking water from Sydney Water pursuant to the existing Utility Services Agreement (USA) between the parties.

Sydney Water has identified (via its issue of Notices of Requirements to the Developer) that there is adequate capacity in the drinking water system to service both drinking water and recycled water end uses.
Using the more conservative, WSAA Code demands, the ultimate drinking water needs of the Development to be drawn from Sydney Water's supply network are as follows.

Parameter	Without Stage 7A			Stage 7A			Proposed		
	Resi	Comm	Total	Resi	Comm	Total	Resi	Comm	Total
Connections	1742	9	1751	43	0	43	1785	9	1794
Average Day Demand (kL/d)	652.9	7.0	659.9	16.1	0.0	16.1	669.0	7.0	676.0
Max Day Demand (kL/d)	1045.2	15.4	1060.6	25.8	0.0	25.8	1071.0	15.4	1086.4

To service the recycled water needs of the Development before the water recycling facility is constructed and commissioned, additional drinking water according to the demands in the Recycled Water section below will also be drawn from Sydney Water's supply network.

Recycled Water

The recycled water catchment is the Development area. Wastewater collected from predominantly residential households will be delivered into a water recycling facility to be known as the Shepherds Bay Local Water Centre (**LWC**) via a flow balance tank which forms an integral part of the LWC itself. This LWC was described and approved under the Existing NOL and no changes to the treatment process are proposed.
The Stage 7A transfer pump station will be fitted with an overflow connection which will divert excess flows to Sydney Water's wastewater main in Nancarrow Avenue. The LWC has the capacity to top up recycled water storage with drinking water when recycled water demand exceeds that available.

The impact on recycled water demand of the addition of Stage 7A is as follows:

Parameter	Without Stage 7A			Stage 7A			Proposed		
	Resi	Comm	Total	Resi	Comm	Total	Resi	Comm	Total
Connections	1742*	9	1751	43*	0	43	1785*	9	1794
Average Day Demand (kL/d)	383.5	38.4	421.9	9.5	0.0	9.5	393.0	38.4	431.4
Max Day Demand (kL/d)	696.8	84.5	781.3	17.2	0.0	17.2	714.0	84.5	798.5

Provide scheme details below.

Once the LWC at Shepherds Bay is constructed and operational, there will be two available sources of water for the recycled water.

- Sewage is collected from each building's sewage pump station (SPS) and transferred via sewage rising mains to the Local Water Centre (LWC) to be located in the basement of Stage 3 of the Development, in the newly created lot 3 of deposited plan 1242853. The conversion of raw sewage to recycled water is approximately 80% when reverse osmosis is used.
- Once recycled water is being produced and supplied by the LWC, if recycled water demand exceeds the supply of raw sewage and prolonged use depletes the recycled water storages, then top up with drinking water will be used to supplement supply.

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.

Sewerage

End user customers within the Shepherds Bay development area will receive sewerage services from Flow Systems via its access to FSO's sewerage collection and treatment network.

The licensed sewerage infrastructure within the boundary of the Existing NOL area of operations is constructed and operational for stages 2, 3, 4, 5, 6, 7, 8 and 9.

The total Development sewerage infrastructure consists of:

- domestic pressure sewer pumping systems at each building in the Development (to include Stage 7A as part of this NOLV1 Application)
- pressure sewage reticulation system connecting each building to the LWC
- gravity sewer overflow pipes from each building to Sydney Water's gravity sewerage network

Phase 1 – Until the LWC in Stage 3 is constructed, commissioned and approved for operation, the buildings in the Development will 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 continue to 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, or discharged at each building's closest discharge point to the Sydney Water sewerage system.

FSO will own, operate and maintain the estate sewage collection reticulation infrastructure in the street. Pipes owned by the Owners Corporation but operated and maintained by FSO will transport sewage from the Customer Connection Points to FSO's sewage reticulation main inside the Development area and/or Sydney Water's sewage reticulation main outside the Development area as applicable under the relevant phase above.

The Developer will construct all sewerage pipework in the Development area and has already constructed the tanks and plantroom that will house the proposed LWC, all to FSO's specification and QA procedures. FSO will install and commission the mechanical and electrical equipment that forms the water recycling facility. FSO will own, operate and maintain the water recycling facility.

FSO seeks to licence all of the sewerage infrastructure which it proposes to own, operate or maintain extended to also include the sewage pumps at each building.

Sewage flows available from this source are as follows:

Parameter	Without Stage 7A			Stage 7A			Proposed		
	Resi	Comm	Total	Resi	Comm	Total	Resi	Comm	Total
Connections	1742	9	1751	43	0	43	1785	9	1794
Average Dry Weather Flow (L/s)	5.22	0.1	5.23	0.1	0.0	0.1	5.23	0.1	5.24
Peak Dry Weather Flow (L/s)	10.7	0.2	10.9	0.3	0.0	0.3	11.0	0.2	11.2
Total Flow (kL/day)	439.0	9.0	448.0	12.0	0.0	12.0	451.0	9.0	460.0

This source could provide at ultimate development an average of 460 kL/day of raw sewage. The conversion of raw sewage to recycled water is approximately 80% when reverse osmosis is used so 460kL/day of sewage can produce 368kL/day of recycled water. The biological treatment capacity of the LWC will ultimately be 600 kL/day.

Provide scheme details below.

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.

APPENDICES

Describe end uses

The authorised purposes / end uses for the recycled water licensed under the Existing NOL are:

- Toilet flushing
- Clothes washing
- Cooling tower top up
- Car washing
- Water features
- Irrigation (including public open space.irrigation)

The NOLV1 Application and this RSLV application seek an expansion of those authorised purposes / end uses for the recycled water to also include:

- General washdown (for residential and industrial use on hard surfaces)
- Dust suppression
- Street cleaning
- Process water at the recycled water treatment plant (process water would not be provided to or retailed to any end user customers).

Describe effluent/ waste products and disposal options (include volumes generated)

Provide scheme details below.

The treatment infrastructure is already licensed and approved for construction, operation and maintenance within the Existing NOL and no further treatment processes or waste streams from the treatment processes are relevant to this RSLV application.

FSO is not proposing to treat the drinking water which will be bulk supplied to FSO by Sydney Water and therefore there are no waste products / disposal options associated with drinking water.

There will be three waste streams generated by the LWC in the process of converting sewage to recycled water, 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 waste agreement.
- 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.

The water servicing strategy and its Stage 7A addendum, indicate that Stage 7A would add 12kL/day of sewage for a total of 460kL/day of raw sewage to be provided by the Development. Using reverse osmosis, approximately 20% is lost through waste in treating the sewage to recycled water and so 2.4kL/day of brine waste will be added by Stage 7A.

