Prepared for Glebe Beneficial Use Scheme

Discharge Management Plan

for Compliance with Department of Environment Approval

Date: January 2015

Project: Glebe Beneficial Use Scheme **File No:** 13-000180/001

Table of Contents

Executive Summary

SunWater is required to prepare a Discharge Management Plan as part of the Australian Government conditions of approval for the Glebe Beneficial Use Scheme. As the current Resource Operations Licence holder for the Dawson Valley Water Supply Scheme, SunWater is obliged to undertake various monitoring and reporting for the Queensland Government related to the management of the scheme. That monitoring and reporting is directly applicable to the requirements of the Discharge Management Plan and SunWater already has all necessary monitoring equipment and recording processes in place to complete the task.

Monitoring is done through measurement of:

- Water discharged to Glebe Weir;
- High priority water extracted
- Medium A priority water extracted;
- Medium priority water extracted
- Unsupplemented water extracted; and
- Water released for environmental flows.

Losses are calculated using established formulae.

This document includes a reporting template which will allow rapid determination of compliance.

1. Introduction

SunWater has obtained an approval under the EPBC Act (EPBC 2011/6181) to supply up to 36,500 megalitres (ML) per year of treated Coal Seam Gas (CSG) water to customers along a transfer pipeline and within the Dawson Valley Water Supply Scheme (DVWSS). This project is referred to as the Glebe Beneficial Use Scheme (GBUS). The preparation and submission of a Discharge Management Plan (DMP) to the Department of the Environment is required by Condition 7 of the approval.

Condition 7 of the approval states:

"The person taking the action must prepare a Discharge Management Plan (DMP). The DMP must be submitted to, and approved by the department prior to commencement of discharge. The DMP must include, but should not be limited to, the following:

a. measures to maximise the opportunity for a volume of water equivalent to the volume of discharged Coal Seam Gas water to be extracted from the Dawson River prior to the end of the Dawson Valley Water Supply Scheme area; and

b. measures to monitor the location, volume and type of usage of said volume.

Relevant definitions included in the approval are:

Discharge – the act of discharging treated Coal Seam Gas water into the Glebe Weir on the Dawson River, Queensland.

Discharged Coal Seam Gas Water – all treated Coal Seam Gas water that travels through the proposed pipeline and is discharged into the Glebe Weir on the Dawson River, Queensland.

Dawson Valley Water Supply Scheme – the 338km stretch of the Dawson River from the upstream extent of Glebe Weir to the downstream limit of the Boolburra Waterhole.

The aim of this document is to describe the DMP.

The "measures" required by Condition 7a are management measures or processes that target the nominated outcome. The measures required by Condition 7b are monitoring or recording tools that determine if the outcome targeted by Condition 7a has been achieved.

2. Satisfaction of Condition 7a

Water is "extracted" from the DVWSS via the following mechanisms:

1. Supplemented supply allocations:
   - High reliability supply purposes (primarily town water supply or industrial supply including mines)
   - Medium priority A purposes (channel based irrigation)
   - Medium priority purposes (river channel extraction primarily for agricultural purposes);
2. Riparian entitlements: the "as of" right of landholders with a river boundary to extract water for stock and domestic purposes;
3. Environmental flows: SunWater manages releases from weirs on the river to satisfy the "First post-winter flow event" and "seasonal baseflow" requirements of the Water Resource Plan;
4. "Losses": the water which evaporates from storages or while in transit or is lost to seepage into the bed and banks of the river; and

5. Unsupplemented supply extraction; or "water harvesting":
    - Generally from flood flows and for agricultural purposes and is not managed by SunWater as part of the DVWSS but by the Queensland Department of Natural Resources and Mines (DNRM).
    - In addition to extracting water during flood flows, unsupplemented allocation holders may now also receive an additional scheduled volume at SunWater's discretion to be taken at regular intervals, which is not linked to flood flows, but based on a share as determined by SunWater of the additional supply made available to the scheme from treated CSG water.

There is significant agriculture occurring in the DVWSS, being predominantly cotton growing, with a very high demand for irrigation water in a relatively dry region. The majority of this is within the Upper Dawson sub-scheme of the DVWSS (refer to paragraph and dot points below for further scheme details). Primary extraction is for agricultural irrigation purposes – comprising supplemented medium priority allocation holders (41,552ML total allocated volume in the Upper Dawson for both river and channel irrigators as at 2014), and also unsupplemented allocation holders (water harvesters – 23,867ML total allocated Nominal Volume in the Upper Dawson as at 2014).

By comparison, the median annual flow at Glebe Weir (near the top of the DVWSS) is approximately 240,000 ML/a. The actual volumes able to be extracted will vary depending on this inflow, and related environmental factors. The maximum volumes that can be extracted at any time for the supplemented medium priority allocation holders is determined as a percentage of the total allocation volume for this group – the "announced allocation".

Historically the announced allocation calculation as required to be calculated and updated by SunWater during the water calendar year (1 October to 30 September), allowing for climate changes, inflows, available storage volumes, and losses. These factors typically result in a calculation of between 0 and 20% at the start of the water calendar year. This being the maximum percentage of each irrigator's defined allocation volume that can be made available for extraction at the start of the planting and growing season. And the announced allocation calculation may still often not reach the full 100% allowable allocation volume for extraction by the end of the water year (i.e. irrigator's are typically unable to extract their full allocation volume), despite demand, due to insufficient inflows.

The discharge of treated CSG water from the Woleebee Creek to Glebe Weir pipeline will provide for much needed additional supply (inflow) to the DVWSS, making up to a maximum of 36,500ML per year of available water – depending on production volumes of treated CSG water, extent of pipeline customers reducing the volume before discharge, and losses and environmental flow obligations within the DVWSS.

As part of its Resource Operating Licence (ROL), SunWater is required to monitor and report on all extractions from the scheme (noting that unsupplemented extraction for flood flows is not part of the scheme, being the responsibility of the Queensland Government's Department of Natural Resources and Mines). The water accounting processes are specified in the ROL and Resource Operations Plan (ROP) to the extent that clearly identified standards must be met and particular formulae used. The standards are the Departmental (DNRM) "Water Monitoring Data Collection Standards".

Allocations within the scheme are broken down by "ROP zones" which equate to a length of river, usually relating to a particular weir and the length of river it primarily supplies.

The ROP for the Fitzroy Basin has been amended to recognise the input of treated CSG water via the Woleebee Creek to Glebe Weir pipeline and this must be recorded and reported in accordance with Section 399(k) of the ROP. As such, the treated CSG water will be distributed and accounted for in the same way as all other water in the scheme, as described above and below.

