Resource Operations Licence
Water Act 2000

Name of licence
Central Lockyer Valley Water Supply Scheme Resource Operations Licence

Holder
Queensland Bulk Water Supply Authority

Water plan
The licence relates to the Water Plan (Moreton) 2007.

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 divert, store and manage water for underground water recharge and surface water use in:

- Laidley Creek for the ponded area of Laidley Creek Diversion Weir and downstream to Lockyer Creek which includes the ponded area of Showgrounds Weir and Crowley Vale Weir; and
- Lockyer Creek from AMTD 70.9 km to AMTD 46.4 km which includes the ponded area of Jordan I Weir, Wilson Weir, Clarendon Weir, Glenore Grove Weir and Kentville Weir and Redbank Creek for the ponded area of Jordan II Weir and downstream to Lockyer Creek.

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 commences on the first business day after publication except for provisions relating to water allocations (Chapter 3) which commence on 1 April 2020.

1.3. The approved operations manual must include—

1.3.1. operating rules for water infrastructure;

1.3.2. water sharing rules; and

1.3.3. seasonal water assignment rules.

1.4. The licence holder must not set the announced allocation for medium priority and low priority groundwater allocations below 40 per cent or greater than 100 per cent.

1.5. The licence holder must publish the approved operations manual on their website.

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 Standards[1].

4.4. The licence holder must ensure that the transfer of data and reporting are consistent with the Water Monitoring Data Reporting Standards[1].

4.5. 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 events prescribed in Attachment 3.

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 operating and supply arrangements and the monitoring required under this licence do not apply in situations where releases are necessary to attain a reduced full supply level notified under section 399B of the *Water Supply (Safety and Reliability) Act 2008*. This condition applies until the end of the period determined under section 399B or section 399C of the *Water Supply (Safety and Reliability) Act 2008*;

5.3. Condition 5.2 will cease to have effect on 1 September 2021[2].

5.4. The licence holder may at any time submit an interim program or an amendment to an existing interim program to the chief executive in accordance with Attachment 4, if the holder proposes to operate in a way that does not meet the requirements of this licence.

5.5. Where there is conflict between the requirements of this licence and an interim program, the interim program prevails for the time it is in place.

5.6. The licence holder is required to collect and make publically available through any digital channel, at least monthly, the sale price for each seasonal water assignment of a water allocation managed under the licence.

5.7. 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.

Commencement of licence

The licence took effect on 6 March 2020.

Granted on 3 March 2020

David Wiskar
Executive Director, Water Policy

[1] The Water Monitoring Data Collection Standards and the Water Monitoring Data Reporting Standards can be inspected at any of the department's offices or accessed online at: www.dnrme.qld.gov.au

[2] Expiry date of the Water Plan (Moreton) 2007.

Attachment 1 Infrastructure details for Central Lockyer Valley Water Supply Scheme

Table 1 – Bill Gunn Dam (Including Saddle Dam and Environmental Embankment) - Lake Dyer - Offstream Storage

Description of water infrastructure	
Description	Dam/offstream storage, zoned earth embankment.
Full supply level	EL 110.00 m AHD.
Minimum operating level	EL 101.09 m AHD.
Storage capacity	
Full supply volume	6,947 ML.
Minimum operating volume	580 ML.
Storage curves	107328 and 107329.
Outlet works/spillway arrangement	
Description of works	(i) Outlet is by a single 1200 mm diameter reinforced concrete pipeline that receives diverted water from Laidley Creek Diversion Weir for storage and when required is returned by gravity to the Showgrounds Weir. Control at the dam intake structure is by bulkhead gates and at the weir intake by penstock and at the Showgrounds Weir pipeline branch valve pit by butterfly valves. (ii) Spillway is by way of 1200 mm diameter combined in the intake structure with the discharge being carried by 1200 mm diameter reinforced concrete pipe to a dissipater then into an open channel flowing to Laidley Creek downstream of the Showgrounds Weir.
Levels	(i) Inlet / outlet pipeline invert at EL 100.00 m AHD. (ii) Spillway crest level at EL 110.00 m AHD with a pipe invert of EL 102.22 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	Single 1200 mm diameter Inlet/Outlet, flow is controlled manually by bulkhead gates. The offtake is through trash screens (2 off) that are manipulated from EL 112.00 m AHD to EL 103.25 m AHD amongst the removable baulks while retaining the “outlet baulk” at invert EL 99.85 m AHD and the “collapsible baulk” at invert EL 101.55 m AHD.
Inlet level	EL 100.00 m AHD.
Cease to flow levels	EL 100.00 m AHD. *Note: Showgrounds Weir cease to flow is 101.47 m AHD.*

Table 2 – Clarendon Dam (Including Saddle Dams) - Lake Clarendon Offstream Storage.

