

# Resource Operations Licence

## Water Act 2000



### Name of licence

Fitzroy Barrage Water Supply Scheme Resource Operations Licence

### Holder

Rockhampton Regional Council

### Water plan

The licence relates to the Water Plan (Fitzroy Basin) 2011.

### Water infrastructure

The water infrastructure to which the licence relates is detailed in attachment 1.

### Authority to interfere with the flow of water

The licence holder is authorised to interfere with the flow of water to the extent necessary to operate the water infrastructure to which the licence relates.

### Authority to use watercourses to distribute water

The licence holder is authorised to use the Fitzroy River from the upstream limit of the Fitzroy Barrage (AMTD 115.0 km) to the Fitzroy Barrage (AMTD 59.6 km) for the distribution of supplemented water, including sections of tributaries where supplemented water is accessible.

### Conditions

#### 1. Requirement for operations manual

- 1.1. The licence holder must operate in accordance with an approved operations manual.
- 1.2. The approved operations manual must include—
  - 1.2.1. operating rules for water infrastructure;
  - 1.2.2. water sharing rules; and
  - 1.2.3. seasonal water assignment rules.

#### 2. Environmental management rules

- 2.1. The licence holder must comply with the requirements as detailed in attachment 2.

#### 3. Metering

- 3.1. The licence holder must meter the taking of water under all water allocations and seasonal water assignments managed under this licence.

#### 4. Monitoring and reporting requirements

- 4.1. The licence holder must carry out and report on the monitoring requirements as set out in attachment 3.
- 4.2. The licence holder must provide any monitoring data required under condition 4.1 to the chief executive within a stated time upon request.

- 4.3. The licence holder must ensure that the monitoring, including the measurement, collection, analysis and storage of data, is consistent with the Water Monitoring Data Collection Standards<sup>1</sup>.
- 4.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards<sup>2</sup>.

## **5. Other conditions**

- 5.1. The operating and supply arrangements, and the monitoring required under this licence, do not apply in situations where implementing the rules or meeting the requirements would be unsafe to a person or persons. In these circumstances, the licence holder must comply with the requirements for operational or emergency reporting prescribed in attachment 3.
- 5.2. The licence holder may at any time submit an interim program or an amendment to an existing program to the chief executive for approval in accordance with attachment 4, if the holder proposes to operate in a way that does not meet the requirements of this licence.
- 5.3. Where there is conflict between the requirements of this licence and an approved program, the program prevails for the time it is in place.

## **Commencement of licence**

The licence took effect on 18 May 2006.

**Granted on 18 May 2006**

**Amended under section 184 of the *Water Act 2000* on 19 May 2023**

**Sam Tarlinton**

**Director, Water Monitoring and Compliance, North Region**

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<sup>1</sup> The Water Monitoring Data Collection Standards can be accessed online at: <[www.business.qld.gov.au](http://www.business.qld.gov.au)>

<sup>2</sup> The Water Monitoring Data Reporting Standards can be accessed online at: <[www.business.qld.gov.au](http://www.business.qld.gov.au)>

# Attachment 1 Infrastructure details for Fitzroy Barrage Water Supply Scheme

## *Fitzroy Barrage—Fitzroy River AMTD 59.6 km*

<b>Description of water infrastructure</b>	
Main embankment	Concrete embankment with vertical lift gates.
Full supply level	EL 3.78 m AHD (plus or minus 0.05 metres).
Fixed crest level	EL 0.61 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Eighteen vertical lift gates, each 12.2 metres wide and 3.3 metres high.
<b>Storage volume and surface area</b>	
Full supply volume	81 300 ML (at EL 3.78 m AHD).
Dead storage volume	21 900 ML (at EL-1.2 m AHD).
Surface area/elevation and storage volume/elevation relationship	Natural Resources Drawing No. A3-209321 (March 1998).
<b>Spillway arrangement</b>	
Description of works	Eighteen gated weir monoliths, 14 metres in length with 12.2 metre wide bays for vertical lift gates, with a concrete crest at EL 0.61 m AHD. Four 12.2 metre wide bays with a concrete crest at EL 3.91 m AHD.
Spillway level	EL 0.61 m AHD.
Spillway width	As described above.
Discharge characteristics	Not available.
<b>River inlet/outlet works</b>	
Description of works	Eighteen gated weir monoliths, 14 metres in length with 12.2 metre wide bays for vertical lift gates, with a concrete crest at EL 0.61 m AHD.
Multi-level inlet	Works do not accommodate selective withdrawal.
Cease to flow level	EL 0.61 m AHD.
Discharge characteristics	Not available.
<b>Fish transfer system</b>	