The ROP (Section 82(2)) allows for the distribution of treated CSG water, where the ROL holder (SunWater) may use the Dawson River from Glebe Weir (AMTD 326.2 km) to the downstream extent of the Dawson Valley Water Supply Scheme (AMTD 18.37 km), including sections of tributaries where treated CSG water is accessible. This includes the two sub-schemes specified as follows:

- Upper Dawson sub-scheme - the Dawson River from the upstream limit of Glebe Weir (AMTD 356.5 km) to the effective upstream limit of Neville Hewitt Weir (AMTD 107 km); and
- Lower Dawson sub-scheme - the Dawson River from the effective upstream limit of Neville Hewitt Weir (AMTD 107 km) to the downstream limit of Boolburra waterhole (AMTD 18.37 km).

It is anticipated however that the distribution of treated CSG water will primarily occur within the Upper Dawson sub-scheme, and in particular to medium priority supplemented allocation holders (primarily river and channel irrigators), in accordance with rules in the ROP (Section 91 and 92) to make additional water allocation volumes available, taking into account the projected treated coal seam gas water availability. Supply may also be available to other customers, including unsupplemented allocation holders (water harvesters).

The primary measure to be used to maximise the likelihood that a volume equivalent to that of the discharged treated CSG water is extracted from the scheme is to increase access to supplemented allocations, particularly medium and medium A, and also potentially to unsupplemented supply. The former is achieved through the “announced allocation” process. Allocations are a maximum volume that a water user is entitled to extract in a year. In dry years, only a proportion of this volume would be available. The “announced allocation” process is used to calculate the amount of water, or the proportion of the allocation, that is available to be extracted at any point in time. SunWater undertakes the calculation in accordance with formulae provided in the ROP and announces the allocation at the start of the water year. As flows in the system vary in response to climate, the allocation is re-calculated and new announcements made whenever the available volume changes. As noted above, the first announcement is traditionally only for a small proportion of the total allocation, but it usually increases as summer flows enter the system.

The volume of treated CSG water discharged from the Woleebee pipeline has now been formally incorporated into the announced allocation formula so will have the effect of both improving the reliability, and increasing the availability of water for extraction by a volume equivalent to that of the CSG water (with allowance for “losses”). This is done through providing for higher announced allocation calculations during the water year (increased early supply volumes), and also for allocation volumes to be able to exceed the normal 100% limit for each allocation holder, based on the additional supply available from treated CSG water.

Access to unsupplemented users for normal flood flow events is managed by DNRM. However in accordance with the recently revised ROP, SunWater is also able to allow for additional extraction volumes to unsupplemented allocation holders on a more regularly scheduled basis, as a proportion of the treated CSG water available. This would be done under a water licence as granted to SunWater by the State Government to take treated coal seam gas (Section 45 of the ROP).

Following consultation with DNRM and irrigators, and allowing for any other commitments for supply of treated CSG water, SunWater may proportionally split the additional available supply from treated CSG water between both the supplemented and unsupplemented allocation customer groups. This proportional split may consider the total sum of supplemented allocation volumes (Med and Med A priority, totalling 41,552ML), and the total unsupplemented Nominal Volume (23,867ML) – being proportionally 64% and 36% respectively (potential maximum share to unsupplemented users). However other constraints and factors may reduce supply to unsupplemented users (water harvesters) and prioritise supply to supplemented allocation holders – including the key principles of maximising the beneficial use of the treated CSG water, and ensuring that the security of existing

DVWSS water allocations is not adversely affected by the taking of and distribution of treated CSG water in the scheme.

The proportional share to be made available to unsupplemented users will further consider customer supply requests and use patterns, ability of customers to take regular scheduled supply at relatively smaller volumes (compared to flood supply), operational constraints in scheduling supply (optimising storage volumes and releases), location of customers and practically minimising transmission losses, and other supply constraints for this group. It may be that during periods of low inflows and/or high demand, that all of the additional supply made available (from treated CSG water) is scheduled to supplemented allocation holders.

As noted above, the process for making additional supply available to supplemented medium priority allocation holders will follow a formal process in accordance with the announced allocation rules in the ROP, and will apply uniformly to all allocation holders in this group. This will periodically make available increased percentages of customer's allocation volumes through the water calendar year – with higher volumes able to be made available at earlier stages, and a higher total allocation volume for each year, taking into consideration the additional supply from treated CSG water inflows.

The process for making any supply available to unsupplemented allocation holders (for a proportion of the available CSG water) will rely more on a regular scheduled take as provided by SunWater – anticipated to be monthly, with associated releases from various weirs in the scheme and specific scheduled volumes for each customer. This will depend on the operational and supply constraints at the time as noted, and may result in supply being prioritised to supplemented allocation holders (as part of the announced allocation process).

SunWater may also enter into specific CSG water supply contracts with typical "high priority" industrial customers, though noting limitations in treated CSG water supply volumes – which is dependant on QGC's production volumes, other priority supply to pipeline customers, and generally diminishing water volumes over time as a function of CSG water extraction from the gas wells.

3. Satisfaction of Condition 7b

The purpose of Condition 7b is to use monitoring and measurement to determine if the outcome of Condition 7a has been achieved. To do so, SunWater will include:

- Monitoring and recording the volume of treated CSG water discharged to Glebe Weir;
- Monitoring and recording inflows to each water storage within the DVWSS, the volume of water in storage, and outflows from each water storage
- Monitoring and recording the volume of water taken by each allocation holder (all allocation holders have metered offtakes which are used by SunWater for invoicing purposes)
- Calculating the volume used through riparian entitlement, losses and environmental flows (in accordance with formulae provided in the ROP)
- Obtaining the unsupplemented extraction volumes and locations from DNRM.

SunWater has existing flow gauging stations or rated outlets in appropriate locations relative to all weirs within the scheme in order to achieve the above. A water ordering system is in place to record the reason for releases from storages (and which allocation holder requested the release). All necessary meters are in place and are read at a frequency which will allow reporting on the nominated schedule. The necessary formulae to calculate those aspects of use that are not metered are in place as dictated by the ROP.

Gauging station data will be reviewed and validated in accordance with SunWater's ongoing program to review data and ensure accuracy, and/or otherwise as required for submission of reliable data to DNRM.

4. Reporting

Frequency of reporting with respect to the DMP is dictated by Condition 8b:
"*Within three months of every six month anniversary of commencement of discharge (and until 2 years after cessation of discharge), the person taking the action must submit to the Minister an Environmental Performance Report (EPR). Each EPR must include, but not be limited to, the following:*

The results of the implementation of the DMP required by Condition 7;"

SunWater can comply with the 6 monthly reporting schedule. The date on which discharge will commence is not yet certain, but is currently programmed for early February 2015. SunWater will align the reporting dates for its Queensland Government mandated ROL reporting, which is quarterly and annually.

The report will be in tabular form listing the volume of treated CSG water discharged in the previous 6 months and comparing that with that with the measured volume of water extracted from the scheme. The latter will be by Scheme section (Upper and Lower Dawson) and extraction type. The sum at the end of the two columns provides a simple compliance comparison. A text section incorporating any relevant comments will follow the table. A preliminary example is provided below.