Description of water infrastructure	
Description	Dam/offstream storage, zoned earthfill embankment.
Full supply level	EL 96.00 m AHD.
Minimum operating level	EL 84.3 m AHD for Morton Vale and 87 m AHD for Lockyer Creek.
Storage capacity	
Full supply volume	24,276 ML.
Minimum operating volume	50 ML. The volume below the level of the outlet works for releases to the Morton Vale Water Supply System (EL 84.3 m AHD) is 50 ML. The volume below the level of the outlet works for releases to Lockyer Creek (EL 87 m AHD) is 2,600 ML.
Storage curves	106902 and 106903.
Outlet works/spillway arrangement	
Description of works	(i) Lockyer Creek Recharge Outlet works (diversion channel). Reinforced concrete channel outlet releases by gravity from FSL 96.00 m AHD to EL 94.00 m AHD through 4000 mm wide lift gate. From EL 94.00 m AHD to floor level EL 86.00 m AHD release is by 500 mm diameter re-lift pump to a 1050 mm diameter rising main that delivers downstream of the lift gate to the diversion channel. (ii) Morton Vale outlet discharging into a 1200 mm diameter reinforced concrete pipe conduit that is controlled downstream of the embankment by 900 mm diameter wafer valve installed in a reinforced concrete pit. (iii) Spillway. Reinforced concrete crest EL 96.00 m AHD is a lowered section of the embankment with reinforced concrete side training walls upstream, and discharging into an open channel downstream.
Levels	(i) Lockyer Creek Recharge Outlet. Minimum gravity offtake of EL 94.00 m AHD (bed of diversion channel). (ii) Minimum pumped offtake of EL 86.00 m AHD (Lake Clarendon floor). (iii) Morton Vale Outlet. Minimum gravity offtake EL 84.30 m AHD (invert of No. 1 offtake). In extreme cases with a portable pump can be reduced to EL 83.85 m AHD (lake bed level), but only with prior DNRME approval. (iv) Spillway: crest EL 96.00 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	(i) Lockyer Creek Recharge inlet/outlet works (diversion channel). Reinforced concrete channel inlet by gravity through 4000 mm wide lift gate, with minor inflows from the catchment. (ii) Morton Vale gravity outlet works. Standalone reinforced concrete inlet structure with three (3) tower offtakes (1500 mm x 2000 mm).
Inlet levels	EL 88.57 m AHD for Lockyer Creek re-lift. EL 84.30 m AHD for Morton Vale gravity offtake.
Cease to flow levels	EL 88.57 m AHD for Lockyer Creek re-lift. EL 84.30 m AHD for Morton Vale gravity offtake.

Table 3 – Jordan I Weir - Lockyer Creek - AMTD 65.2 km

Description of water infrastructure	
Description	Storage Weir / Pumping Pool, mass concrete embankment with "ogee" crest.
Full supply level	EL 87.20 m AHD.
Minimum operating level	85.50 m AHD.
Storage capacity	
Full supply volume	456 ML.
Minimum operating volume	25 ML.
Storage curves	f-35901.
Outlet works/spillway arrangement	
Description of works	(i) Outlet works comprise a welded steel delivery pipeline of 354 mm diameter terminating at a 354 mm diameter valve housed in a reinforced concrete outlet/control valve box of 1200 mm x 1981 mm x 2362 mm on the downstream side of the embankment accessed by ladders from the weir crest. Length of pipeline is 3.86 m. (ii) Water from Jordan I Weir passes through the channel through the north bank to pond in Jordan II weir on Redbank Creek, and supplies the Redbank pumps to supply Lake Clarendon. (iii) The spillway is the embankment ogee crest.
Levels	(i) Outlet Works Invert EL 82.91 m AHD. (ii) Crest: EL 87.20 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	Single level offtake.
Inlet level	EL 82.91 m AHD.
Cease to flow levels	EL 82.91 m AHD.

