

Resource Operations Licence

Water Act 2000



Name of licence

Rookwood Weir Water Supply Scheme Resource Operations Licence

Holder

State of Queensland (as represented by the Department of Regional Development, Manufacturing and Water).

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 following watercourses for the distribution of supplemented water, including sections of tributaries where supplemented water is accessible.

Table 1 – Use of watercourses for distribution

Watercourse	Description
Fitzroy River	Extending from the Fitzroy Barrage (AMTD 59.6 km) upstream to the Dawson River junction (AMTD 310.3 km)
Dawson River	Extending from the Fitzroy River junction (AMTD 0 km) to the upstream limit of Rookwood Weir (AMTD 11.5 km)
Mackenzie River	Extending from the Dawson River junction (AMTD 310.3 km) to the upstream limit of Rookwood Weir (AMTD 322.4 km)

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
 - 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.

3.2. All meters must comply with the non-urban metering standard as defined in the Water Regulation 2016.

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 Standards¹.
- 4.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards¹.

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 reporting requirements for operational or emergency prescribed in attachment 3.
- 5.2. The licence holder is required to collect and make publicly available through an industry accepted digital channel, updated at least monthly, details of each seasonal water assignment managed under this licence, including the sale price, the volume of water assigned and the location of where the water was assigned to and from.
- 5.3. The licence holder must provide the chief executive information about seasonal water assignments as directed by the chief executive within the stated time upon request¹.
- 5.4. The licence holder is required to record and make publicly available through an industry accepted digital channel, daily continuous time series flow data of Rookwood Weir inflows.
- 5.5. From the day this licence is amended on 17 October 2023 until either 18 months after this date or the water level in Rookwood Weir exceeds EL 46.20m AHD for the first time, whichever is sooner, the licence holder must comply with the operating arrangements and supply requirements in attachment 4.

This Resource Operations Licence is subject to the conditions attached.

Commencement of licence

The licence took effect on 31 March 2021.

Granted on 31 March 2021

Amended under section 184(1) of the *Water Act 2000* on 17 October 2023

Kristy Meacle
Director, Water Services, North Region

¹ The Water Monitoring Data Collection Standards and the Water Monitoring Data Reporting Standards can be accessed online at www.business.qld.gov.au

Attachment 1 Infrastructure details

Table 1 – Rookwood Weir—Fitzroy River AMTD 265.3 km

Description of water infrastructure	
Main embankment	Conventional Vibrated Concrete (CVC) ogee spillway
Full supply level	EL 46.20m AHD
Fixed crest level	EL 46.20m AHD
Minimum operating level	EL 31.00m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage capacity	
Full supply volume	74,325 ML
Minimum operating volume	119 ML
Non-commandable volume in water holes in the impounded area upstream of weir	6,411 ML
Surface area/elevation and storage volume/elevation relationship	Drawing No. 253790-A
Spillway arrangement	
Description of works	Uncontrolled gravity ogee weir
Spillway level	EL 46.20m AHD
Spillway width	202m
Discharge characteristics	Drawing No. 250141-A
River inlet/outlet works	
Description of works	Multi-level fishlock with 1800mm low flow outlet
Multi-level inlet	Works can accommodate selective withdrawal
Discharge characteristics	Drawing No. 250141-A
Aquatic fauna transfer system	
Description of works	Fishlock located near the right bank adjacent to the outlet works, Drawing No. 250142-2 Turtle passage located on the right bank, Drawing No. 250143-0
Local supply level / area	
Medium Priority Local Supply Level	EL 38.93m AHD
High Priority Local Supply Level	EL 34.80m AHD
Local Supply Area	Zones Rookwood E (Rookwood Weir ponded area) and Rookwood D (Fitzroy River section between downstream of Rookwood Weir to the upper extent of the Eden Bann Weir ponded area).

Attachment 2 Environmental management rules

1 Quality of water released

The licence holder must draw water using the multi-level inlet from the 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–

- (1) ensuring that any change in the rate of release of water from a storage into a watercourse occurs incrementally; and
- (2) managing weir releases into a watercourse that targets downstream water levels that are conducive to–
 - (a) the establishment of downstream turtle nesting sites between May and July; and
 - (b) the incubation of downstream turtle nesting between August and January.
- (3) The licence holder must manage weir releases so that the downstream significant waterholes between Rookwood Weir and Eden Bann Weir listed in attachment 5 are full during nesting season.