Discharged treated CSG volume (ML)	**Water Extracted from the DVWSS**		
XXX	**Scheme section**	**Extraction type**	**Volume (ML)**
	Upper Dawson	High priority	
		Medium A	
		Medium	
		Riparian	
		Environmental	
		Losses	
		Unsupplemented	
	Total		XX
	Lower Dawson	High priority	
		Medium A	
		Medium	
		Riparian	
		Environmental	
		Losses	
		Unsupplemented	

Discharged treated CSG volume (ML)	**Water Extracted from the DVWSS**		
XXX	**Scheme section**	**Extraction type**	**Volume (ML)**
	Total		XX
Comparison: Total = XX	Total		XX

Was a volume of water equivalent to the volume of discharged Coal Seam Gas water to be extracted from the Dawson River prior to the end of the Dawson Valley Water Supply Scheme? YES / NO

Comments:

_____
_____

5. References

- **Resource Operating Licence**;

  Refer **Appendix A**

- **Resource Operations Plan**;

  Link is found on the following web page:

  https://www.dnrm.qld.gov.au/water/catchments-planning/catchments/fitzroy-basin

  Refer **Appendix B** for an extract of the ROP as applicable to the Dawson Valley Water Supply Scheme.

- **Water Resource Plan**;

  https://www.legislation.qld.gov.au/Acts_SLs/Acts_SL_W.htm

Appendix A

Resource Operating Licence

Resource Operations Licence
Water Act 2000

Queensland Government

Name of Licence
Dawson Valley Water Supply Scheme Resource Operation Licence

Holder
Name of Holder SunWater Limited

Resource Operations Plan
The licence relates to the Fitzroy Basin Resource Operations Plan (the Plan).

Authority to Interfere
The licence authorises the licence holder to interfere with the flow of water in the Dawson Valley Water Supply Scheme, as detailed in Chapters 4 and 5 of the Plan, to the extent necessary to operate the water infrastructure to which the licence applies.

Water Infrastructure
The water infrastructure to which the licence applies is detailed in the Plan in Attachment 12, Part 1.

Conditions
1. **Operating Arrangements and Supply Requirements**
   - **1.1.** The operating arrangements and supply requirements that relate to the licence holder are detailed in Chapter 5 of the Plan.
   - **1.2.** In accordance with section 110 of the *Water Act 2000*, the licence holder must comply with the operating arrangements and supply requirements in the Fitzroy Resource Operations Plan, for the Dawson Valley Water Supply Scheme.

2. **Metering**
   - **2.1.** The licence holder must meter in accordance with section 11 of the Plan.

3. **Monitoring and Reporting Requirements**
   - **3.1.** The licence holder must carry out and report on the stated monitoring program set out in Chapter 20 of the plan and in accordance with section 12 of the Plan.

4. **Transitional Arrangements**
   - **4.1.** The transitional arrangements detailed in Schedule 1 apply if, on the day the Plan commences, the licence holder is unable to meet the requirements of the Plan as required under Conditions 1, 2 and 3.

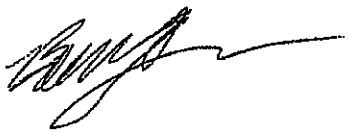
5. **Stated amendment – Water Act 2000, Section 113**
   - **5.1.** The Chief Executive may amend this licence to change the transitional arrangements stated in Schedule 1 if necessary as a consequence of the licence holder's completion of elements of the interim program approved by the Chief Executive under section 13 of the plan.

Commencement of licence

The licence took effect on 18 May 2006.

Granted on

18 May 2006, amended 26 September 2014.



Bernadette Hogan
Director, Water Services Support

SCHEDULE 1

TRANSITIONAL ARRANGEMENTS

Queensland Government

1. This Schedule applies:
   a) if, on the day that the Fitzroy Basin Resource Operations Plan (the Plan) commences, the licence holder is unable to meet the requirements of the Plan so as to comply with Conditions 1, 2 and 3 of this licence;
   b) only to the extent that the licence holder is unable to comply with the Plan and Conditions 1, 2 and 3 of this licence.

2. Notwithstanding Conditions 1, 2 and 3, the licence holder must:
   a) comply with the Plan section 13 in submitting for approval by the Chief Executive the licence holder's statement of current programs and interim program for the implementation of the Plan;
   b) to the extent that the licence holder's inability to comply with the Plan and Conditions 1, 2 and 3 of this licence relates to an operation or matter for which provision was made in the previous authorisation for the Dawson Valley Water Supply Scheme as in force immediately before the commencement of the Plan – continue to comply with the previous authorisation in respect of the matter or operation as if the previous authorisation had not ceased to have effect, but only until the Chief Executive approves the licence holder's interim program under the Plan section 13;
   c) following the Chief Executive's approval of the licensee's interim program under the Plan section 13 – continue to operate, meter and undertake monitoring and reporting in accordance with the interim program approved by the Chief Executive, but only to the extent of the elements of the interim program that have not been replaced by the arrangements implemented under the approved program.

Appendix B

Fitzroy Basin – Resource Operations Plan (ROP)

Extract of Chapters for Dawson Valley Water Supply Scheme (DVWSS)

Fitzroy Basin

Resource Operations Plan

September 2014

This publication has been compiled by Water Policy, Department of Natural Resources and Mines.

Contents

Chapter 1 Preliminary

1 Short title

(1) This resource operations plan may be cited as the Fitzroy Basin Resource Operations Plan 2014[1].

(2) Reference in this document to 'this plan' means the Fitzroy Basin Resource Operations Plan 2014.

2 Commencement of the resource operations plan

This plan commences on the first business day after this plan is notified in the Queensland Government Gazette.

3 Purpose of plan

This plan implements the Water Resource (Fitzroy Basin) Plan 2011.

4 Interpretation of words used in this plan

The dictionary in attachment 1 defines particular words used in this plan.

5 Plan area

This plan applies to the area shown as the plan area on the map in attachment 2.

6 Water to which this plan applies

(1) This plan applies to the following water (surface water) in the plan area—

(a) water in a watercourse or lake; and

(b) water in a spring not connected to—

(i) artesian water; or

(ii) subartesian water connected to artesian water.

(c) overland flow water other than water in a spring connected to water managed in subsection (b).

(2) This plan also applies to underground water that is subartesian water not connected to artesian water (groundwater) in the plan area.

7 Resource operations licence holder

(1) A resource operations licence holder for this plan is the resource operations licence holder for the—

(a) Dawson Valley Water Supply Scheme;

(b) Nogoa Mackenzie Water Supply Scheme;

(c) Lower Fitzroy Water Supply Scheme;

(d) Fitzroy Barrage Water Supply Scheme; and

(e) Callide Valley Water Supply Scheme.

(2) The extent of the water supply schemes listed in subsection (1) is shown on the map in attachment 3.

8 Water management areas

Each of the following water management areas as shown in the map in attachment 4 is a water management area for this plan—

[1] To allow for future amendments to this plan, some section numbers have been deliberately left blank. This will facilitate any plan amendments that may occur without the need for the whole plan to be renumbered.