Description of works	<p>Right bank:</p> <p>Vertical slot fish ladder and cone fishway, located on the right bank. The combined discharge capacity of the vertical slot fish ladder and cone fishway located on the right bank is approximately 18 ML/day at full supply level.</p> <p>The vertical slot fish ladder operates above EL 3.2 m AHD and is permanently open.</p> <p>The cone fishway located on the right bank operates above EL 3.61 m AHD and is permanently open.</p> <p>Cone Fishway – Drawing reference FBA001.</p> <p>Left bank:</p> <p>Cone fishway, located on the left bank. Discharge capacity is approximately 8.5 ML/day at full supply level. The fishway operates above EL 3.53 m AHD and is open only during releases.</p> <p>Drawing reference General Arrangement Plan S50.</p>
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# Attachment 2 Environmental management rules

## 1 Quality of water released

Where a storage is fitted with multi-level inlet works, the licence holder must draw water from the inlet level that optimises the quality of water released.

## 2 Change in rate of release from infrastructure

The licence holder must minimise the occurrence of adverse environmental impacts by ensuring that any change in the rate of release of water from a storage into a watercourse occurs incrementally.

## 3 Seasonal base flow management strategy

- (1) Each day, the licence holder must release from the Fitzroy Barrage an amount of water that is the lesser of—
  - (a) the estimated daily inflow to the storage; and
  - (b) 350 ML/day.
- (2) Subsection (1) does not apply—
  - (a) when the estimated daily inflow to the storage is less than 220 ML/day; or
  - (b) when the water level in the Fitzroy Barrage is below EL 2.3 m AHD.
- (3) Despite subsections (1) and (2), the licence holder may, for the purpose of implementing this strategy—
  - (a) release plus or minus 20 per cent of the volume required under the strategy over a 48-hour period;
  - (b) delay the commencement and cessation of a release by up to 48 hours.
  - (c) In determining the estimated daily inflows to the storage, not include any water which was released from an upstream storage to maintain the nominal operating level of the storage or to supply water users.
  - (d) In determining the amount of water to be released, take into account the amount of water released through the fish transfer system as contributing to the required daily release.
- (4) For this section—

**estimated daily inflow** to the storage means the continuation of the current inflow methodology into Eden Bann Weir measured at the Fitzroy River at Riverslea Gauging Station (GS130003B) until the inflow derivation technique or alternate methodology for Rookwood Weir is approved and made publicly available.

# Attachment 3 Licence holder monitoring and reporting

## Part 1 Monitoring requirements

### Division 1 Water quantity

#### 1 Stream flow and storage water level data

- (1) The licence holder must record water level and volume data, and stream flow data in accordance with attachment 3, table 1.
- (2) Infrastructure inflows may be determined based upon an infrastructure inflow derivation technique supplied by the licence holder and approved by the chief executive.

**Table 1 – Locations where continuous water data recording required**

Water level and volume data	Daily flow data
—	Fitzroy Barrage inflow
Fitzroy Barrage storage	—
—	Fitzroy Barrage outflow

#### 2 Releases from storages

The resource operations licence holder must measure and record for each release of water from the Fitzroy Barrage—

- (a) the daily volume released; and
- (b) the release rate, and for any change in release rate—
  - (i) the date and time of the change; and
  - (ii) the new release rate; and
- (c) the reason for each release.

#### 3 Restrictions

- (1) The licence holder must record details of any restriction on volumes for each priority group that may be supplied, including—
  - (a) the start and end date; and
  - (b) the volume of water to be supplied.
- (2) Subsection (1) does not apply if the restriction is a result of announced allocation.