Table 4 – Jordan II Weir - Redbank Creek - AMTD 0.3 km

Description of water infrastructure	
Description	Diversion Weir, steel sheet piled with three concrete lined steps.
Full supply level	EL 87.50 m AHD. *Note: FSL for connected Jordon I Weir is 87.2 m AHD*.
Minimum operating level	EL 86.77 m AHD.
Storage capacity	
Full supply volume	30 ML.
Minimum operating volume	No information available.
Storage curves	A3-00376.
Outlet works/spillway arrangement	
Description of works	(i) The conduit is a 600 mm diameter reinforced concrete pipe 19.0 m long controlled on the downstream end by a 600 mm diameter butterfly valve. (ii) An outlet box of 900 mm x 2100 mm x 1500 mm. (iii) The spillway is the embankment crest.
Levels	(i) Outlet Works: Invert of 600 mm diameter reinforced concrete conduit at the upstream end EL 84.80 m AHD. (ii) Crest: EL 87.50 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	The normal operating level is the crest level of Jordan I Weir (EL 87.20 m AHD) also the conduit offtake (cease to flow) has an invert of EL 84.80 m AHD.
Inlet level	EL 84.8 m AHD.
Cease to flow levels	EL 84.8 m AHD.

Table 5 – Wilson Weir - Lockyer Creek - AMTD 61.3 km

Description of water infrastructure	
Description	Irrigation storage and underground water recharge Weir, mass concrete with ogee crest.
Full supply level	EL 82.85 m AHD.
Minimum operating level	EL 79.50 m AHD.
Storage capacity	
Full supply volume	234 ML.
Minimum operating volume	16 ML.
Storage curves	7107 and F11194.
Outlet works/spillway arrangement	
Description of works	The outlet is by way of a 405 mm diameter CI pipe set in the concrete and controlled on the downstream side by a gate valve discharging into the dissipater then overflowing onto the original creek bed.
Levels	(i) Outlet Works - EL 79.50 m AHD. (ii) Crest - EL 82.96 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	Single level offtake.
Inlet level	EL 79.50 m AHD.
Cease to flow levels	EL 79.50 m AHD.

Table 6 – Clarendon Weir - Lockyer Creek - AMTD 57.2 km

Description of water infrastructure	
Description	Underground water Recharge Weir, steel sheet piled with three concrete lined steps.
Full supply level	EL 78.90 m AHD
Minimum operating level	75.18 m AHD.
Storage capacity	
Full supply volume	233 ML.
Minimum operating volume	3.0 ML.
Storage curves	105948 and 105949.
Outlet works/Spillway arrangement	
Description of works	(i) Outlet works consists of a 450 mm diameter DICL conduit to the downstream end controlled by a 450 mm diameter gate valve. (ii) The spillway is the embankment crest, the flow continues over the concrete lined steps to the creek bed.
Levels	(i) Creek offtake invert (at gate valve on downstream end of conduit) EL 75.18 m AHD. (ii) Weir crest (spillway) EL 78.90 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
River inlet/outlet works	
Multi level offtakes	A top entering reinforced concrete inlet box (internal opening in plan is 900 mm x 788 mm) with trash screens, removable dropboards on the upstream face, and a conduit offtake.
Inlet level	EL 75.18 m AHD.
Cease to flow levels	EL 75.18 m AHD.

Table 7 – Laidley Creek Diversion Weir - Laidley Creek - AMTD 20.9 km

Description of water infrastructure	
Description	Diversion and underground water Recharge Weir, steel sheet piled with three concrete lined steps.
Full supply level	EL 110.56 m AHD.
Minimum operating level	EL 107.76 m AHD (106.91 m AHD with dropboards removed)
Storage capacity	
Full supply volume	44 ML.
Minimum operating volume	0.5 ML.
Storage curves	Hydrological Data Collection for the Brisbane and Pine Rivers Catchments Summary Report 2002 – Figure 25
Outlet works/spillway arrangement	
Description of works	(i) Outlet works consists of a top entering reinforced concrete inlet box through trash screens with removable dropboards on the upstream face flowing into a 200 mm diameter DI conduit to the downstream end controlled by a 200 mm diameter gate valve. (ii) The spillway is the embankment crest, the flow continues over the concrete lined steps to the creek bed. (iii) Lake Dyer Diversion- reinforced concrete box and separate control structure with penstock.
Levels	(i) Outlet Works (with dropboards removed) invert (at intake structure) EL 106.91 m AHD. (ii) Weir crest (spillway) EL 110.56 m AHD. (iii) Lake Dyer Diversion - pipe invert at control structure EL 108.00 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	The normal operating outlet is the crest (EL 110.56 m AHD), also, the conduit offtake has a minimum invert of EL 107.76 m AHD at top of the inlet box, that has an opening of 788 mm x 600 mm.
Inlet level	EL 106.91 m AHD.
Cease to flow levels	EL 106.91 m AHD.