(a) Dawson Valley Water Management Area;

(b) Nogoa Mackenzie Water Management Area;

(c) Comet Water Management Area;

(d) Theresa Retreat Water Management Area; and

(e) Fitzroy Water Management Area.

9 Resource operation plan zones

(1) Each of the zones shown on the maps in attachment 5 is a resource operations plan zone (zone) for this plan.

(2) Each surface water zone is described in the tables in attachment 5 and includes—

(a) each part of a watercourse, lake or spring that lies within the zone; and

(b) those sections of tributaries and anabranches where there is access to flow or pondage from a watercourse or lake within the zone.

10 Information about areas, schemes and zones

(1) The location of the boundaries of the plan area, water supply schemes, water management areas and resource operations plan zones are held in digital electronic form by the department.

(2) The information held in digital electronic form can be reduced or enlarged to show the details of the boundaries[2].

11 Metering

The resource operations licence holder must meter the taking of water under all water allocations and seasonal water assignments managed under their resource operations licence.

12 Departmental water monitoring data collection standards and data reporting standards

(1) Where this plan requires monitoring by the resource operations licence holder, including measurement, collection, analysis and storage of data, the resource operations licence holder must ensure the monitoring is consistent with the Water Monitoring Data Collection Standards[3].

(2) Where this plan requires transfer of data or reporting by a resource operations licence holder, the resource operations licence holder must ensure the transfer or reporting is consistent with the Water Monitoring Data Reporting Standards[4].

13 Interim program

(1) This section applies where a resource operations licence holder is unable to meet the requirements of this plan.

(2) The resource operations licence holder must—

(a) within two months of commencement of this plan, submit a statement of programs currently in existence to the chief executive for approval; and

(b) within 6 months of commencement of this plan, submit an interim program for meeting the requirements of this plan to the chief executive for approval.

(3) The resource operations licence holder may at any time submit an interim program or an amendment to an existing program to the chief executive for approval if the holder proposes to operate in a way that is different to the requirements of this plan.

---

[2] The boundaries held in digital electronic form may be inspected at any of the department's offices.

[3] The Water Monitoring Data Collection Standards can be inspected at any of the department's offices or accessed online at: <www.dnrm.qld.gov.au>

[4] The Water Monitoring Data Reporting Standards can be inspected at any of the department's offices or accessed online at: <www.dnrm.qld.gov.au>

(4) Any submitted interim program or amendment to an existing program by the resource operations licence holder must include a timetable and interim methods to be used.

(5) In considering any submitted program, the chief executive—

(a) may request additional information from the resource operations licence holder; and

(b) must consider the public interest.

(6) In deciding any submitted program, the chief executive may either—

(a) approve the program, including with conditions; or

(b) amend and approve the amended program; or

(c) request the resource operations licence holder to submit a revised program.

(7) Within 10 business days of making a decision on a submitted program, the chief executive must notify the resource operations licence holder of the decision.

(8) Following approval of the program by the chief executive, the resource operations licence holder must—

(a) publish details of the approved program on their internet site; and

(b) operate in accordance with the approved program.

(9) Where there is conflict between the provisions of this plan and an approved program, the program prevails for the time it is in place.

14 Operating and environmental management rules and monitoring requirements

(1) The operating and environmental management rules and monitoring requirements of this plan do not apply in situations where implementing the rules or meeting the requirements would be unsafe to a person or persons.

(2) Where subsection (1) applies, the resource operations licence holder must comply with the reporting requirements for operational or emergency prescribed in chapter 20, section 401.

15 Addressing water resource plan outcomes

Attachment 6 lists the outcomes of the Water Resource (Fitzroy Basin) Plan 2011 and how this plan addresses those outcomes.

16 to 21 section numbers not used

Chapter 2 Unallocated water

22 Scope of chapter 2

This chapter states the process for making available and dealing with unallocated water mentioned in chapter 5, part 1, division 3 of the Water Resource (Fitzroy Basin) Plan 2011.

23 Record of volume of unallocated water

The chief executive may keep a register of the volume of unallocated water available.

Part 1 Granting from strategic water infrastructure reserve[5]

24 Process for granting particular water allocations from the strategic water infrastructure reserve for water infrastructure on the Fitzroy River—*Water Act 2000,* section 122 and 212

(1) The chief executive may accept a submission for making unallocated water available from the strategic water infrastructure reserve for water infrastructure on the Fitzroy River—

(a) from Gladstone Area Water Board for up to 30 000 ML of the reserve for urban and industrial water supplies;

(b) from a local government authority for up to 4000 ML of the reserve for urban water supplies for the Capricorn Coast; and

(c) from a person or entity for up to the remaining 42 000 ML of the reserve.

(2) The submission must be supported by sufficient information to enable the chief executive to assess the submission against the outcomes and objectives of the Water Resource (Fitzroy Basin) Plan 2011.

(3) The chief executive may grant a supplemented water allocation through an amendment to this plan that includes infrastructure operating and environmental management rules for the new water infrastructure and water sharing rules for the water allocation being granted.

(4) Despite subsection (3), the chief executive may grant the water entitlement to the Gladstone Area Water Board in the form of a water licence that includes the following elements if the board's submission demonstrates to the satisfaction of the chief executive that there is a formal agreement in place for the construction of a pipeline that will be used to access water under this entitlement—

(a) a nominal entitlement no greater than 30 000 ML; and

(b) a flow condition equivalent to at least 432 ML per day passing the Fitzroy Barrage.

[5] Section 45 of the Water Resource (Fitzroy Basin) Plan 2011 states all the strategic water infrastructure reserves for the Fitzroy Basin.

Part 2 Granting from strategic reserve or general reserve[6]

25 Scope of part 2

This part applies to unallocated water held as—

(a) strategic reserve; and

(b) general reserve.

26 Process for granting unallocated water held as strategic or general reserve—*Water Act 2000*, sections 122 and 212

The process for granting unallocated water must be in accordance with the requirements prescribed in part 2, division 1C of the Water Regulation 2002.

27 Limitation on making unallocated water available to protect strategic water infrastructure reserve for water infrastructure on the Connors River

Unallocated water is not available to be granted from the Connors River from upstream of its junction with Funnel Creek at AMTD 51.9km on the Connors River.

28 Determining elements of unsupplemented water allocations

The chief executive, in granting any unsupplemented water allocation from the general reserve for surface water, must grant the allocation in accordance with section 90 of the Water Resource (Fitzroy Basin) Plan 2011 and table 1 of this plan.

Table 1: Determining elements of unsupplemented water allocations

Location	Zone	Flow conditions	Water allocation group	Annual volumetric limit (ML/year)	Maximum rate (Litres/second)
Nogoa Mackenzie Water Management Area	Mackenzie A Mackenzie B Mackenzie C Mackenzie D Mackenzie E	4320 ML/day passing flow	Class 1B	Nominal volume multiplied by 1.20	Nominal volume multiplied by 0.78468
Fitzroy Water Management Area	Fitzroy A Fitzroy B Fitzroy C Fitzroy D Fitzroy E	4320 ML/day passing flow	Class 5B	Nominal volume multiplied by 1.35	Nominal volume multiplied by 0.48438

29 to 39 section numbers not used

[6] Sections 40 and 47 of the Water Resource (Fitzroy Basin) Plan 2011 state all the strategic and general surface water and groundwater reserves for the Fitzroy Basin.