Shepherd Bay's LWC is designed to treat up to 600 kilolitres per day of sewage with about 20% lost through waste. This is equal to up to approximately 120 kilolitres per day of generated waste at maximum capacity.

During operation of the LWC, screening debris is collected and disposed off-site via a licensed waste disposal contractor.

List of all planning, environmental and other legislative approvals already obtained and those that are still required

Flow Systems holds the RSL in relation to provision of retail services to end user customers at each of the following developments:

- Box Hill
- Central Park
- Cooranbong
- Discovery Point
- Green Square
- Huntlee
- Pitt Town
- Shepherds Bay
- Wyee.

Further, the NOLV1 Application for the construction, operation and maintenance of relevant water and sewerage infrastructure to Stage 7A has been submitted by FSO to IPART. This contains references to regulatory approvals relevant to the drinking water, recycled water and sewerage network infrastructure to be constructed and operated by FSO.

No further regulatory approvals are required to supply water or provide sewerage retailing services.

List the staging of works, including a program of the main stages

Provide scheme details below.

The treatment infrastructure for the Shepherds Bay area is already licensed for construction, operation and maintenance within the Existing NOL.

The reticulation for the Shepherds Bay area is already licensed and approved for commercial operation and retail supply within the Existing NOL and RSL.

Retail services will be provided to the NOLV1 area from the time that the NOLV1 Application and this RSLV is granted and infrastructure has been constructed. Services will be provided to the new Stage 7A residential lots which will be under construction in 2019 and expected to be occupied in early 2020. Commencement of service supply is also expected to commence at the date of occupation of the building in early 2020.

The drinking water reticulation network would be connected to Sydney Water's drinking water supply. Recycled water reticulation in Stage 7A will be constructed in late 2019 but will be initially serviced by drinking water until the Local Water Centre (LWC) is constructed in 2020 and fully operational in 2021.

List the total number and type of customers to be serviced

Flow Systems separately holds retail supplier's licence 13_001R that covers the Shepherds Bay NOL area. It is estimated that the total number of residential apartments expected to be serviced is 1,785 plus 9 retail/commercial customers. Recycled water is not metered at the individual apartments. Residential customers (apartment owners) will see itemised charges for:

- Drinking water service fee
- Drinking water usage
- Recycled water service fee
- Recycled water usage – prorated, based on drinking water usage
- Wastewater service fee.

Customers in the proposed Stage 7A will receive the same service as those in the existing part of the Shepherds Bay Development.

Describe the preferred timeline for the licensing of each stage of the work

This application to vary the RSL to expand the current area of operations is required by late 2019 to allow commencement of services supply to Stage 7A when it is being occupied in early 2020.

Table A.5.1 Experience – Network Operator

Provide the following information (details may be included in Appendices A5.1(a) and A5.1(b)).	
a) Describe the applicant corporation's current experience in (and, where relevant, the nominated third parties' experience in): – Construction, maintenance and operation of water and/or other utility infrastructure such as gas, electricity or telecommunications – Environmental management activities relevant to the construction of water infrastructure. Evidence may include: extracts from environmental impact assessments, construction environmental management plans, operational environmental management plans, environmental management systems. This can include interstate and international experience.	Not applicable to this RSLV application.
b) Provide resumes/CVs for key personnel (including nominated third parties) outlining relevant local and international experience and necessary skills for each of the following activities: – Construction, operations and maintenance – Environmental management.	Not applicable to this RSLV application.

Table A.5.2 Experience – Retail Supplier

Provide the following information (details may be included in Appendices A5.2(a) and A5.2(b)).	
a) Describe the applicant corporation's current experience in (and, where relevant, the nominated third parties' experience in): – the supply of water or the provision of sewerage services. Also outline any previous experience in the retailing of other services such as gas, electricity or telecommunications.	**Provide full and complete details in Appendix A5.2(a).** Flow Systems holds RSL No. 13_001R in relation to the supply of the services outlined below: • Box Hill - recycled water and sewerage services • Central Park Water - drinking water, recycled water and sewerage services • Cooranbong Water - drinking water, recycled water and sewerage services • Discovery Point Water - drinking water, recycled water and sewerage services • Green Square – recycled water only • Huntlee – drinking water, recycled water and sewerage services • Pitt Town Water – recycled water and sewerage services • Shepherds Bay – drinking water, recycled water and sewerage services • Wyee Water - drinking water, recycled water and sewerage services Wholly-owned subsidiaries of Flow Systems also hold the following NOLs: • Flow Systems Operations Pty Ltd: NOL No. 16_037 (Box Hill) • Central Park Water Pty Ltd: NOL No. 12_022 • Cooranbong Water Pty Ltd: NOL No. 15_033 • Discovery Point Water Pty Ltd: NOL No. 13_025 • Green Square Water Pty Ltd: NOL No. 15_031 • Huntlee Water Pty Ltd: NOL No. 15_030 • Pitt Town Water Pty Ltd: NOL No. 10_014 • Flow Systems Operations Pty Ltd: NOL No. 17_042 (Shepherds Bay) • Wyee Water Pty Ltd: NOL No. 14_026 Flow Systems is also an authorised energy retailer approved by the Australian Energy Regulator (AER). As at 31 March 2019, Flow Systems is retailing energy services to 2,453 residential customers, 393 small businesses and 14 large customers with a pipeline of several thousand additional customers. **APPENDICES** • Appendix A3(d) Flow Systems water utility schemes
b) Provide resumes/CVs for key personnel (including nominated third parties) outlining relevant local and international experience and necessary skills for each of the activities to be licensed: – Retailing activities relevant to operating a utility.	**Provide full and complete details for relevant personnel in Appendix A5.2(b).** **APPENDICES** • Appendix A3(c) Position Descriptions

Table A.6 Corporate structure

Provide an organisational management chart and an ownership chart in Appendix A6.

Describe the structure of the applicant corporation, including a list of the entities that have an ownership interest in the applicant corporation, whether legal or equitable. The charts should clearly show how the corporation is managed, and all entities that have an ownership interest in the applicant corporation.

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- Appendix A3(b) Flow Systems Ownership Structure (public).
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Table A.7 Disqualified corporations

Provide the completed disqualified corporations and related entities chart in Appendix A7.

Provide additional information, **as described in Appendix B of the Guidance Document,** to allow a search for and assessment of each Director, the applicant corporation, and any related entities that would have a direct or indirect interest in, or influence on, the carrying out of the activities that the licence would authorise, if granted.

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Table A.8 Insurances

Attach copies of all relevant insurance certificates and relevant policy schedules and policy wording (eg, Product Disclosure Statements) in Appendix A8.

a) Describe the types of insurance the applicant corporation has or intends to obtain for the activities to be licensed (including the level of cover (amount) the applicant corporation has or intends to have) for the:
   - Construction phase
   - Operations phase.