Table 8 – Showgrounds Weir - Laidley Creek - AMTD 17.6 Km

Description of water infrastructure	
Description	Underground water Recharge Weir, steel sheet piled with three concrete lined steps.
Full supply level	EL 101.53 m AHD.
Minimum operating level	EL 99.60 m AHD.
Storage capacity	
Full supply volume	24 ML.
Minimum operating volume	2 ML.
Storage curves	A3-00377.
Outlet works/spillway arrangement	
Description of works	(i) Outlet works consists of a top entering reinforced concrete inlet box through trash screens, flowing into a 200 mm diameter DI conduit to the downstream end controlled by a 200 mm diameter gate valve. (i) The spillway is the embankment crest, with low flows through a vee notch centrally located, the flow continues over the concrete lined steps to the creek bed.
Levels	(i) Creek offtake invert (at intake structure with dropboards removed) EL 98.75 m AHD. (ii) Weir crest (spillway) EL 101.53 m AHD and Vee Notch invert EL 101.47 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	A top entering reinforced concrete inlet box (internal opening in plan is 900 mm x 788 mm) with trash screens, removable dropboards on the upstream face, and a conduit offtake.
Inlet level	98.75 m AHD.
Cease to flow levels	101.47 m AHD.

Table 9 – Crowleyvale Weir - Laidley Creek - AMTD 5.5 km

Description of water infrastructure	
Description	Pumping pool storage weir, reinforced concrete wall with centrally positioned dropboards.
Full supply level	EL 79.00 m AHD.
Minimum operating level	EL 74.00 m AHD.
Storage capacity	
Full supply volume	8 ML
Minimum operating volume	2 ML
Storage curves	Hydrological Data Collection for the Brisbane and Pine Rivers Catchments Summary Report 2002 – Figure 16.
Outlet works/spillway arrangement	
Description of works	Outlet work is by way of a 300 mm diameter wafer type butterfly valve fitted amongst the dropboards or by overtopping the crest.
Levels	No outlet levels are known at this time but are to be surveyed in the future.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	Single level offtake.
Inlet level	No outlet levels are known at this time but are to be surveyed in the future.
Cease to flow levels	No outlet levels are known at this time but are to be surveyed in the future.

Table 10 – Glenore Grove Weir (Including Anabranch Structure on Glenore Grove Lagoon) - Lockyer Creek - AMTD 52.7 km

Description of water infrastructure	
Description	Underground water Recharge Weir, steel sheet piled with three concrete lined steps.
Full supply level	EL 74.00 m AHD.
Minimum operating level	EL 69.15 m AHD.
Storage capacity	
Full supply volume	339 ML.
Minimum operating volume	24.7 ML.
Storage curves	Hydrological Data Collection for the Brisbane and Pine Rivers Catchments Summary Report 2002 – Figure 20.
Outlet works/spillway arrangement	
Description of works	A 900 mm diameter reinforced concrete conduit blanked off on the downstream end with a 300 mm diameter gate valve controlling the outlet flows on a 300 mm diameter vertical branch in a 2300 mm x 1250 mm x 2000 mm reinforced concrete outlet box. The spillway is the embankment crest. The flow tops the crest and continues over the concrete lined steps to the creek bed and downstream. The anabranch diversion structure consists of reinforced concrete headwalls upstream and downstream connected by a 600 mm diameter reinforced concrete pipe with a 600 mm diameter sluicegate on the upstream end and a flap valve on the downstream end.
Levels	Creek offtake invert (at gate valve on downstream end of conduit) EL 69.15 m AHD. Weir crest (spillway) EL 74.00 m AHD. Anabranch outlet EL 73.01 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	The normal operating outlet is the crest (EL 74.00 m AHD), also the conduit offtake has a minimum invert of EL 69.15 m AHD. The anabranch diversion has a minimum operating level of EL 73.01 m AHD.
Inlet level	EL 69.15 m AHD.
Cease to flow levels	EL 69.15 m AHD.