Chapter 3 Granting, converting and amending authorisations and transitional arrangements for particular entitlements

Part 1 Granting of a resource operations licence—*Water Act 2000*, section 107

40 Resource operations licence

(1) The chief executive must grant a resource operations licence to SunWater Limited for the Callide Valley Water Supply Scheme.

(2) The infrastructure associated with the resource operations licence for Callide Valley Water Supply Scheme is described in attachment 12, part 5.

(3) Supplemented water allocations managed under the resource operations licence for the Callide Valley Water Supply Scheme are detailed in attachment 7, part 1.

Part 2 Rules for converting to and granting water allocations, *Water Act 2000*, sections 121 and 122

Division 1 Converting to and granting supplemented water allocations

41 Rules for converting interim water allocations and granting supplemented water allocations

(1) The chief executive must convert existing interim water allocations in the Callide Valley Water Supply Scheme[7] and grant supplemented water allocations in accordance with attachment 7, part 1.

(2) The chief executive must convert interim water allocation 102930 in the Dawson Valley Water Supply Scheme[8] and grant a supplemented water allocation in accordance with attachment 7, part 2.

Division 2 Converting to and granting unsupplemented water allocations

42 Rules for converting existing water authorisations and granting unsupplemented water allocations

The chief executive must convert existing water licences[9] and grant unsupplemented water allocations for—

(a) the Dawson Valley Water Management Area—in accordance with attachment 8, part 1;

(b) the Nogoa Mackenzie Water Management Area—in accordance with attachment 8, part 2;

(c) the Comet Water Management Area—in accordance with attachment 8, part 3; and

(d) the Theresa Retreat Water Management Area—in accordance with attachment 8, part 4.

[7] See sections 49 to 57 of the Water Resource (Fitzroy Basin) Plan 2011.
[8] See sections 60 and 61 of the Water Resource (Fitzroy Basin) Plan 2011.
[9] See sections 88 to100 of the Water Resource (Fitzroy Basin) Plan 2011.

Part 3 Amending existing unsupplemented water allocations

43 Amending existing unsupplemented water allocations—Water Resource (Fitzroy Basin) Plan 2011, section 87

The chief executive must amend existing unsupplemented water allocations for—

(a) the Nogoa Mackenzie Water Management Area—in accordance with attachment 9, part 1; and

(b) the Fitzroy Water Management Area—in accordance with attachment 9, part 2.

Part 4 Granting water licences

Division 1 Granting water licences to replace authorities—*Water Act 2000,* section 212

44 Granting water licences to replace authorities

Within 120 business days of the commencement of this plan, the chief executive must grant each water licence to replace existing water authorisations in accordance with attachment 10, parts 1 and 2.

Division 2 Granting a water licence to take treated coal seam gas water—*Water Act 2000,* section 212

45 Process for granting a water licence to take treated coal seam gas water

(1) The chief executive may accept a submission from SunWater Limited for a water licence to take treated coal seam gas water that has been discharged into the Dawson Valley Water Supply Scheme.

(2) The submission must include all of the following—

(a) demonstration that the proposed taking of water under the proposed water licence is consistent with the relevant authorities required for distribution of treated coal seam gas water;

(b) an assessment of the potential impacts upon existing water entitlement holders and natural ecosystems within the plan area; and

(c) demonstration that the submission has been developed in consultation with water users within the extent of the Upper Dawson sub-scheme.

(3) The chief executive may require the submitter to give additional information.

(4) If the submitter fails, without reasonable excuse, to comply with the requirements for additional information within the reasonable time stated in the requirement, the submission lapses.

(5) The chief executive may approve the submission if satisfied doing so would not—

(a) increase the amount of water taken from natural flows within the plan area; and

(b) adversely impact on the outcomes of the Water Resource (Fitzroy Basin) Plan 2011; and

(c) adversely affect other water authorisations.

(6) If the chief executive is satisfied the submission should be approved wholly or in part, the chief executive may grant the water licence.

(7) A licence granted by the chief executive under this section must include, but is not limited to—

(a) purpose—'Any'; and

(b) conditions—which have the following effect—

(i) the volume of water taken under the water licence in a water year does not exceed the volume of treated coal seam gas water discharged into the scheme for that water year;

(ii) the water taken under the authority of the licence must be managed in accordance with the operating and water accounting rules specified in chapter 5;

(iii) monitoring and reporting on water taken in accordance with the relevant requirements of this plan; and

(iv) the water granted only for the life of the project.

Part 5 Amending water licences—*Water Act 2000,* section 217

46 Amending water licences

Within 120 business days of the commencement of this plan, the chief executive must amend water licences in accordance with attachment 11, parts 1 to 4.

Part 6 Transitional arrangements for particular entitlements

47 Transitional arrangements for particular entitlements in the Callide Valley Water Supply Scheme and the Upper Callide and Prospect Creek groundwater sub-areas

(1) This section applies to—

(a) high B or medium water allocations in the Callide Valley Water Supply Scheme converted under section 41(1) of this plan; and

(b) water licences in the Upper Callide and Prospect Creek groundwater sub-areas amended under section 46 of this plan.

(2) For the 2014/2015 water year, water may be taken under the water entitlements mentioned in subsection (1) as though the entitlements have not been converted or amended.

48 to 60 section numbers not used

Chapter 4 Water supply schemes—general provisions

61 Application of chapter 4

This chapter contains general provisions which apply to the resource operations licence holder and all supplemented water allocations.

62 Infrastructure details

Attachment 12, parts 1 to 5 of this plan sets out the infrastructure details of the water supply schemes.

Part 1 Operating and environmental management rules—general

63 Quality of water released

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

64 Change in rate of release from infrastructure

The resource operations 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.

65 Seasonal base flow management strategy

(1) Each day, the resource operations licence holder must release from the storage stated in column 1, table 2, an amount of water that is the lesser of—

(a) the estimated daily inflow to the storage; and

(b) the volume stated in column 2.

(2) Subsection (1) does not apply for a storage—

(a) when the estimated daily inflow to the storage is less than the minimum inflow stated in column 3; or

(b) when the water level in the storage is below the minimum level stated in column 4; or

(c) when the first post-winter flow management strategy stated in column 5 is in effect; or

(d) for Tartrus Weir—during the period from 1 January to 31 August.

(3) Despite subsections (1) and (2), the resource operations 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; and

(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.

(4) For this section, estimated daily inflow to the storage means—

(a) For the Fitzroy Barrage—the inflow into Eden Bann Weir measured at the Gauging Station—Fitzroy River at Riverslea (GS130003B).

(b) For all other storages—the inflow into the storage measured at the closest upstream gauging station or local headwater gauging station.