Flow Systems' insurance is summarised by type, provider and coverage amount below.

Commercial in confidence

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b) Where available, provide:
   - Certificates of currency for all existing insurance policies
   - Relevant policy schedules and policy wording for current and future policies. Ensure the inclusions and exclusions of the policies are mentioned.

Commercial in confidence

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c) Include a summary of itemised inclusions and exclusions for each type of insurance the applicant corporation holds.

Commercial in confidence

d) Explain why the type and level of cover provided or proposed by the applicant corporation's insurer is sufficient and appropriate for the size and nature of the applicant corporation's proposed activities across all phases of the scheme. Your explanation should show how the proposed insurance policies appropriately cover the risks of the applicant corporation's risk assessment. You should also obtain a letter or report from an insurance broker to support your explanation on the appropriate level of cover for the applicant corporation's scheme.

Arthur J. Gallagher (Aus) Limited (Gallagher) (formerly 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 has been conducted in satisfaction of IPART's standard licensing condition, prior to the Minister's approval for commercial operation for FSO to operate the scheme in 2017.

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e) If the corporation applying for a licence is a subsidiary of another corporation and is covered by the parent corporation's insurance policy/ies, provide certificates of currency and relevant policy schedules and policy wording demonstrating that the subsidiary will be covered by the parent company's policies.

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Table A.9 Other relevant information

Provide any additional relevant information in Appendix A9.
Provide other relevant information to outline the applicant corporation's organisational capacity to undertake the activities that the licence will authorise. These may include: ▼ Business and management systems, and whether they are certified or consistent with an appropriate standard ▼ Business risk assessments ▼ Cross-organisational guarantees and third party agreements.
APPENDICES • Appendix A9(c) ISO verification

Table A.10 Third party activities

If the applicant corporation intends to use third parties to undertake any **significant** activities for which the applicant corporation is seeking a licence, (eg, construction of the reticulation network, management of the billing system), provide their details below. If there are multiple third parties, provide the details for each party as well as an explanation of the activities it will be undertaking.	
Corporation name	
Meter 2 Cash Solutions Pty Ltd	
ABN/ARBN	**ACN**
51 130 008 196	130 008 196
Corporation's registered office address	
31 Kate Street, Nundah, Queensland 4031	
Provide a detailed description of the activities that the third party, named above, will undertake on the applicant corporation's behalf.	
Meter 2 Cash Solutions Pty Ltd is a wholly owned subsidiary of Flow Systems. Meter 2 Cash Solutions provides customer service, billing and collections activities on behalf of Flow Systems.	

B Financial capacity

The responses to the following questions will be used to assess the applicant corporation's financial capacity to undertake the activities the licence will approve (WIC Act section 10(4)(a)).

See the Guidance Document for further information on our assessment of financial capacity.

Table B.1 Financial capacity of the applicant corporation

How will the applicant corporation's activities be financed?
Is the applicant corporation a new corporation, or does it have a financial history? (An applicant corporation may not have a financial history if it is a newly formed corporation).
If the applicant corporation is a **newly formed corporation** (ie, without financial history), provide the following: ▼ Copies of any financial guarantee, deed of indemnity or any other instrument that supports the applicant corporation's financial capacity. ▼ If a guarantee is to be provided by a parent or related entity, provide financial statements for the guarantor entity for the latest three financial reporting years. ▼ If the applicant corporation 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. Also provide a copy of any guarantee or deed of indemnity provided by an entity, such as a holding company or Director. Provide financial statements for the latest three financial reporting years demonstrating the financial viability of the guarantor.
For all applications provide (for the applicant corporation or a guarantor): ▼ The latest three years of historical financial statements, including: – Profit and Loss Statement, also called the Statement of Financial Performance – Balance Sheet, also called the Statement of Financial Position – Cash Flow Statement, also called the Statement of Cash Flows.
▼ To ensure that financial reports are accurate the accounts should be accompanied by: – A registered company auditor's report confirming the accounts are accurate, and/or – Tax return documents for the last three years which can be used to verify the income and expenses in the financial statements.
▼ Where the reporting date of the most recent financial statements is more than three months prior to the application date, provide management accounts (eg, a profit and loss statement, trial balance or trading statement). **These should be supported by the most recent bank reconciliation and a copy of the relevant bank statement.**
▼ From the most recent accounts, an aged creditors report.
▼ From the most recent accounts, an aged debtors report.
▼ A list of suppliers, identifying any major or critical suppliers.
▼ A list of customers, identifying any major or critical customers.
▼ A three year forecast of profitability for the applicant corporation, including a forecast Profit and Loss Statement, Balance Sheet and Cash Flow Statement.
Provide all requested information in Appendix B1. **APPENDICES** •

Table B.2 Financial viability of the scheme

What is the projected financial performance of the scheme?
For the scheme, provide at least ten years of detailed forecast cash flows. The cash flow forecast should include:
▼ Major income and expense items including (as relevant): – Customer fees and charges income – Connection fees income – Developer contributions/subsidies – Capital expenditure – Operating and management costs – Bulk services charges and/or network operator fees and charges – Overheads and management fees – Sinking funds/contingency – Compliance costs.
▼ If the scheme is to be conducted in stages, the cash flow forecast should reflect this.
▼ Any provisions made for unexpected operational costs or non-planned maintenance.
▼ Key assumptions, including forecast (as relevant): – Lot sales – Occupancy rates or any other drivers of cash inflows – Rates paid for bulk services (eg, bulk water or sewerage) – Waste disposal fees, and/or – Any other relevant key assumptions.
Provide the information in spreadsheet form (eg, Excel spreadsheet) in Appendix B2. **APPENDICES** •

Table B.3 Contextual information

Provide other relevant information that may inform the assessment of financial capacity of the applicant corporation.
For the applicant corporation, in addition to information already provided regarding financial support (eg, guarantees, debt and equity), provide:
▼ Where the licensee is a part of a corporate group, the corporate group structure (including parent corporate group and details of ownership)
▼ Equity structure (ie, equity holders, types of shares, options, quantities of shares and options etc)
▼ Agreements, contracts or covenants that may impact the financial capability of the licensee, and/or
▼ Any other information that may inform the assessment of financial capacity of the applicant corporation.
Provide all requested information in Appendix B3. **APPENDICES** • Appendix A3(b) Flow Systems ownership structure (public)

Table B.4 Estimated price for services

For retail supplier licence applications, how much will the applicant corporation charge for its services?
Where the applicant corporation is applying for a **retail supplier's licence to supply water or provide sewerage service to residential households**, provide:
▼ Ten year forecasts of the cost to the licensee, per household, per year, to supply water and/or provide sewerage services (as is relevant).
▼ Details of how this cost would be recovered - that is, what are the details of who is expected to pay fees and charges (eg, customers, developers and/or grants and subsidies)?
▼ The proposed price levels and structure for the first ten years of operation.
Provide all requested information in Appendix B4. Current pricing is available via the Cooranbong Water website at: Homeowners: https://askus.flowsystems.com.au/hc/en-us/articles/203665080--Cooranbong-Home-Owners **APPENDICES** •

Table B.5 Contacts

For all applications, provide contact details for an authorised representative to clarify financial information provided in the application.
Does the applicant corporation have an accountant? If yes, provide the accountant's contact details.
No, accounting is managed internally
Does the applicant corporation have an external auditor? If yes, provide the external auditor's contact details.
Yes. Deloitte.
If required, may we contact the accountant and/or external auditor to clarify any information provided?