3 Operation of Rookwood Weir fishway and turtleway

- (1) When the water level in Rookwood Weir is above EL 35.20m AHD–
 - (a) the licence holder must use the fishway and turtleway to release water from Rookwood Weir; and
 - (b) when the release of water is greater than the capacity of the fishway, the licence holder must first release water to operate the fishway and turtleway, and then through the outlet valve or over the crest of the weir.
- (2) When the water level in Rookwood Weir is equal to or below EL 35.20m AHD, the licence holder must–
 - (a) for four consecutive weeks release 2.2 ML/day through the fishway; and
 - (b) following the four consecutive weeks, for one week, release 8.64 ML/day comprising of fishway and turtleway releases; and
 - (c) after one week of releases under subsection (b), recommence releases under subsection (a) again.
- (3) Releases under subsection (2) (a) or (b) cease when the water level in Rookwood Weir is above EL 35.20m AHD.

Attachment 3 Licence holder monitoring and reporting

Part 1 Monitoring requirements

Division 1 Water quantity

1 Streamflow and infrastructure water level data

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

Table 1 – Locations where continuous water data recording required

Continuous time series storage water level data	Continuous time series flow data
—	Rookwood Weir inflow
Rookwood Weir headwater (GS 130012A – AMTD 265.4km)	—
—	Rookwood Weir tailwater (GS 130011A – AMTD 265.2km)

2 Releases from infrastructure

- (1) The licence holder must measure and record for each release of water from Rookwood Weir—
 - (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.
- (2) In addition to the requirements under subsection (1), for storage outlets with selective withdrawal capabilities, the licence holder must record—
 - (a) the inlet level used for each release of water; and
 - (b) the reason for deciding to release from that particular inlet level.

3 Restrictions

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.

4 Water taken by water users

The licence holder must measure and record the total volume of water taken by each water user for each zone as follows—

- (a) the total volume of water taken each quarter;
- (b) the total volume of water entitled to be taken at any time;
- (c) the basis for determining the total volume of water entitled to be taken at any time; and
- (d) the basis for determining the total volume of water entitled to be taken, including adjustments for volumes moved into or out of the water year and seasonal water assignments.

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;
 - (ii) to which it was assigned;
- (d) the effective date of the assignment; and
- (e) the sale price.

6 Use of waterholes

For each day that supplemented water is taken from a waterhole listed in attachment 5, the licence holder must measure and record the level of the water in the waterhole when the waterhole is drawn down below its cease to flow level.

Division 2 Impact of infrastructure operation on natural ecosystems

7 Water quality

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

8 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.

9 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.

10 Turtle nesting and incubation

The licence holder must record and assess any reported issues relating to downstream turtle nesting and incubation associated with the operation of the infrastructure listed in attachment 1.

Part 2 Reporting requirements

11 Reporting requirements

The licence holder must provide the following reports in accordance with this part —

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

Division 3 Quarterly reporting

12 Quarterly reporting

- (1) The licence holder must submit a quarterly report to the chief executive after the end of each quarter of every water year.
- (2) The quarterly report must include—
 - (a) streamflow, storage inflow and water level data—records referred to under attachment 3, section 1;
 - (b) releases from storage—all records referred to under attachment 3, section 2;
 - (c) the total quarterly volume of water taken under each water allocation—all records referred to in section attachment 3, section 4;
 - (d) water quality—all records referred to under attachment 3, section 7;
 - (e) summary of bank condition monitoring and incidences of slumping carried out in accordance with attachment 3, section 8; and
 - (f) summary of operating arrangements and supply requirements initiated, progressed or completed as per attachment 4.

Division 4 Annual reporting

13 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 14;
 - (b) details of the impact of storage operation on natural ecosystems as required under attachment 3, section 15;
 - (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements of this licence;
 - (d) a summary of sale price disclosure information and other seasonal water assignment information as per Attachment 3, section 5;
 - (e) a copy of the annual monitoring and operation report for the fish passage and turtle passage required under separate legislation; and
 - (f) a copy of the annual monitoring report of the fishway at the left bank of the Fitzroy Barrage constructed as part of the Rookwood Weir Waterway Barrier Works.