Table 2: Seasonal Base Flow Requirements and Parameters

Column 1	Column 2	Column 3	Column 4	Column 5
Storage	**Volume**	**Minimum estimated daily inflow to the storage**	**Storage level**	**First post-winter flow management strategy**
Theodore Weir	100 ML/d	60 ML/d	EL 133.0 m AHD	Upper Dawson sub-scheme first post winter management strategy
Moura Weir	110 ML/d	70 ML/d	EL 102.8 m AHD	Upper Dawson sub-scheme first post winter management strategy
Neville Hewitt Weir	110 ML/d	70 ML/d	EL 77.0 m AHD	Lower Dawson sub-scheme first post winter management strategy
Bedford Weir	220 ML/d	100 ML/d	EL 118.86 m AHD	Lower Mackenzie first post-winter flow management strategy
Bingegang Weir	220 ML/d	100 ML/d	EL 100.34 m AHD	Lower Mackenzie first post-winter flow management strategy
Tartrus Weir	240 ML/d	150 ML/d	EL 81.36 m AHD	
Fitzroy Barrage	350 ML/d	220 ML/d	EL 2.3 m AHD	

66 Release volumes

Releases required under section 65 are in addition to releases required for—

(a) supplying water to a water allocation holder; and

(b) maintaining the nominal operating level in a downstream storage.

Part 2 Dealing with water allocations—general

Division 1 Subdivisions or amalgamations of water allocations

67 Subdivisions and amalgamations

(1) Subdivision of a water allocation is permitted where—

(a) the sum of the nominal volumes of the new water allocations is equal to the nominal volume of the water allocation that is being subdivided; and

(b) the location and priority group of the new water allocations are the same as that of the water allocation that is being subdivided.

(2) Amalgamation of water allocations is permitted where—

(a) the nominal volume of the new water allocation is equal to the sum of the nominal volumes of the water allocations that are being amalgamated;

(b) the location and priority group of the water allocations that are being amalgamated are the same; and

(c) the location and priority group for the new water allocation are the same as that of the water allocations that are being amalgamated.

Division 2 Water allocation change rules

Subdivision 1 Assessed changes

68 Assessed changes

(1) The holder of a water allocation that states the purpose as ‘distribution loss’ may apply to the chief executive under section 129A of the *Water Act 2000* to change the purpose of the water allocation to ‘any’.

(2) The water allocation holder must provide information with the application detailing that there is sufficient volume held under water allocations to provide for distribution losses within the system.

Subdivision 2 Other changes

69 Application for changes not specified as permitted, prohibited or assessed

An application for a change to a water allocation that is not specified as permitted, prohibited or assessed in this chapter or chapters 5, 6, 7, or 8 of this plan may be made in accordance with section 130 of the *Water Act 2000*.

70 to 79 section numbers not used

Chapter 5 Dawson Valley Water Supply Scheme

80 Application of chapter 5

This chapter applies to—

(a) the resource operations licence holder for the Dawson Valley Water Supply Scheme; and

(b) all water allocations associated with the Dawson Valley Water Supply Scheme.

81 Sub-schemes within the Dawson Valley Water Supply Scheme

(1) The sub-schemes within the Dawson Valley Water Supply Scheme are—

(a) the Upper Dawson sub-scheme; and

(b) the Lower Dawson sub-scheme.

(2) The extent of each sub-scheme is—

(a) described in table 3; and

(b) shown in the map in attachment 3.

Table 3: Extent of Dawson Valley Water Supply Scheme sub-schemes

Sub-scheme	Description
Upper Dawson sub-scheme	The Dawson River from the upstream limit of Glebe Weir (AMTD 356.5 km) to the effective upstream limit of Neville Hewitt Weir (AMTD 107 km).
Lower Dawson sub-scheme	The Dawson River from the effective upstream limit of Neville Hewitt Weir (AMTD 107 km) to the downstream limit of Boolburra waterhole (AMTD 18.37 km).

Part 1 Operating and environmental management rules

Division 1 Operating rules

82 Use of watercourses for distribution

(1) For the distribution of supplemented water, the resource operations licence holder may use the Dawson River from the upstream limit of Glebe Weir (AMTD 356.5 km) to the downstream limit of the Boolburra waterhole (AMTD 18.37 km), including sections of tributaries where supplemented water is accessible.

(2) For the distribution of treated CSG water, the resource operations licence holder may use the Dawson River from Glebe Weir (AMTD 326.2 km) to the downstream extent of the Dawson Valley Water Supply Scheme (AMTD 18.37 km), including sections of tributaries where treated CSG water is accessible.

83 Operating levels of storages

(1) The minimum operating levels and nominal operating levels for Glebe Weir, Gyranda Weir, Theodore Weir, Moura Weir and Neville Hewitt Weir are specified in table 4.

(2) The resource operations licence holder may release supplemented water from a storage only if the release is necessary to—

(a) supply water for a water allocation;

(b) maintain a downstream storage at or above its minimum operating level;

(c) meet the minimum waterhole level requirements in section 84; and

(d) comply with the environmental management rules in section 65 of this plan and division 2 of this part.

(3) Despite subsection (2) the resource operations licence holder may only release or supply supplemented water from a storage if the water level in that storage is above its minimum operating level, unless authorised by the chief executive.

Table 4: Operating levels of storages

Storage	Minimum operating level (m AHD)	Nominal operating level (m AHD)
Glebe Weir	EL 160.66	Not applicable
Gyranda Weir	EL 150.08	EL 152.12
Theodore Weir	EL 126.95	EL 132.73
Moura Weir	EL 97.0	EL 102.55
Neville Hewitt Weir	EL 72.53	Not applicable

84 Minimum levels in waterholes

Supplemented water and treated CSG water may be taken in the following circumstances unless otherwise authorised by the chief executive—

(a) from the waterhole known locally as Boolburra waterhole (nominally AMTD 18.37 km on the Dawson River) if the water level in Neville Hewitt Weir is—

(i) above EL 77.0 m AHD—the water must not be taken when the waterhole level is more than 0.5 metres below its cease to flow level; or

(ii) below EL 77.0 m AHD—the water must not be taken when the waterhole level is more than 1.2 metres below its cease to flow level; and

(b) for a waterhole within the extent of the Dawson Valley Water Supply Scheme other than the waterhole known locally as Boolburra waterhole—the water must not be taken when the level in the waterhole is more than 0.5 metres below its cease to flow level.

85 Diversions to Moura Offstream Storage

(1) Water may be diverted by the resource operations licence holder to the Moura Offstream Storage at a rate not exceeding 173 ML/day, subject to the following flow conditions—

(a) for the duration of the Upper Dawson first post-winter flow management period in chapter 10, section 239—the flow passing Moura Weir is more than 2 592 ML/day; and

(b) at other times—the flow passing Moura Weir is more than 432 ML/day.

(2) Treated CSG water may be diverted by the resource operations licence holder to Moura Offstream Storage at any time.