Table 11 – Kentville Weir - Lockyer Creek - AMTD 46.4 km

Description of water infrastructure	
Description	Underground water Recharge Weir, steel sheet piled with five concrete lined steps.
Full supply level	EL 69.09 m AHD.
Minimum operating level	EL 65.70 m AHD (64.85 m AHD with dropboards removed).
Storage capacity	
Full supply volume	480 ML.
Minimum operating volume	50 ML.
Storage curves	A3_110877-78
Outlet works/spillway arrangement	
Description of works	Outlet works consists of a 300 mm diameter DI conduit the downstream end controlled by a 300 mm diameter gate valve. The spillway is the embankment crest, the flow continues over the concrete lined steps to the creek bed.
Levels	Creek offtake invert (at gate valve on downstream end of conduit) EL 64.85 m AHD. Weir crest (spillway) EL 68.70 m AHD.
Spillway width	Nil.
Spillway length	Nil.
Discharge characteristics	Nil.
Inlet works	
Multi level offtakes	Single level offtake at the top of the inlet box that has an opening of 788 mm x 600 mm.
Inlet level	EL 64.85 m AHD.
Cease to flow levels	EL 64.85 m AHD.

Table 12 – Inlet/Outlet Works from Laidley Creek Diversion Weir to Lake Dyer Diversion Pipeline - Laidley Creek - AMTD 20.9 Km

Description of water infrastructure	
Description	Outlet works to diversion pipeline, reinforced concrete structure.
Details and dimensions of diversion works, if applicable	(i) Outlet structure comprises a 2750 mm x 2750 mm x 2155 mm reinforced concrete box fitted with 2 aluminium trash screens connected to the control structure by a 1290 mm diameter MSCL pipe, 11.5 m long. (ii) Control structure is a 3195 mm x 1900 mm x 5700 mm reinforced concrete box housing the batescrew which controls the flow from the 1290 mm diameter MSCL pipe to the 1500 mm diameter reinforced concrete diversion pipeline to Lake Dyer. (iii) The pipeline is 1500 mm diameter reinforced concrete pressure pipe with short sections of 1500 mm diameter MSCL with an overall length of 3632.57 m.
Max. Diversion Capacity	Diversion flow rates range from 51.8 ML/d minimum to 345 ML/d.
Purpose	
Purpose of water diversion works:	To divert flood flows in Laidley Creek via a gravity pipeline into Lake Dyer, and for subsequent release back into Laidley Creek upstream of the Showgrounds Weir to recharge the aquifer system.
Measurement	
Flow Measurement:	No meters installed.

Table 13 – Diversion Pipeline Inlet and Outlet at Lake Dyer Offstream Storage

Description of water infrastructure	
Description	Outlet works to diversion pipeline, reinforced concrete structure.
Details and dimensions of diversion works, if applicable	Works comprise a reinforced concrete tower of between 5800 mm x 5400mm (base) and 6800 mm x 3700 mm (top) x 12600 mm high. Two 1200 mm dia RC pipelines are located at the base of the tower, the upper being the spillway the lower being the inlet/outlet. Also located at the tower base are 2 baulks, one for inlet (collapsible) and the other for outlet purposes. Both inlet and spillway trash screens are fitted to the tower.
Max. Diversion Capacity	Diversion flow rates range from 51.8 ML/d minimum to 345 ML/d.
Purpose	
Purpose of water diversion works:	To divert flood flows in Laidley Creek via a gravity pipeline into Lake Dyer, and for subsequent release back into Laidley Creek upstream of the Showgrounds Weir to recharge the aquifer system.
Measurement	
Flow Measurement:	No meters installed.

Table 14 – Redbank Creek Pump Station and Outlet Works from Diversion Channel - Redbank Creek - AMTD 0.8 Km

Description of water infrastructure	
Description	Pump station and outlet works, reinforced concrete structure.
a) Details and dimensions of diversion works, if applicable	(i) Overall dimensions of the pump station are 11150 mm x 8000 mm x 6750 mm. (ii) Pump station delivery is by a three barrel rising main, 975 mm diameter reinforced concrete pipes. (iii) Delivered to the reinforced concrete channel inlet.
b) Max. Diversion Capacity	(i) Delivery to Lake Clarendon - 376 ML/d. (ii) Return flows are equal to inflows by gravity (From FSL to EL 94.00 m AHD) at 376 ML/d., but when re-lifted the flows are reduced to 87 ML/d.
Purpose	
Purpose of water diversion works:	The purpose of the diversion works is to augment irrigation supplies by increasing recharge of the aquifer and providing releases for riparian irrigation along Lockyer Creek and a separate pipeline distribution system from the lake provides water to the Morton Vale area.
Measurement	
Flow Measurement:	No meters installed.
Outlet Works	
Description of works	The outlet is integral with the pump station and consists of 3 barrels of 975 mm reinforced concrete pipe.