14 Water quantity monitoring

- (1) 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;
- (ii) the total volume of water seasonally assigned; and
- (iii) the total sale price.
- (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) daily record of water levels taken at 9am for monitoring of the waterholes listed in attachment 5 is required when attachment 3, section 6 and/or attachment 2, section 2, subsection 3 applies;
- (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 streamflow; and
- (g) a discussion on any other issues that arose as a result of the implementation and application of the rules and requirements in this licence.

15 Impact of infrastructure operation on natural ecosystems

- (1) 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, fish stranding monitoring and assessment, and turtle nesting and incubation 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;
 - (iii) changes to the operation of the storage to reduce instances of bank slumping and/or erosion or fish stranding; and
 - (iv) results of any investigations into turtle nesting and incubation issues downstream of the storages; 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) cyanobacterial 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 5 Operational or emergency reporting

16 Operational or emergency reporting²

- (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;
 - (ii) instances of fish stranding, cyanobacteria growth or bank slumping within the ponded area or downstream of the water infrastructure to which this licence relates;

² This does not preclude requirements for dam safety under the *Water Act 2000* and any other applicable legislation.

- (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—
- (a) the incident or emergency;
 - (b) the conditions under which the incident or emergency occurred;
 - (c) any responses or activities carried out as a result of the incident or emergency; and
 - (d) 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.

Attachment 4 Temporary arrangements for weir commissioning

1 Wet Commissioning for Rookwood Weir Water Supply Scheme

(1) Definitions for this section–

Wet Commissioning means – the process of initially energising and testing equipment and groups of equipment in a controlled and managed process to prove that all equipment functions correctly as per manufacturers and project specifications.

Commissioning area means – a particular area with a large amount of equipment. For example:

- fishway
- low flow outlet
- turtleway
- control building
- switchroom building

Performance testing means – steps to be taken and testing to be performed to satisfactorily prove the performance of the weir.

- (2) Wet commissioning commences on commencement of this licence.
- (3) During wet commissioning, the licence holder may impound water in Rookwood Weir for the purpose of performance testing equipment or a commissioning area, only if the level in the Fitzroy Barrage is above EL 3.38m AHD.
- (4) If water is impounded in Rookwood Weir while performance testing is being undertaken on equipment or a commissioning area and the level in the Fitzroy Barrage decreases below EL 3.38m AHD, the licence holder must commence releases to the Fitzroy Barrage within 4 days of the level decreasing below EL 3.38m AHD in the Fitzroy Barrage.
- (5) Once wet commissioning is complete, section 3 should be adhered to.
- (6) Releases from Rookwood Weir must only be made in accordance with section 1.

2 Environmental release rules – Attachment 2 of this licence

- (1) The operation of the Rookwood Weir fishway and turtleway will commence when the water level in Rookwood Weir is above EL 35.20m AHD.
- (2) Once the operation of the Rookwood Weir fishway and turtleway has commenced, the licence holder must comply with attachment 2, section 3 of this licence.

3 Operating Rules – Chapter 2 of the Rookwood Weir Water Supply Scheme Operations Manual

- (1) Until condition 5.5 is met and subject to wet commissioning requirements in section 1, the licence holder must release water from Rookwood Weir–
- (a) to maintain the Fitzroy Barrage above EL 3.38m AHD;
 - (b) to maintain Eden Bann Weir above EL 14.40m AHD;
 - (c) in accordance with section 2, comply with the environmental management rules prescribed in attachment 2 of this licence; and

- (d) to give effect to the water sharing rules within the Fitzroy Basin Water Management Protocol for unsupplemented water allocations within the Fitzroy Water Management Area.
- (2) Unless stated in attachment 4, section 3, subsection 1, sections 5 and 6 of the Rookwood Weir Water Supply Scheme Operations Manual is not to be adhered to.