Table B.6 Other information

Provide superannuation information as noted below.
For the applicant corporation, provide an extract of the superannuation payable ledger for the: ▼ 12 months ending on the date of the latest annual financial statements ▼ Period commencing on the date of the latest annual financial statements and ending on the date of the latest management accounting reports (if applicable).
Provide all requested information in Appendix B6. **APPENDICES** •

C Network operator's licence – technical capacity

The responses to the following questions will be used to assess the applicant corporation's technical capacity to undertake the activities the licence will approve (Act s.10(4)(a)).

See the Guidance Document for further information on our assessment of technical capacity.

Select the appropriate boxes for the infrastructure the corporation is applying for.	
☐	Water infrastructure – drinking water
☐	Water infrastructure – non potable water (including recycled water)
☐	Sewerage infrastructure

Table C.1 Scheme description

Describe the proposed scheme in detail.

Include all infrastructure from catchment/treatment plant to tap/end user. You must:

- Include a full description of any infrastructure used in the capture, storage, conveyance/reticulation, and treatment of water and/or sewage.
- Provide a full description of all end uses (including irrigation, dust suppression and other broad-acre uses), waste disposal streams and disposal options, and any end uses requiring Environment Protection Licences (EPLs) or other regulatory approvals or licences.
- Describe any staging requirements for the proposed scheme with a supporting works program.
- Provide relevant water source type, identification and characterisation studies.

Your description should include the relevant concept design drawings, site plans, process flow diagrams and general arrangement drawings.

Provide all relevant documents in Appendix C1.

Not applicable to this retail supplier's licence application.

Table C.2 Existing activities

Has the corporation commenced any of the activities for which it is seeking a licence?

☐ **YES** ☒ **NO**

If **yes**:

- Briefly describe the activities that the applicant corporation has commenced (ie, built and/or operating) including the date(s) on which the activities commenced, and the customers being serviced *eg, construction of the network infrastructure July 2015, construction of the water treatment plant December 2015, operation of the water treatment plant June 2016, supply to small retail customers August 2016*.
- Provide an indicative timeline outlining the dates for the commencement of any other activities for which the applicant corporation is seeking a licence.

If **no**, provide an indicative timeline outlining the major development milestones and dates for the commencement of the activities for which the applicant corporation is seeking a licence, if they have not yet commenced. *Eg, construction of the network infrastructure July 2020, construction of the water treatment plant December 2020, operation of the water treatment plant June 2021, supply to small retail customers August 2021.*

Not applicable to this retail supplier's licence application.

Table C.3 Area of operations

Describe the location of the proposed infrastructure.
This description should include: ▼ Specific lot descriptors (eg, lot and DP numbers) that identify the location of the production, treatment, filtration and/or storage infrastructure. ▼ The location of infrastructure for the conveyance and/or reticulation of water by street name, local government area or other description as appropriate to the size of the scheme. ▼ The location of identified irrigation areas for disposal of recycled water. **You should provide detailed maps to support the description of the area of operations. The map(s) should show the location of the proposed infrastructure from source to end use. Also provide any maps approved by the relevant planning authority.**
Provide these maps and descriptions in Appendix C3. • Not applicable to this retail supplier's licence application.

Table C.4 Interconnections

Describe any interconnections between the proposed water infrastructure and other infrastructure not part of this scheme (eg, interconnections with other licensed network operators or public utilities)
In your description, identify who is responsible for the construction, operation and maintenance of which infrastructure. Where applicable, describe the connection point to customers or end users (eg, the customer connection point may be a water meter). In your description, identify who is responsible for the construction, operation and maintenance of each piece of infrastructure. **Identify all interconnections with other infrastructure and/or end users on the process flow diagram.**
Provide all relevant documents in Appendix C4.
Not applicable to this retail supplier's licence application.

Table C.5 End uses

Identify all intended end uses for each product suppled and waste products generated.
Provide evidence to support the proposed volumes of water expected to be generated and used.
Provide evidence to support the proposed quantity of waste products generated, and how the applicant corporation will dispose of it. Include any agreements with third parties, and regulatory approvals/licences.
Not applicable to this retail supplier's licence application.

Table C.6 Water balance

Provide a detailed water balance for all products and all scheme stages.
Water balances are required for each stage of works, and must provide (as a minimum): ▼ All assumptions used for modelling, and if assumptions do not meet industry standards, you must provide a statement of evidence to support the deviation ▼ A sensitivity analysis around end use assumptions, including future disposal pathways, eg, optional take up of recycled use in washing machines

- Any storage requirements
- All input and output volumes including peaking factors
- All waste streams and fate of waste/s

Irrigation models should be run on the median and 95%-tile rainfall scenarios. Irrigation of treated effluent/recycled water should have zero runoff and no more than 15mm deep percolation (inland) or zero (coastal) – as per the *EPA Guideline – Use of Effluent by Irrigation (2004).*

Ensure that all water/sewage supplied and/or treated is accounted for.

Where relevant, support your assumptions by catchment and/or wastewater characterisation studies.

For all products supplied, provide detailed information on waste products generated and disposal options.

Provide a copy of the detailed water balance and assumptions, as well as any agreements and/or licences to access the source water in Appendix C6.

Not applicable to this retail supplier's licence application.

Table C.7 Volume details for services supplied

Describe the volume of water available from the proposed source.
For drinking water provide detailed information regarding the volume of water the applicant corporation will supply, agreements in place with other utilities and how the applicant corporation will ensure continuity of supply.
For recycled/non-potable water provide detailed information regarding the volume of water the applicant corporation will supply through treatment, agreements in place with other utilities and/or other recycled water users, and how the applicant corporation will ensure continuity of supply.
For sewage provide detailed information regarding the volume of sewage the applicant corporation will collect and treat, how the applicant corporation will dispose of waste products, and any agreements in place regarding the collection, storage and treatment of sewage. Also detail how the applicant corporation will ensure continuity of service.
Provide details in a separate Appendix C7. Not applicable to this retail supplier's licence application.