Table 15 – Lake Clarendon Pump Station and Outlet Works from Diversion Channel - Offstream Storage

Description of water infrastructure	
Description	Pump station and diversion inlet / outlet reinforced concrete structure.
a) Details and dimensions of diversion works, if applicable	The overall size of the structure is 6500 mm x 42000 mm x 2000 mm, gravity flow access by the control gate is 4000 mm wide.
b) Max. Diversion Capacity	Maximum inflow / outflow by gravity is 376 ML/d. When re-lifting, outflow is reduced to 87 ML/d.
Purpose	
Purpose of water diversion works:	The stored water is released back to the Lockyer Creek as regulated flow via the open channel.
Measurement	
Flow Measurement:	No meters installed.
Outlet Works	
Description of works	The outlet is integral with the pump station and consists of 1050 mm reinforced concrete pipe.

Table 16 – Outlet Works from Lake Dyer Diversion Pipeline D2 for Augmentation of Showgrounds Weir - Laidley Creek AMTD 17.6 Km

Description of water infrastructure	
Description	2150 mm x 1950 mm x 1800 mm reinforced concrete outlet box located at the termination of the 1050 mm diameter reinforced concrete pipeline.

Attachment 2 Environmental management rules

1 Quality of water released

When releasing water from Bill Gunn Dam and Clarendon Dam, 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 occurs incrementally.

3 Pass flow requirements for Kentville Weir

The licence must only divert water to Lake Clarendon or Lake Dyer when the combined flow in Lockyer and Laidley Creeks (including the water being diverted into Lake Dyer or Lake Clarendon) is expected to overtop Kentville Weir.

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, volume and streamflow 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

Continuous time series storage water level data (m AHD)	Continuous time series flow data (ML/d)
—	Clarendon Dam inflow
Clarendon Dam headwater level	—
—	Bill Gunn Dam inflow
Bill Gunn Dam headwater level	—

2 Releases from storages

The licence holder must measure and record for each release of water from Bill Gunn Dam and Clarendon Dam—

(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; and

(d) the inlet level used for each release of water; and

(e) the reason for taking water via a particular inlet level.

3 Water diversions

(1) The licence holder must measure and record for each water diversion and water inflows into storages—

(a) Bill Gunn Dam; and

(b) Clarendon Dam.

(2) the daily levels/flows at the licence holders gauge stations.

4 Monitoring groundwater unit 1 in implementation area 1

The licence holder must record and collect the following information for Groundwater Unit 1 in implementation area 1 within the Central Lockyer Valley water supply scheme–

(a) trends in the levels of groundwater;

(b) the volume of groundwater used;

(c) the recharge characteristics of the groundwater; and

(d) the quality of the groundwater.

5 Announced allocations

The licence holder must record details of announced allocation determinations including—

(a) the announced allocations for low priority and medium priority water allocations;

(b) the date announced allocations are determined; and

(c) the value of each parameter applied for calculating the announced allocation.

6 Water taken by water users

The licence holder must, on a quarterly basis, measure and record the total volume of water taken by each surface water user and groundwater user for each zone and priority group.

7 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) name of the assignee and the assignor;

(b) volume of the assignment;

(c) the location or zone—

(i) from which it was assigned; and

(ii) to which it was assigned;

(d) effective date of the seasonal water assignment; and

(e) the sale price.

Division 2 Impact of infrastructure operation on natural ecosystems

8 Water quality

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

9 Bank condition

(1) The licence holder must inspect banks and report to the department within 24 hours of becoming aware of the evidence of bank collapse or erosion identified within the ponded areas and downstream of the relevant infrastructure listed in attachment 1, following instances of—

(a) rapid water level changes;

(b) large flows through infrastructure; or

(c) other occasions when collapse or erosion of banks may be likely.