#### 4 Water taken by water users

The licence holder must, on an annual basis, measure and record the total volume of water taken by each water user for each zone.

## **5 Seasonal water assignment of a water allocation**

The licence holder, upon consent to a seasonal water assignment, must record details of seasonal water assignment arrangements, including—

- (a) the name of the assignee and the assignor;
- (b) the volume of the assignment;
- (c) the location—
  - (i) from which it was assigned; and
  - (ii) to which it was assigned; and
- (d) the effective date of the seasonal water assignment.

## **Division 2 Impact of infrastructure operation on natural ecosystems**

### **6 Water quality**

The licence holder must monitor and record water quality data in relation to relevant infrastructure listed in attachment 1.

### **7 Bank condition**

- (1) The licence holder must inspect banks for evidence of collapse and/or erosion identified within ponded areas of each storage listed in attachment 1 and downstream reaches, following instances of—
  - (a) rapid water level changes; or
  - (b) large flows through storage, or
  - (c) other occasions when collapse and/ or erosion of banks may be likely.
- (2) For subsection (1), downstream of the relevant infrastructure means the distance of influence of infrastructure operations.

### **8 Fish stranding**

The licence holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the infrastructure listed in attachment 1 to determine if any instance is associated with the operation of that infrastructure.

## **Part 2 Reporting requirements**

### **9 Reporting requirements**

The licence holder must provide—

- (a) annual reports for the previous water year; and
- (b) operational or emergency reports.

## **Division 3 Annual reporting**

### **10 Annual report**

- (1) The licence holder must submit an annual report to the chief executive after the end of the water year.

- (2) The annual report must include—
  - (a) water quantity monitoring results required under attachment 3, section 12;
  - (b) details of the impact of storage operation on natural ecosystems as required under attachment 3, section 13; and
  - (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements of this licence.

## 11 Water quantity monitoring

The licence holder must include in the annual report—

- (a) instances where any restrictions have been implemented, including—
  - (i) an evaluation of the effectiveness of the limitation or restriction procedures and outcomes; and
  - (ii) the date and value for each restriction;
- (b) details of seasonal water assignments, including—
  - (i) the total number of seasonal water assignments; and
  - (ii) the total volume of water seasonally assigned;
- (c) the total annual volume of water taken by all water users, specified by zone, including—
  - (i) the total volume of supplemented water taken;
  - (ii) the total volume of supplemented water entitled to be taken; and
  - (iii) the basis for determining the total volume entitled to be taken;
- (d) details of environmental releases, specified by storage, including—
  - (i) an overview of the seasonal base flow management strategy implementation; and
  - (ii) the date, storage level, storage inflow and storage outflow for each day during implementation of the seasonal base flow strategy;
- (e) all details of changes to the storage and delivery infrastructure or the operation of the storage and infrastructure that may impact on compliance with this licence;
- (f) details of any new monitoring devices used, such as equipment to measure stream flow; and
- (g) the details and status of any interim programs implemented under condition 5.2.

## 12 Impact of infrastructure operation on natural ecosystems

The licence holder must include in their annual report—

- (a) a summary of the environmental considerations made by the licence holder in making operational and release decisions;
- (b) a summary of the environmental outcomes of the decision, including any adverse environmental impacts;
- (c) a summary of bank condition and fish stranding monitoring and assessment, including—
  - (i) results of investigations of bank slumping and/or erosion identified in the ponded areas and/or downstream of the storages;



- (ii) results of any investigations of fish stranding downstream of the storages; and
- (iii) changes to the operation of the storage to reduce instances of bank slumping and/or erosion or fish stranding; and
- (d) a discussion and assessment of the following water quality issues—
  - (i) thermal and chemical stratification in the storage;
  - (ii) contribution of the storage and its management to the quality of water released;
  - (iii) cyano-bacterial population changes in response to stratification in the storage; and
  - (iv) any proposed changes to the monitoring program as a result of evaluation of the data.

