

# Resource Operations Licence

## Water Act 2000



### Name of licence

Callide Valley Water Supply Scheme Resource Operations Licence

### Holder

Sunwater Limited

### 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 watercourses listed in Table 1 for the distribution of supplemented water, including sections of tributaries where supplemented water is accessible.

*Table 1 – Use of watercourses for distribution*

Watercourse	Description
Callide Creek	From, and including, the impounded area of Callide Dam (AMTD 94 km) downstream to AMTD 47.5 km
Kroombit Creek	From and including the impounded area of Kroombit Dam (AMTD 73 km) downstream to AMTD 9 km; and
Kariboe Creek	From the Callide Diversion Channel outfall (approximately AMTD 8 km) downstream to AMTD 3.5 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; 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 and reporting 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>1</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 operational or emergency reporting requirements 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 interim program, the program prevails for the time it is in place.
- 5.4. 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.
- 5.5. The licence holder must provide the chief executive information about seasonal water assignments as directed by the chief executive within the stated time upon request<sup>1</sup>.

This Resource Operations Licence is subject to the conditions attached.

### Commencement of licence

The licence took effect on 26 September 2014.

**Granted on 26 September 2014.**

**Amended under section 186 of the *Water Act 2000* on 10 January 2022.**

**Jarrod Cowley-Grimmond**  
**Executive Director, Divisional Support**

<sup>1</sup> The Water Monitoring Data Collection Standards and 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 Callide Valley Water Supply Scheme

**Table 1 – Callide Dam—Callide Creek AMTD 80.1 km**

<b>Description of water infrastructure</b>	
Main embankment	Earth and rock fill dam, concrete spillway and radial gates.
Full supply level	EL 216.10 m AHD.
Fixed crest level	EL 207.57 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Three pairs of radial gates
<b>Storage volume and surface area</b>	
Full supply volume	136 300 ML.
Dead storage volume	85 ML.
Surface area/elevation and storage volume/elevation relationship	Drawing No. A3-208868.
<b>Spillway arrangement</b>	
Description of works	Mass concrete and steel radial gates with 'ogee' type crest and reinforced concrete chute with dissipation pool.
Spillway level	EL 207.57 m AHD.
Spillway width	79.25 metres.
Discharge characteristics	Irrigation and Water Supply Commission spillway discharge curve No. DB1782.
<b>River inlet/outlet works</b>	
Description of works	An intake tower with two conduits that work independently of each other.
Multi-level inlet	The right conduit accommodates a degree of selective withdrawal.
Cease to flow level	EL 185.42 m AHD (river outlet).
Discharge characteristics	The maximum discharge capacity of the river outlet is approximately 445 ML/day.
<b>Fish transfer system</b>	
Description of works	Nil.

**Table 2 – Callide Weir–Callide Creek AMTD 61.1 km**

<b>Description of water infrastructure</b>	
Main embankment	Steel sheet piled weir with three concreted rockfill steps.
Full supply level	EL 157.58 m AHD.
Fixed crest level	EL 157.58 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
<b>Storage volume and surface area</b>	
Full supply volume	506 ML.
Dead storage volume	2.3 ML.
Surface area/elevation and storage volume/elevation relationship	Drawing No. A3-85374.
<b>Spillway arrangement</b>	
Description of works	The spillway is the crest of the weir.
Spillway level	EL 157.58 m AHD.
Spillway width	74.8 m.
Discharge characteristics	Not available.
<b>River inlet/outlet works</b>	
Description of works	Outlet works: 900 mm butterfly valve installed with the invert aligned with the conduit.
Multi-level inlet	Single-level offtake only.
Cease to flow level	Outlet works: Invert EL 152.00 m AHD.
Discharge characteristics	Maximum discharge capacity of approximately 450 ML/day.
<b>Fish transfer system</b>	
Description of works	Nil.