Table C.8 Risk assessment

Provide the preliminary risk assessment for the scheme from source to end use.
The preliminary risk assessment should: ▼ Accurately identify any hazards present in the source water or likely to result from the proposed treatment process ▼ Address intended, inadvertent and unauthorised end uses (and therefore routes of exposure) to the water ▼ Identify any reasonably foreseeable risk event with the potential to expose people or the environment to hazards ▼ 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 ▼ Identify critical control points (CCPs) and water quality targets.
Not applicable to this retail supplier's licence application.
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 (Risk management – Principles and Guidelines)*, which is consistent with the approach outlined in: ▼ The *Australian Drinking Water Guidelines* (ADWG)(element 2), for drinking water ▼ The *Australian Guidelines for Water Recycling* (AGWR)(element 2), for non-potable water.

Provide the preliminary risk assessment for the scheme from source to end use.
The preliminary risk assessment should consider risks specific to the area of operations for which an application is sought. It should also address business and financial risks, and demonstrate/contain a statement that the licensee has consulted with NSW Health and the NSW Environment Protection Authority regarding health and environmental matters. A statement noting that the proposed treatment system meet the water quality targets for the intended end uses should also be included with the preliminary risk assessment. **Provide the preliminary risk assessment in Appendix C8.** Not applicable to this retail supplier's licence application.

Table C.9 Management systems and processes – water

Describe the systems and processes the applicant corporation will have in place to manage the water infrastructure.
Describe how the 12 elements of the framework for the management of: a) Drinking water quality, as detailed in the ADWG, and/or b) Recycled water quality, as detailed in the AGWR have been addressed and will be implemented and maintained. Your response should include a clear description (with supporting evidence) of how and where the risk assessment has informed/will inform your water quality management plans(s).
Provide evidence of the applicant corporation's capacity to develop and implement relevant management plans, including an Infrastructure Operating Plan and Water Quality Management Plan (based on the 12 elements of the relevant framework) in Appendix C9. Not applicable to this retail supplier's licence application.

Table C.10 Management systems and processes - sewerage

Describe the systems and processes that the applicant corporation will have in place to manage the sewerage infrastructure.
Provide evidence of the applicant corporation's capacity to develop and implement an infrastructure operating plan in Appendix C10. Not applicable to this retail supplier's licence application.

Table C.11 Contingency plans

How will the applicant corporation ensure the continuity of the supply of water or the provision of sewerage services to customers? What contingency plans are in place in the case of failure of the infrastructure?
Provide a contingency plan in Appendix C11. Not applicable to this retail supplier's licence application.

Table C.12 Regulatory approvals

List all relevant regulatory approvals.
For the activities to be licensed, provide a list of all of the regulatory approvals that have been obtained and/or are required to be obtained under: ▼ The *Environmental Planning and Assessment Act 1979* ▼ The *Protection of the Environment Operations Act 1997* ▼ Any other relevant legislation.
Attach copies of each approval (if granted) and any reports from the approval body.
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* ▼ Environment Protection Licence under the *Protection of the Environment Operations Act 1997* ▼ Any and all subsequent approved modifications.
Not applicable to this retail supplier's licence application.

Table C.13 Development consents and determinations

Has the scheme been dealt with under either Part 3A (now repealed), Part 4 or Part 5 of the *Environmental Planning and Assessment Act 1979* (EP&A Act)? Refer to section 3.2 and Appendix C of the Guidance Document to inform your answer to this question.
Provide details of all relevant details in Appendix C13. Not applicable to this retail supplier's licence application.

Table C.14 Environmental impact assessments

Describe the studies that have been completed to investigate any environmental impacts (including 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?
As a minimum, your application must be accompanied by a Review of Environmental Factors (REF) (unless the development is a 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 REF must identify the environmental impacts of the proposed scheme, and the steps which will be taken to protect the environment or reduce harm to the environment.
Where relevant, what land capability and/or site suitability assessments have been undertaken on the proposed land disposal (including irrigation) area?
Provide a copy of any: ▼ **Environmental study** ▼ **Land capability or site suitability assessment** ▼ **Environmental risk assessment** ▼ **Determination reports** **in Appendix C14.** • Not applicable to this retail supplier's licence application.

D Retail supplier's licence – technical capacity – water supply

Table D.1 Scheme description

Describe the water infrastructure that the applicant corporation will access to supply water.

As described in Part A, Flow Systems will be providing drinking water and recycled water services to end-user customers. End-user customers to whom Flow Systems provides drinking water services will be those located within the prescribed Shepherds Bay development area

End-user customers to whom Flow Systems provides recycled water services will be those located within the proposed Shepherds Bay retail supplier licence area.

Drinking Water
Flow Systems will continue to access the drinking water supply from FSO's network for the purposes of delivering drinking water services to its end-user customers including the additional customers in Stage 7A.
Flow Systems will source bulk drinking water supply from Sydney Water pursuant to an extension to the existing Utility Services Agreement (USA) between the parties.

Recycled Water
Flow Systems will access the recycled water supply from FSO's network for the purposes of delivering recycled water services to its end-user customers including the additional customers in Stage 7A.

FSO holds the network operator licence to construct, operate and maintain a water recycling facility, known as the Shepherds Bay local water centre (LWC) located within the Development. This LWC will be constructed in 2020 and commissioned and approved for operation in 2021. FSO has approval to commercially operate and maintain the reticulation infrastructure to end-user customers within the Existing NOL area of operations.

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Table D.2 Volume of water

What volume of water is available from the proposed source?

Where applicable, provide the capacity of the source and the (allowable) average daily extraction rate from the source. If there is more than one source, provide the requested information for each of the sources.

Where relevant, provide a copy of any agreements and/or licences to access the source water in Appendix D2.

Drinking Water
FSO will source treated drinking water from Sydney Water. Sydney Water has identified (via its issue of Notices of Requirements to the Developer) that there is adequate capacity in the drinking water system to service both drinking water and recycled water end uses.
Using the more conservative, WSAA Code demands, the ultimate drinking water needs of the Development to be drawn from Sydney Water's supply network are as follows.

Parameter	Without Stage 7A			Stage 7A			Proposed		
	Resi	Comm	Total	Resi	Comm	Total	Resi	Comm	Total
Connections	1742	9	1751	43	0	43	1785	9	1794
Average Day Demand (kL/d)	652.9	7.0	659.9	16.1	0.0	16.1	669.0	7.0	676.0

Max Day Demand (kL/d)	1045.2	15.4	1060.6	25.8	0.0	25.8	1071.0	15.4	1086.4

To service the recycled water needs of the Development before the water recycling facility is constructed and commissioned, additional drinking water according to the demands in the Recycled Water section below will also be drawn from Sydney Water's supply network.