## **Division 4 Operational or emergency reporting**

### **13 Operational or emergency reporting<sup>3</sup>**

- (1) The licence holder must notify the chief executive within one business day of becoming aware of—
  - (a) any of the following operational incidents—
    - (i) a non-compliance by the licence holder with the conditions of this licence; and
    - (i) instances of fish stranding or bank slumping downstream of the storages listed in attachment 1;
  - (b) an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence.
- (2) The licence holder must provide to the chief executive upon request, and within the timeframe requested, a report which includes details of—
  - (i) the incident or emergency;
  - (ii) the conditions under which the incident or emergency occurred;
  - (iii) any responses or activities carried out as a result of the incident or emergency; and
  - (iv) in relation to an emergency only, any requirements under this licence that the licence holder is either permanently or temporarily unable to comply with due to the emergency.

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<sup>3</sup> This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation.

# Attachment 4 Interim programs

## 1 Submission of interim program

The licence holder may, at any time, submit an interim program to the chief executive for approval, including a timetable for returning to full compliance with the licence and interim arrangements.

## 2 Requirement for additional information

The chief executive, in considering any submitted interim program, may request additional information.

## 3 Approving an interim program

- (1) The chief executive, in dealing with a submitted interim program, may either—
  - (a) approve the interim program, with or without conditions; or
  - (b) amend and approve the amended program; or
  - (c) require the licence holder to submit a revised interim program.
- (2) In making a decision under subsection (1), the chief executive must consider the public interest.
- (3) Within 10 business days of making a decision on an interim program submitted under this section, the chief executive must notify the licence holder of the decision.

## 4 Implementing and publishing interim program

Following approval of the program by the chief executive, the licence holder—

- (a) must implement and operate in accordance with the approved interim program; and
- (b) make public details of the approved interim program on its internet site.

## 5 Relationship between interim program and licence

- (1) Where there is conflict between the provisions of this licence and the provisions of an approved interim program, the approved interim program prevails for the time that the interim program is in place.
- (2) Where an interim program has been submitted under attachment 4, section 1, but not dealt with under attachment 4, section 3, the licence holder may operate under the interim program, despite the conditions of this licence, until a decision is made under attachment 4, section 3.

## Attachment 5 Glossary

Term	Definition
AHD	The Australian Height Datum, which references a level or height to a standard base level.
AMTD	Adopted middle thread distance is the distance in kilometres, measured along the middle of the watercourse, that a specific point in the watercourse is from the watercourse's mouth; or—if the watercourse is not a main watercourse—the watercourse's confluence with its main watercourse.
Assignee	The person or entity to whom an interest or right to water is being transferred – for example, seasonally assigned.
Assignor	The person or entity who transfers an interest or right in water to an assignee – for example, a seasonal assignment.
Barrage	A barrier constructed across a watercourse to prevent the inflow of tidal water.
Cease to flow level	For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.
Dead storage	For a dam or weir, the specified minimum volume of water within the ponded area of the storage that cannot be released or used from the storage under normal operating conditions.
EL	Elevation level.
Fish stranding	When fish are stranded or left out of the water on the bed or banks of a watercourse, on infrastructure such as spillways and causeways or left isolated in small and/or shallow pools, from which they cannot return to deeper water. This also applies to other aquatic species such as platypus and turtles.
Full supply level	The specified maximum volume of water within the ponded area of a dam, weir or barrage, which corresponds to the full supply level.
Inlet	Infrastructure comprised of an entrance channel, intake structure, and gate or valve which allow for water to be taken from the ponded area of a dam, weir or barrage and discharged via an outlet into the watercourse downstream of the storage.
Location	For a water allocation, means— <ul style="list-style-type: none"> <li>(a) the zone from which water under the water allocation can be taken; or</li> <li>(b) an AMTD within a zone, from which water under the water allocation can be taken.</li> </ul> <p>For a water licence, means the section of the watercourse, lake, spring or aquifer abutting or contained by the land described on the water licence at which water may be taken.</p> <p>For a water licence to take overland flow water, means land described on the water licence at which water may be taken.</p>
Megalitre (ML)	One million litres.
Outlet	An arrangement on a dam or weir that allows stored water to be released downstream.
Ponded area	Area of inundation at full supply level of a storage.
Release	Water from a dam or weir that passes downstream from the dam or weir through the dam or weir outlet works.
Water user	The holder of a valid water entitlement.