**Table 3 – Kroombit Dam–Kroombit Creek AMTD 68.8 km**

<b>Description of water infrastructure</b>	
Main embankment	Earth and rock filled with roller compacted concrete.
Full supply level	EL 265.80 m AHD.
Fixed crest level	EL 265.80 m AHD.
Saddle dam(s)	Nil.
Fabridams	Nil.
Gates	Nil.
<b>Storage volume and surface area</b>	
Full supply volume	14 600 ML.
Dead storage volume	63 ML.
Surface area/elevation and storage volume/elevation relationship	Storage Curve No. A3-214455.
<b>Spillway arrangement</b>	
Description of works	Roller compacted concrete with 'ogee' crest.
Spillway level	EL 265.80 m AHD.
Spillway width	250.00 metres.
Discharge characteristics	Ref: Drawing No. A1-98544.
<b>River inlet/outlet works</b>	
Description of works	Outlet works: 1200 mm dia RC conduit reduced to 600 mm dia MSCL with a 450 mm dia MSCL branch in the reinforced concrete outlet structure at the downstream toe of the main wall and controlled by 450 mm dia and 200 mm dia cone valves.
Multi-level inlet	Single-level offtake.
Cease to flow level	Outlet works: 249.6 m AHD.
Discharge characteristics	Maximum design discharge capacity of outlet 200 ML/day.
<b>Description of works</b>	
Description of works	Nil.

**Table 4 – Recharge works and Callide Diversion Channel**

<b>Description of water infrastructure</b>	
Recharge works	<p>Recharge works are:</p> <p>Callide Creek—Callide Dam and Callide Weir.</p> <p>Kroombit Creek—Kroombit Dam.</p> <p>Recharge trenches—Distributed along the creeks of the benefited area.</p> <p>Recharge trenches—structures designed to aid groundwater recharge. There are many installed throughout the benefited area generally located in creek beds. (There is no plan showing their location.) It has been estimated that following the installation of a trench the recharge has been improved to as much as 14 ML/d.</p> <p>Type A—strip 0.5 m of sediment from the creek bed where the alluvium is near the surface.</p> <p>Type B—strip up to 2.0 m of sediment from the creek bed where the alluvium is near the surface.</p> <p>Type C—excavate a major trench of up to 6.0 m deep over the design length and backfill with selected granular material.</p>
Callide Diversion Channel	Callide Diversion Channel is a diversion channel (consisting of earth channel and pipeline sections) through which water can be diverted from Callide Dam to Kroombit Creek and to Kariboe Creek.

# 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.

# 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
—	Callide Dam inflow
Callide Dam headwater (AMTD 80.1 km)	—
—	Callide Dam tailwater
Kroombit Dam headwater (AMTD 68.8 km)	—
—	Kroombit Dam tailwater

#### 2 Releases from storages

- (1) The licence holder must measure and record for each release of water from storages listed in Attachment 1—
  - (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 Monitoring Callide Groundwater Unit 1

- (1) The licence holder must monitor the groundwater levels in Callide Groundwater Unit 1 in accordance with the approved monitoring network program for the Callide Groundwater Unit 1.
- (2) The licence holder may apply to amend the monitoring network program.
- (3) In considering any submitted program or application to amend the program the chief executive may either—
  - (a) request further information; or

- (b) approve the program, with or without change; or
- (c) require the licence holder to submit a revised program.

#### **4 Water diversions**

- (1) The licence holder must measure and record the daily total volumes of water delivered to the Callide diversion channel.
- (2) The methodology for determining the volume delivered must be approved by the chief executive.

#### **5 Water discharged**

The licence holder must measure and record the daily total volumes of water discharged by the Awoonga Dam to Callide pipelines.

#### **6 Announced allocations**

The licence holder must record details—

- (a) of announced allocation determinations for—
  - (i) high A priority allocation;
  - (ii) high B priority allocation; and
  - (iii) medium priority allocation;
- (b) the date announced allocations are determined; and
- (c) the value of each parameter applied for calculating the announced allocation.

#### **7 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.

#### **8 Carryover**

The licence holder must record details of the total volume of water carried over to the water year from the previous water year.

#### **9 Water taken by water users**

- (1) The licence holder must, on an annual basis—
  - (a) measure and record the total volume of water taken by each water user for each zone; and
  - (b) keep separate records of groundwater and surface water taken for high B and medium priority water allocations.
- (2) The licence holder must, on a monthly basis, provide a reconciliation of Awoonga CS Energy, Awoonga Callide Power Management and Callide storage accounts in accordance with the operations manual for Callide Valley Water Supply Scheme.

#### **10 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;
- (d) the effective date of the seasonal water assignment; and
- (e) the sale price.