Recycled Water

Additional recycled water reticulation systems works to service Stage 7A within 102 and 104 Bowden Street (Lot 1 DP 730371 and Lot 5 DP 12534) are proposed as part of this NOL variation application.

The Stage 7A transfer pump station will be fitted with an overflow connection which will divert excess flows to Sydney Water's wastewater main in Nancarrow Avenue. The LWC has the capacity to top up recycled water storage with drinking water when recycled water demand exceeds that available.

The impact on recycled water demand of the addition of Stage 7A is as follows:

Parameter	Without Stage 7A			Stage 7A			Proposed		
	Resi	Comm	Total	Resi	Comm	Total	Resi	Comm	Total
Connections	1742*	9	1751	43*	0	43	1785*	9	1794
Average Day Demand (kL/d)	383.5	38.4	421.9	9.5	0.0	9.5	393.0	38.4	431.4
Max Day Demand (kL/d)	696.8	84.5	781.3	17.2	0.0	17.2	714.0	84.5	798.5

Once the LWC is constructed and operational, there will be two available sources of water for the recycled water:

- Sewage is collected from each building's sewage pump station (SPS) and transferred via sewage rising mains to the Local Water Centre (LWC) to be located in the basement of Stage 3 of the Development at 12 Nancarrow Avenue, Ryde (SP97601). The conversion of raw sewage to recycled water is approximately 80% when reverse osmosis is used.
- Once recycled water is being produced and supplied by the LWC, if recycled water demand exceeds the supply of raw sewage and prolonged use depletes the recycled water storages, then top up with drinking water will be used to supplement supply.

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.

Drinking water

The total drinking water sourced from Sydney Water will meet the Scheme's end-user demand, assumed using the BASIX NSW state-average benchmark for energy and water consumption collected from over 2 million NSW households, using water efficient devices and in accordance with WSA guidance for peak demands.

FSO will not treat drinking water. However, FSO will distribute and supply the drinking water to meet the Development's end-user demand.

Using the more conservative, WSAA Code demands, to service the ultimate drinking water needs of the Development, Stage 7A will add 25.8kL/day max day demand for a total max day demand for the Development of 1,086 kL/day to be drawn from Sydney Water's supply network.

To service the recycled water needs of the Development before the water recycling facility is constructed and commissioned, Stage 7A will add 9.5kL/day average day demand and 17.2kL/day max day demand for a total average day demand for the Development of 431kL/day and a max day demand for the Development of 798kL/day to be drawn from Sydney Water's supply network.

A Sydney Water Notice of Requirements for all stages including stage 7A has been provided for the development without any requirement for drinking water infrastructure augmentation. Therefore, there will be sufficient drinking water supply to meet demand.

Recycled water

The recycled water will be sourced from FSO's LWC based primarily on residential sewage from the Shepherds Bay Development.

The Scheme will have the capacity to treat average daily flows of up to 600kL/day of biological source water (i.e. sewage). The conversion of raw sewage to recycled water is approximately 80% when reverse osmosis is used.

Once the LWC at Shepherds Bay is constructed and operational, there will be two available sources of water for the recycled water:

- Sewage is collected from each of FSO's sewage pump stations (SPS) and transferred via sewage rising mains to the LWC to be located in the basement of Stage 3 of the Development, at newly created lot 3 of deposited plan 1242853. Stage 7A will add 12kL/day of sewage as source water for a total average day sewage production for the Development of 460kL/day. The conversion of raw sewage to recycled water is approximately 80% when reverse osmosis is used resulting in approximately 368kL/day of recycled water produced or up to 480kL/day if additional source water is available.
- Once recycled water is being produced and supplied by the LWC, if recycled water demand exceeds the supply of raw sewage and prolonged use depletes the recycled water storages, then top up with drinking water will be used to supplement supply.

Stage 7A will add 9.5kL/day average day demand for recycled water for a total Development average day demand for recycled water of 431kL/day. Peaks and troughs of supply will be balanced through the recycled water storage (buffer) tanks.

The LWC has the capacity to top up recycled water storage with drinking water when recycled water demand exceeds that available. Therefore, there will be sufficient supply to meet demand.

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Table D.3 Class of customer

What customers or classes of customers does the applicant corporation propose to supply with water?
Will the applicant corporation be supplying small retail customers with water (ie, less than 15ML/year)?
All customers for drinking water and sewerage services will be small retail customers, both residential and commercial. Recycled water is not metered at the individual apartments and so service and usage is charged to each owners corporation as a commercial customer.

Table D.4 Risk assessment

Provide the preliminary risk assessment for the retail activities related to the scheme.
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). It must also identify the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.
The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks. We strongly recommend that the applicant corporation utilises an established risk management system such as outlined in *AS/NZS ISO 31000 (Risk Management– Principles and Guidelines)*.
Provide the risk assessment in Appendix D4.

APPENDICES

- Appendix D4 Risk Register Summary

Table D.5 Contingency plan

How will the applicant corporation ensure continuity of the supply of water to customers?

Flow Systems will be providing water supply services to end-users under this proposed variation to its RSL on the basis that FSO will hold the NOL in relation to the relevant network infrastructure through which Flow Systems will supply services to the end-user customers. The additional (stage 7A) customers will be offered the services as the customers in the remainder of the Shepherds Bay precinct.

As FSO is a wholly-owned subsidiary of Flow Systems, it is in a position to ensure that the network has sufficient redundancy and back-up supply sources to mitigate against interruption to supply to end user customers. As such, it is Flow Systems' policy to commit to the uninterrupted supply of services to its customers to the extent practically possible in the event of any incidents in FSO's network. FSO's network is designed to ensure that in the event of any incident, the chance of interruption to the retail supply of services is minimised by virtue of redundancy and back-up / stand-by features.

FSO has 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 demand through customer notifications.
- Rapid response to infrastructure failure.
- Top-up from Sydney Water's drinking water supply
- On-site storage and boosting.

Risk Assessment
Flow Systems has already undertaken a full risk assessment in relation to its retail supplier operations in connection with its RSL. Additionally, Flow Systems manages and reviews its risk profile at strategic and operational levels in accordance with its risk management and compliance management procedures. Continuing risk assessment in relation to its retail supplier operations is part of that framework.

These assessments are designed to identify and establish processes to mitigate any health and environmental risks and ensure that interruptions are minimised.

Interruption Due to Incidents or Operational Problems
FSO's network design includes a level of redundancy to ensure that it can operate reliably and so that loss of supply due to operating problems will be rare.