(3) The chief executive must notify the resource operations licence holder the start of the Upper Dawson first-post winter flow management period if activated before 1 October, otherwise the strategy is activated on 1 October.

(4) The chief executive must notify the resource operations licence holder the end of the Upper Dawson first post-winter flow management period.

(5) The resource operations licence holder must implement the elevated flow condition described in subsection (1)(a) within 24 hours if the Dawson first post-winter flow management period is activated before 1 October.

Division 2 Environmental management rules

86 Release volumes

Release volumes from storages required under this division are to be—

(a) in addition to releases required for—

(i) supplying water to a water allocation holder; or

(ii) maintaining nominal operating levels in downstream storages; and

(b) made with consideration of the maximum outlet capacity of the storage works.

87 Definition for division 2

In this division—

estimated daily inflow, for a storage, means the inflow into a storage measured at the closest upstream gauging station or local headwater gauging station.

88 Notification of first post-winter flow event

The chief executive must—

(a) determine when a first post-winter flow event occurs in the Dawson River—

(i) immediately downstream of Glebe Weir; and

(ii) immediately downstream of Neville Hewitt Weir; and

(b) notify the resource operations licence holder when a first post-winter flow event occurs.

89 Upper Dawson sub-scheme first post-winter flow management strategy

(1) This section applies if the resource operations licence holder has been notified by the chief executive of a first post-winter flow event occurring in the Dawson River between Glebe Weir and the effective upstream limit of Gyranda Weir.

(2) The resource operations licence holder must implement the Upper Dawson sub-scheme first post-winter flow management strategy within one day after notification.

(3) For 21 days from when the implementation of the strategy begins, the resource operations licence holder must release from—

(a) Moura Weir each day—

(i) if the estimated daily inflow to Moura Weir is greater than or equal to 35 ML/day—the lesser of—

(A) the estimated daily inflow to Moura Weir; and

(B) the maximum discharge capacity of Moura Weir outlet works; or

(ii) otherwise—zero.

(b) Gyranda Weir each day—

(i) if the estimated daily inflow to Gyranda Weir is greater than or equal to 30 ML/day—the lesser of—

(A) the estimated daily inflow to Gyranda Weir; and

(B) the maximum discharge capacity of Gyranda Weir outlet works; or

(ii) otherwise—zero.

(4) Subsection (3)(a) does not apply when—

(a) Moura Weir is below EL 103.15 m AHD; or

(b) Moura Weir spills.

(5) Subsection (3)(b) does not apply when—

(a) Gyranda Weir is below EL 154.9 m AHD; or

(b) Gyranda Weir spills.

90 Lower Dawson sub-scheme first post-winter flow management strategy

(1) This section applies if the resource operations licence holder has been notified by the chief executive of a first post-winter flow event occurring in the Dawson River downstream of Neville Hewitt Weir.

(2) The resource operations licence holder must implement the Lower Dawson sub-scheme first post-winter flow management strategy within one day after notification.

(3) For 21 days from when the implementation of the strategy begins, the resource operations licence holder must release from Neville Hewitt Weir each day—

(a) if the estimated daily inflow to Neville Hewitt Weir is greater than or equal to 35 ML/day—the lesser of—

(i) the estimated daily inflow to Neville Hewitt Weir; and

(ii) the maximum discharge capacity of Neville Hewitt Weir outlet works; or

(b) otherwise—zero.

(4) Subsection (3)(a) does not apply when—

(a) Neville Hewitt Weir is below EL 77.0 m AHD; or

(b) Neville Hewitt Weir spills.

Part 2 Water sharing rules

91 Announced allocations

(1) The water year for the Dawson Valley Water Supply Scheme is from 1 October to 30 September in the following year.

(2) The resource operations licence holder must—

(a) set an announced allocation for each sub-scheme for water allocations belonging to the high, medium and medium A priority groups to take effect on the first day of each water year;

(b) following the commencement of a water year—

(i) if the announced allocation percentage is less than 100 per cent—recalculate the announced allocation—

(A) within two weeks after a major inflow occurs; and

(B) within five business days of the first calendar day of each quarter for the water year, unless a major inflow has occurred within the previous two weeks.

(ii) reset the announced allocation—if a recalculation indicates that the announced allocation would—

(A) increase by five or more percentage points; or

(B) increase to 100 per cent; and

(c) make public details of the announced allocations, including parameters used in determining the announced allocations, within five business days of setting or resetting an announced allocation.

(3) The announced allocation that is set for the Upper Dawson sub-scheme must be—

(a) for the medium priority group—the lesser of—

(i) the announced allocation calculated for the medium priority group in the Upper Dawson sub-scheme using the formula under section 92 rounded to the nearest per cent; and

(ii) 100 per cent;

(b) for the medium A priority group—the lesser of—

(i) the announced allocation calculated for the medium A priority group in the Upper Dawson sub-scheme using the formula under section 92 rounded to the nearest per cent; and

(ii) 100 per cent; and

(c) for the high priority group—

(i) if the announced allocation for both the medium and medium A priority groups in the Upper Dawson sub-scheme is—

(A) greater than zero—100 per cent; or

(B) zero—100 per cent and restrictions under section 94 may apply.

(4) Despite subsection (3), the resource operations licence holder may set the announced allocation for medium and medium A priority water allocations in the Upper Dawson sub-scheme to exceed 100 per cent to supply treated coal seam gas water taking into account the projected treated coal seam gas water availability.

(5) The announced allocation that is set for the Lower Dawson sub-scheme must be—

(a) for the medium priority group—the lesser of—

(i) the announced allocation calculated for the medium priority group in the Lower Dawson sub-scheme using the formula under section 92 rounded to the nearest per cent; and

(ii) 100 per cent; and

(b) for the high priority group—

(i) if the announced allocation for the medium priority group in the Lower Dawson sub-scheme is—

(A) greater than zero—100 per cent; or

(B) zero—100 per cent and restrictions under section 94 may apply.

(6) Despite subsections (3) and (5) the announced allocations that are set must—

(a) not be less than zero; and

(b) not be reduced during the water year.