(2) For subsection (1), downstream of the relevant infrastructure means the distance of influence of infrastructure operations.

10 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

11 Reporting requirements

The licence holder must provide—

(a) disclosure of sale price data for seasonal water assignments;

(b) annual reports for the previous water year; and

(c) operational or emergency reports.

Division 1 Disclosure of sale price data for seasonal water assignments

12 Disclosure of sale price data

(1) The licence holder must collect and make publically available, sales price data for each seasonal water assignment at least monthly, unless another timeframe is approved by the chief executive.

(2) The information of sales price data for seasonal water assignments must include the data collected in section 7(b) to (e).

Division 2 Annual reporting

13 Annual report

(1) The licence holder must submit an annual report to the chief executive 90 days after the end of the water year.

(2) The annual report must include—

(a) groundwater data collected under attachment 3, section 4;

(b) water quantity monitoring results required under attachment 3, section 14;

(c) details of the impact of infrastructure operation on natural ecosystems as required under attachment 3, section 15;

(d) an assessment of the groundwater recharge benefit derived from the operation of the water supply scheme infrastructure;

(e) an assessment of the scheme's performance in delivering water to customers including any works proposed to improve scheme performance

(f) a discussion on any issues that arose as a result of operating in accordance with this licence;

(g) a summary of sale price disclosure information and other supporting information for seasonal water assignments.

14 Water quantity monitoring

The licence holder must include in the annual report made under section 9—

(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 the initial announced allocation and for each change made to an announced allocation;

(b) streamflow and infrastructure water levels—all records referred to in attachment 3, section 1;

(c) releases from storages—all records referred to in attachment 3, section 2;

(d) the total annual volume of water taken by each water user, specified by surface water and groundwater zones, namely—

(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 volume entitled to be taken;

(e) details of seasonal water assignments, namely—

(i) the total number of seasonal water assignments; and

(ii) the total volume of water seasonally assigned;

(f) all details of changes to infrastructure or the operation of the infrastructure that may impact on compliance with rules in this licence; and

(g) details of any new monitoring devices used such as equipment to measure streamflow; and

(h) the details and status of any programs implemented under condition 5.1.

15 Impact of infrastructure operation on natural ecosystems

The licence holder must include in their annual report—

(a) a summary of 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 or erosion identified in ponded areas or downstream of infrastructure undertaken in accordance with attachment 3, section 8; and

(ii) results of any investigations of fish stranding downstream of the storages; and

(iii) changes to the operation of infrastructure to reduce instances of bank slumping and erosion or fish stranding; and

(d) water quality—all records referred to in attachment 3, section 8 and a discussion and assessment of water quality issues.

Division 3 Operational or emergency reporting

16 Operational or emergency reporting[3]

The licence holder must—

(a) notify the chief executive within one business day of becoming aware of—

(i) any of the following operational incidents—

(A) a non-compliance by the licence holder with the operating and supply arrangements in the approved operations manual for this licence; and

(B) instances of bank slumping or fish stranding within the impounded areas or downstream of the water infrastructure to which this licence relates;

(ii) an emergency where, as a result of the emergency, the licence holder cannot comply with the conditions of this licence; and

(iii) a decision being made to introduce a reduced full supply level for Bill Gunn Dam or Clarendon Dam under section 399B of the *Water Supply (Safety and Reliability) Act 2008*

(b) provide to the chief executive a report which includes details of—

(i) the incident or emergency;

(ii) conditions under which the incident or emergency occurred;

(iii) any responses or activities carried out as a result of the incident or emergency; and

(A) 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] 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 or an amendment to an existing program including a timetable and interim methods to be used to the chief executive in accordance with section 184 of the *Water Act 2000*, if the holder proposes to operate in a way that is different to the requirements of this licence.

Attachment 5 Glossary

Term	Definition
AHD	Australian Height Datum, which references a level or height to a standard base level.
AMTD	Adopted middle thread distance
Announced allocation	For a water allocation managed under a water 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.
Approved interim program	The Interim Program approved by the Chief Executive.
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).
EL	Elevation
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 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.
Infrastructure	A dam, weir or other water storage and any associated works for taking or interfering with water in a watercourse, lake or spring.
Interim program	The program by which the licence holder will operate the water supply scheme during the period of the emergency or operational incident in which licence holder cannot comply with the requirements of the resource operations licence
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.
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.

Term	Definition
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.