FSO's network will be monitored on a 24-hour basis, seven days per week with early warning alarms and equipment condition tested through monitoring of critical control points.

Early warning alarms will allow the operators to identify and follow any short-term trend and take appropriate corrective action to rectify any recycled water quality or supply issues and avoid interruption to supply.

Maintenance regimes will be implemented to ensure that FSO's network operates continually and reliably. Planned maintenance that necessitates a partial or full shutdown of equipment will be scheduled in periods of low demand so that supply can be maintained wherever possible.

To the extent that there are interruptions due to operating problems, these issues will be temporary and corrected as specified in the infrastructure operating plans as submitted in connection with FSO's NOL.

In the event that any part of FSO's network is damaged by any party or a force majeure event, then supply may need to be interrupted while the damage is repaired. Reasonable precautions will be taken to prevent such occurrences, such as dial before you dig, condition monitoring, network surveillance and site security.

Interruptions to Recycled Water Supply
FSO's recycled water network infrastructure is designed such that it can reliably and consistently supply recycled water to the required specification so that the probability of interruption due to supply issues is low. The following incidents have been identified as a possible cause for interruption to recycled water supply: nil supply, leakage, and water quality. The probability of each of these incidents is low.

In each case, FSO will have both systems and redundancy measures in place to prevent or minimise the disruption of supply. Early detection systems include real-time telemetry data, alarms triggered through

via a SCADA system and notification by Customers. Through FSOs Incident and Emergency Response Management planning, a water event would be triggered.

Arrangements will also be in place with the relevant incumbent water utility service provider to top up supply.

Interruptions to Drinking Water Supply

FSO's drinking water network infrastructure is designed such that it can operate reliably and consistently supply water to the required specification so that the probability of interruption due to supply issues is low. The following incidents have been identified as a possible cause for interruption to drinking water supply: nil supply and water quality. The probability of each of these incidents is low.

Disruptions to Customer Centre
Flow Systems has established a utility platform for servicing customers in connection with all of its licenced schemes. The platform covers all customer-facing services, including enquiries, complaints, billing, account information, infrastructure-related property information, and the like. This platform will be used for the purposes of providing all customer facing retail services across all projects, including this Development. In the event that there is an internet failure and customers were unable to use the Customer Centre to access their accounts, customers would be able to use the 1300 enquiries telephone number.

Explanation of Terms
Network redundancy – Sewage and water mains will have redundancy built into the master plan design for each network. Different routes can be utilised to bring wastewater to the local water centre and to deliver water to customers, should a main be affected or out of service for any reason.

Systems redundancy – Smaller systems such as pump sets, blowers, tanks, UV systems etc. will be in duplicate. If one unit becomes unavailable, then standby equipment will be available to keep the process running.

Storage of recycled water and drinking water top-up will be used should the LWC be unable to meet the recycled water demand (e.g. insufficient wastewater, or LWC shutdown). The scheme also has the potential for sourcing stormwater which is not part of the scope of this licence variation but may be considered in future variations of the RSL. Drinking water would top up the recycled water storage tanks and would be delivered through the recycled water mains network. Should the recycled water main become unavailable, a maintenance contract will be in place to immediately repair the pipes on a 24-hour, seven day/week basis.

APPENDICES

- Appendix D5 Infrastructure Operating Plan Table of Contents

Table D.6 Management systems and processes

Describe the systems and processes that the applicant corporation will have in place to manage retail activities including billing systems and complaint and debt recovery procedures.

Provide evidence of the applicant corporation's capacity to develop and implement a retail supply management plan in Appendix D6.
The additional (stage 7A) customers will be offered the same prices/fees for services as the customers in the remainder of the Shepherds Bay precinct.

Flow Systems has created a seamless and information-rich electronic environment for its customers. It is designed to be user-friendly, and is supported by customer service staff where human intervention and response is required.

Flow Systems has also created a comprehensive Retail Supply Management Plan for all its projects. This plan is based on Flow Systems' group-wide customer utility platform that Flow Systems implements for all of its projects across all of its subsidiaries.

Flow Systems will provide group-wide customer contact services and support for all its customers across all the Flow Systems' communities through its web-based customer platform. Customers will have online access to all relevant information relating to:

- Water usage
- Billing and general customer account information
- Diagrams and site maps relating to the customer's property

In addition, Flow Systems will offer phone, fax and email customer contact capabilities ensuring all customer enquiries and complaints are dealt with efficiently.

Customer Billing

Customers will be required to register on-line; they access all information through their community website, they receive monthly invoices electronically and can interrogate the invoice to assess water usage and the like and are encouraged to provide feedback and otherwise lodge enquiries or complaints on-line.

Meter Reading

Customer's meter readings are used to calculate the relevant charge for the billing period.

Billing

Residential customers (apartment owners) at Shepherds Bay receive a monthly bill that covers the following:

- Drinking water variable usage charge paid monthly in arrears - the variable usage charge reflects the volume of drinking water used at the customer's property.
- Drinking water systems fixed service charge paid monthly in arrears - the fixed service charge contributes to the costs of providing and maintaining the drinking water system.
- Recycled water variable usage charge paid monthly in arrears - the variable usage is estimated as a proportion of all residents' recycled water usage prorated according to the drinking water usage at the customer's property as a proportion of all residents' drinking water usage.
- Recycled water systems fixed service charge paid monthly in arrears - the fixed service charge contributes to the costs of providing and maintaining the recycled water system.
- Wastewater fixed service charge paid monthly in arrears - the fixed service charge contributes to the cost of providing and maintaining the sewer system.

Customer Enquiries and Complaints

Flow Systems has developed a Code of Practice for Customer Complaints which is consistent with the Australian Standard for complaints handling AS ISO 10002—2014. Flow Systems is committed to treating complaints promptly, fairly, equitably, confidentially and professionally and it is Flow Systems' intention to incorporate and implement the relevant water industry code of conduct once is it finalised.

Missed Payments and Debt Recovery

Flow Systems has developed a Code of Practice for Missed Payments and Debt Recovery. The Code specifies steps that Flow Systems will take in relation to overdue bills, unpaid bills and disputes. The Code of Practice for Missed Payments and Debt Recovery is available on the website and customers will be made aware of the Code prior to commencement of supply.

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 Retail Supply Management Plan, Retail policies, how the policies will be implemented (procedures), step by step instructions (work instructions), and where to record information (forms).

APPENDICES

- Appendix D6(a) Flow Systems Retail Supply Management Plan Table of Contents
- Appendix D6(b) Flow Systems Complaints and Dispute Resolution Policy

- Appendix D6(c) Flow Systems Missed Payments Policy
- Appendix D6(d) Incident Management Plan Table of Contents

E Retail supplier's licence – technical capacity – sewerage services

For applicant corporations applying for a retail supplier's licence for supply of sewerage services.