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

### **11        Water quality**

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

### **12        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.

### **13        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**

### **14        Reporting requirements**

The licence holder must provide—

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

## **Division 1            Annual reporting**

### **15        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 16;

- (b) details of the impact of storage operation on natural ecosystems as required under Attachment 3, section 17;
- (c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements of this licence; and
- (d) a summary of sale price disclosure information and other seasonal water assignment information as per Attachment 3, Part 1, Division 1(10).

## **16 Water quantity monitoring**

- (1) The licence holder must include in the annual report—
  - (a) a summary of announced allocation determinations, including—
    - (i) an evaluation of the announced allocation procedures and outcomes; and
    - (ii) the date and value for each announced allocation;
  - (b) instances where any restrictions, other than an announced allocation, 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;
  - (c) details of seasonal water assignments, including—
    - (i) the total number of seasonal water assignments; and
    - (ii) the total volume of water seasonally assigned;
  - (d) a summary of carryover determinations, including—
    - (i) the total carryover to the water year from the previous water year; and
    - (ii) the total carryover from the water year to the next water year;
  - (e) the total annual volume of water taken by all water users, specified by each 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;
  - (f) 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;
  - (g) details of any new monitoring devices used, such as equipment to measure stream flow; and
  - (h) the details and status of any interim programs implemented under condition 5.2.
- (2) The annual report must also include—
  - (a) for the Awoonga CS Energy and Callide Power Management storage accounts—
    - (i) the total volume of Awoonga Water Supply Scheme water at the start and end of the water year;
    - (ii) the total volume delivered to Callide Dam from the Awoonga Water Supply Scheme;
    - (iii) the total attributed Callide Dam storage loss; and

- (iv) the total volume of water from Awoonga Water Supply Scheme which is used in the Callide Valley Water Supply Scheme.
- (b) for the Callide storage account—
  - (i) the total volume of water supplied to each high priority water allocation holder;
  - (ii) the total volume of water released to medium priority groundwater allocations; and
  - (iii) the total attributed storage loss.

## 17 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 and fish stranding monitoring and assessment, including—
    - (i) results of investigations of bank slumping and/or erosion identified in 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) 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 2 Operational or emergency reporting

### 18 Operational or emergency reporting<sup>2</sup>

- (1) The licence holder must notify the chief executive—
  - (a) within one business day of becoming aware of any of the following operational incidents—
    - (i) non-compliance by the licence holder with the conditions of this licence;
    - (ii) instances of fish stranding, cyanobacterial growth or bank slumping within the ponded areas or downstream of the water infrastructure to which this licence relates; and
    - (iii) a decision being made to introduce a reduced full supply level under section 399B of the *Water Supply (Safety and Reliability) Act 2008*;

<sup>2</sup> This does not preclude requirements for dam safety under the *Water Supply (Safety and Reliability) Act 2008*, *Water Act 2000* and any other applicable legislation.

- (b) of an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of the 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.
- (3) The licence holder must—
  - (a) notify the chief executive within one business day—
    - (i) upon setting an initial announced allocation or resetting an announced allocation during the water year; and
    - (ii) with details of any arrangements for addressing circumstances where they are unable to supply water allocations;
  - (b) provide the chief executive with relevant supporting information used in making any decision under subsection (a)(i) and (ii).

# 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 Implementing and publishing interim program

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

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

# 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 <b>point in the watercourse is from the watercourse's mouth; or</b> —if the watercourse is not a main watercourse—the watercourse's confluence with its main watercourse.
Announced allocation	For a water allocation managed under a resource operations licence, means a number, expressed as a percentage, which is used to determine the maximum volume of water that may be taken in a water year under the authority of a water allocation.
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.
Carryover	The volume of water permitted to be carried over from the unused portion of the entitlement at the end of the previous water year.
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— the zone from which water under the water allocation can be taken; or an AMTD within a zone, from which water under the water allocation can be taken. 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. For a water licence to take overland flow water, means land described on the water licence at which water may be taken.
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.
Priority group	A grouping of water allocations for taking supplemented water from a water supply scheme with the same Water Allocation Security Objective (WASO).
Release	Water from a dam or weir that passes downstream from the dam or weir through the dam or weir outlet works.
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.
Water user	The holder of a valid water entitlement.