4 Water Sharing Rules – Chapter 3 of the Rookwood Weir Water Supply Scheme Operations Manual

- (1) Until condition 5.5 is met, medium priority water allocations associated with Rookwood Weir Water Supply Scheme must not take water.
- (2) Until condition 5.5 is met, high priority water allocations associated with Rookwood Weir Water Supply Scheme must not take water unless the storage level in the–
 - (a) Fitzroy Barrage is equal to or above EL3.38m AHD; and
 - (b) Eden Bann Weir is equal to or above EL14.40m AHD; and
 - (c) Rookwood Weir is equal to or above EL 42.60m AHD.
- (3) The licence holder must start supplying all water allocations associated the Rookwood Weir Water Supply Scheme in accordance with Chapter 3 of the Rookwood Weir Water Supply Scheme Operations Manual once condition 5.5 is met.

5 Other arrangements

All other conditions and rules stated in this licence or the Rookwood Weir Water Supply Scheme Operations Manual must commence on the day this licence takes effect.

Attachment 5 Waterhole details

1 List of significant waterholes

- (1) The following significant waterholes require monitoring in accordance with attachment 3, section 14, subsection 1 (d):

Table 1 – Significant waterholes applicable to the Rookwood Weir Water Supply Scheme

Site no.	Site description	AMTD	Easting / northing	Notes
	TBC			

2 List of gauging stations relevant to the monitoring of significant waterholes

- (1) The following gauging stations apply to the monitoring of significant waterholes referenced in section 1.

Table 2 – Gauging stations used to monitor significant waterholes

Station ID	Station name	AMTD	Easting / northing	Owner
TBC	Lot no. 2PAK40202	TBC		Sunwater
TBC	Lot no. 1552PN14	TBC		Sunwater
130010A	Fitzroy River at Hanrahan's Crossing	248.8 km	196557.345/ 7401422.757	DRDMW

Glossary

Term	Definition
AHD	Australian Height Datum, which references a level or height to a standard base level.
AMTD	Adopted Middle Thread Distance
Assignee	The person or entity to whom an interest or right to water is being transferred (e.g. seasonally assigned).
Assignor	The person or entity that transfers an interest or right in water to an assignee (e.g. a seasonal assignment).
Cease to flow level	For a waterhole, the level at which water stops flowing from a waterhole over its downstream control.
EL	Elevation
Full supply volume	The specified maximum volume of water within the ponded area of a dam, weir or barrage, which corresponds to the full supply level.
Headwater level	The level (or elevation) of the water immediately upstream of a dam, weir, or other hydraulic structure.
Inflow derivation methodology	Method for measuring inflows into Rookwood Weir as supplied by the resource operations licence holder for the Rookwood Weir Water Supply Scheme and approved by the chief executive.
Infrastructure	A dam, weir or other water storage and any associated works for taking or interfering with water in a watercourse, lake or spring.
Inlet	Infrastructure comprised of an entrance channel, intake structure, and gate or valve, which allow for water to be taken from the storage and discharged into the watercourse downstream of the storage.
Limitation	Limiting the amount of water that may be taken during a water year.
Local supply area	A specified area to identify water allocations which are to be supplied by a local supply volume.
Local supply level	A level attributed to a volume of water that is held back in a storage to supply specified water allocations (either located in a local supply area and/or a specified water allocation priority group).
Location	For a water allocation, means the zone and/or place from which water under the water allocation can be taken. For a water licence, means the section of the watercourse, lake or spring abutting or contained by the land described on the water licence at which water may be taken.
Megalitre (ML)	One million litres
Minimum operating level	For a dam or weir, is the volume of water within the ponded area of a dam, weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Minimum operating volume	The specified minimum volume of water within the ponded area of a dam weir or barrage below which water cannot be released or taken from the infrastructure under normal operating conditions.
Outlet	Means 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 dam, weir or barrage.
Release	Water from a dam or weir that passes downstream from the dam or weir either through the dam or weir outlet works or over the dam spillway.
Release rate	Rate of release of water from a storage facility, for example, a dam or weir.
Streamflow	Includes flow of water resulting from tributary inflows, and does not include releases of supplemented water.
Tailwater	The flow of water immediately downstream of a dam, weir or barrage. Tailwater includes all water passing the infrastructure, for example, controlled releases and uncontrolled overflows.