Table E.1 Scheme description

Describe the sewerage infrastructure that the applicant corporation will access to provide sewerage services.
As described in Part A, Flow Systems will be providing sewerage services to end-user customers. End-user customers to whom Flow Systems provides sewerage services will be those located within the Shepherds Bay development area including Stage 7A. **Sewerage** End-user customers will receive sewerage services from Flow Systems via its access to FSO's sewerage collection and treatment network. Phase 1 – Until the LWC in Stage 3 is constructed, commissioned and approved for operation the Development will initially discharge their sewage into the Sydney Water sewerage system at each building's 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 be discharged at each building's 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. **APPENDICES** •

Table E.2 Class of customer

What customers or classes of customers does the applicant corporation propose to supply with sewerage services?
Will the applicant corporation be supplying small retail customers with sewerage services (ie, less than 10.5 ML/yr)?
All customers for sewerage services will be small retail customers, both residential and commercial.

Table E.3 Risk assessment

Provide the preliminary risk assessment for the retail activities related to the scheme.
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). It must also identify the probability of the occurrence of any such event or circumstance and the measures to be taken by the applicant corporation to prevent or minimise the likelihood of any such event or circumstance.
The preliminary risk assessment should demonstrate the application of a consistent methodology for identifying hazards and assessing potential impacts and risks. We strongly recommend that the applicant

corporation utilises an established risk management system such as outlined in *AS/NZS ISO 31000 (Risk Management– Principles and Guidelines)*.

Provide the risk assessment in Appendix E3.

APPENDICES

- Appendix D4 Risk Register

Table E.4 Contingency plan

What contingency plans are in place in the case of failure of the infrastructure?

How will the applicant corporation ensure continuity of the provision of sewerage services to customers?

Provide a contingency plan in Appendix E4.

Flow Systems will be providing sewerage services to end-users under the proposed RSL in circumstances where FSO holds the NOL in relation to the relevant network infrastructure through which Flow Systems will supply services to the end-user customers.

As FSO is a wholly-owned subsidiary of Flow Systems, it is in a position to ensure that the network has sufficient redundancy and back-up supply sources to mitigate against interruption to supply to customers. As such, it is Flow Systems' policy to commit to the uninterrupted supply of services to its customers to the extent practically possible in the event of any incidents in FSO's network. FSO's network is designed to ensure that in the event of any incident, the chance of interruption to the retail supply of services by its parent, Flow Systems, is minimised by virtue of redundancy and back-up/ stand-by features.

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

- Storage in the permanent flow balance tank at the LWC
- Critical equipment at the LWC is installed in duty/standby configuration to ensure adequate redundancy
- Remote monitoring of failure alarms on critical infrastructure at the LWC
- FSO has developed detailed contingency plans in the event of infrastructure failure
- Minimisation of sewage production through customer notifications
- Rapid response to infrastructure failure
- Trucking of sewage off-site via an approved waste management contractor.

Risk Assessment

Flow Systems has already undertaken a full risk assessment in relation to its retail supplier operations in connection with its RSL. Additionally, Flow Systems manages and reviews its risk profile at strategic and operational levels in accordance with its risk management and compliance management procedures. Continuing risk assessment in relation to its retail supplier operations is part of that framework.

These assessments are designed to identify and establish processes to mitigate any health and environmental risks and ensure that interruptions are minimised.

Interruption Due to Incidents or Operational Problems

FSO's network design includes a level of redundancy to ensure that it can operate reliably and so that loss of supply due to operating problems will be rare.

FSO equipment condition tested through monitoring of critical control points.

Early warning alarms will allow the operators to identify and follow any short-term trend and take appropriate corrective action to rectify any recycled water quality or supply issues and avoid interruption to supply.

Maintenance regimes will be implemented to ensure that FSO's network operates continually and reliably. Planned maintenance that necessitates a partial or full shutdown of equipment will be scheduled in periods of low demand so that supply can be maintained wherever possible.

To the extent that there are interruptions due to operating problems, these issues will be temporary and corrected as specified in the infrastructure operating plans as submitted in connection with FSO's NOL.

In the event that any part of FSOs network is damaged by any party or a force majeure event, then supply may need to be interrupted while the damage is repaired. Reasonable precautions will be taken to prevent such occurrences, such as dial before you dig, condition monitoring, network surveillance and site security.

Interruptions to Sewage Supply

The following incidents have been identified as possible causes for interruption to sewage supply to the LWC: nil supply, overflow in street or house, and odour detection. The probability of each of these incidents is low. In each case systems and redundancy measures will be in place to prevent or minimise the disruption of supply. Early detection systems will include real-time telemetry data, alarms triggered through the SCADA system and notification by end user customers.

Through FSO's Incident and Emergency Response Management planning, an effluent event would trigger an emergency response call-out team. Further, FSO will be able to isolate the incident and switch to network redundancy; spare parts and/or arrange alternative supply of services via pump outs/cartage are further back-up arrangements to minimise disruption in delivery of services to end user customers.

Disruptions to Customer Centre
Flow Systems has established a utility platform for servicing customers in connection with all of its licenced schemes. The platform covers all customer-facing services, including enquiries, complaints, billing, account information, infrastructure-related property information, and the like. This platform will be used for the purposes of providing all customer facing retail services across all projects, including this Development. In the event that there is an internet failure and customers were unable to use the Customer Centre to access their accounts, customers would be able to use the 1300 enquiries telephone number.

Explanation of Terms
Network redundancy – Sewage and water mains will have redundancy built into the master plan design for each network. Different routes can be utilised to bring wastewater to the local water centre and to deliver water to customers, should a main be affected or out of service for any reason.

Systems redundancy – Smaller systems such as pump sets, blowers, tanks, UV systems etc. will be in duplicate. If one unit becomes unavailable, then standby equipment will be available to keep the process running.

Storage of recycled water, potential sourcing of stormwater and drinking water top-up will be used should the LWC be unable to meet the recycled water demand (e.g. insufficient wastewater, or LWC shutdown). Drinking water would top up the recycled water storage tanks and would be delivered through the recycled water mains network. Should the recycled water main become unavailable, a maintenance contract will be in place to immediately repair the pipes on a 24-hour, seven day/week basis.

APPENDICES

- Appendix D5 Flow Systems Infrastructure Operating Plan Table of Contents

Table E.5 Management systems and processes

Describe the systems and processes that the applicant corporation will have in place to manage retail activities including billing systems, and complaint and debt recovery procedures.
Provide evidence of the applicant corporation's capacity to develop and implement a retail supply management plan in Appendix E5. Refer to the applicant's response in Table D.6 above.