92 Calculation of announced allocations

(1) The resource operations licence holder must calculate the announced allocation in the Upper Dawson sub-scheme for water allocations belonging to the medium A and medium priority groups using the formula—

$$(AAm * MPA) + (AAma * MAPA) = (UV + IN + INCSG - HPA - RE - TOL - UCSG + DIV - VIWY)$$

Where:

If AAma < = 20 per cent, AAm = 0 per cent

If AAma > 20 per cent and < 100 per cent, AAm = AAma–20 per cent

If AAm $\geq$ 80 per cent, AAma = 100 per cent

(2) The resource operations licence holder must calculate the announced allocation in the Lower Dawson sub-scheme for water allocations belonging to the medium priority using the formula—

$$AAm = \frac{(UV + IN - HPA - RE - TOL + DIV - VIWY) * 100}{MPA}$$

(3) In this section the parameters for the formulae are—

Parameter	Definition
AA_m	The announced allocation for water allocations belonging to the medium priority group in a sub-scheme.
AA_{ma}	The announced allocation for water allocations belonging to the medium A priority group in the Upper Dawson sub-scheme.
MPA	Medium priority allocations—the sum of the nominal volumes for all water allocations belonging to the medium priority group in a sub-scheme.
MAPA	Medium A priority allocations—the sum of the nominal volumes for all water allocations belonging to the medium A priority group in the Upper Dawson sub-scheme.
HPA	High priority allocations—the sum of the nominal volumes for all water allocations belonging to the high priority group in a sub-scheme.
DIV	Diversions—the sum of the diversions for all water allocations in a sub-scheme during the current water year. In the Lower Dawson sub-scheme, DIV is the volume of supplemented water diversions for all water allocations in the sub-scheme during the current water year, excluding any water taken in the current water year that had been carried over. In the Upper Dawson sub-scheme, DIV is the volume of supplemented water diversions for all water allocations in the sub-scheme during the current water year, excluding any water taken in the current water year that had been carried over.
UV	Useable volume (UV) for a storage, is the volume of stored supplemented water that can be used to supply water allocations through to the end of a water year and is calculated as— UV = ASV–DSV where— ***adjusted storage volume*** (ASV) means the storage volume, in megalitres, equating to the current storage level adjusted for the projected storage loss (SL). ***projected storage loss*** (SL) means the combined evaporation and seepage losses, in megalitres, that are expected to occur from the storages through to the end of the water year. ***dead storage volume*** (DSV) means the volume of water, in megalitres, that cannot be released or used from the storage under normal operating conditions. For the purposes of this section— UV for the Upper Dawson sub-scheme is the sum of the useable volumes for Glebe Weir, Gyranda Weir, Theodore Weir, Moura offstream storage and Moura Weir. UV for the Lower Dawson sub-scheme is the useable volume for Neville Hewitt Weir. Evaporation and seepage is specified in millimetres for each month in table 5 for each of the sub-schemes. To determine the projected storage loss (SL), the value next to the current month is multiplied by the current surface area of the storage. The storage loss for each summed to give the total storage loss. DSV is specified for each of the storages in attachment 12, part 1. Storage volumes are derived from the relevant storage volume/level curve referenced in attachment 12, part 1.
IN	Inflow—the allowance for natural inflows used in the calculation of the announced allocation. The inflows to be used are specified in table 6. The value which must be used for inflows is the value in the table for the month in which the calculation is undertaken.
RE	Reserve—the volume reserved for supplying high priority allocations in future years derived from table 7.
TOL	Transmission operating loss—the allowance for the expected instream losses associated with the supply of water allocations over the remainder of the water year and is calculated as— Upper Dawson sub-scheme— $TOL = \frac{TOL1 * (MPA + MAPA + HPA - DIV)}{MPA + MAPA + HPA}$ Lower Dawson sub-scheme— $TOL = \frac{TOL2 * (MPA + HPA - DIV)}{MPA + HPA}$

Parameter	Definition
	where— TOL1 for the Upper Dawson sub-scheme is derived from table 8 using linear interpolation of the announced allocation for the medium priority group. TOL2 for the Lower Dawson sub-scheme is derived from table 9 using linear interpolation of the announced allocation for the medium priority group.
VIWY	Net Carryover volume—the sum of the available carryover volumes for a sub-scheme determined under section 95.
INCSG	The projected inflow of treated CSG water to the scheme, based on production estimates of treated CSG water, which is available for supplemented take.
UCSG	Unsupplemented use of treated CSG water (UCSG), where a licence has been granted under section 45 of this plan, the sum of the water used during the current water year under the licence. This water is not available for supplemented take.

Table 5: Projected storage losses (mm)

Month in which announced allocation is calculated	Upper Dawson sub-scheme	Lower Dawson sub-scheme
October	990	990
November	990	990
December	990	990
January	990	990
February	990	990
March	815	815
April	645	645
May	515	515
June	420	420
July	340	340
August	255	255
September	145	145

Table 6: Inflow allowances (ML)

Month	Upper Dawson sub-scheme inflows (ML)	Lower Dawson sub-scheme inflows (ML)
October	2 500	700
November	1 555	432
December	1 447	432
January	1 379	47
February	0	0
March	0	0
April	0	0
May	0	0
June	0	0
July	0	0
August	0	0
September	0	0

Table 7: Reserve volumes (ML)

Month in which announced allocation is calculated	Upper Dawson sub-scheme reserve (ML)	Lower Dawson sub-scheme reserve (ML)
October	2 500	700
November	1 555	432

December	1 447	432
January	1 379	47
February	4 000	1 500
March	4 000	1 500
April	4 000	1 500
May	4 000	1 500
June	4 000	1 500
July	4 000	1 500
August	4 000	1 500
September	4 000	1 500

Table 8: TOL1 for Upper Dawson sub-scheme

AAm (%)	TOL1 (ML)
0	250
10	550
50	1300
80	1700
100	1850

Table 9: TOL2 for Lower Dawson sub-scheme

AAm (%)	TOL2 (ML)
0	100
60	400
100	550

93 Taking water under a water allocation

(1) The volume of water taken under a water allocation in a water year must not exceed the nominal volume of the allocation multiplied by the announced allocation.

(2) For a water allocation that has changed its priority group—the announced allocation for the new priority group must not apply until the water year following the year in which the change was registered.

(3) Subsection (1) does not include a volume of water permitted—to be carried over from the previous water year as specified in section 95.

94 Fourth quarter restriction period

(1) The resource operations licence holder must activate a restriction period after the 1st of July when the fourth quarter unused entitlement is more than 5 per cent greater than the total available supply

(2) When a restriction period is activated under subsection (1) the resource operations licence holder must—

(a) discontinue supply under the announced allocation arrangements;

(b) identify water entitlements which have essential water needs and determine a nominated required volume;

(c) allocate essential water needs entitlements a volume that is the lesser of—

(i) total available supply; or

(ii) 10 per cent of the total nominal volume of the high priority entitlements;

(d) determine the remaining available supply;

(e) allocate fourth quarter unused entitlements a volume equal to the remaining available water supply; and

(f) regularly review the total available supply and the announced volume yet to be supplied.

(3) During the restriction period if a review of the total available supply determines the total available supply is 10 per cent greater than currently allocated under the restriction period, the resource operations holder must—

(a) determine the additional available supply;

(b) allocate essential water needs entitlements a volume that is the lesser of—

(i) the additional available supply; or

(ii) the difference between the nominated required volume and the volume currently allocated to the essential water needs entitlements; and

(c) any remaining volume in supply is to be allocated to the fourth quarter unused entitlements.

(4) Despite subsections (2) and (3) any allocation must not exceed an individual's entitlement.

(5) The resource operations licence holder must cease restrictions if—

(a) if the announced allocation for medium and medium A priority allocation increases; or

(b) at the end of the water year.

(6) In this section—

fourth quarter unused entitlement means total volume in each entitlement's water account following meter readings after 1st of July.

essential water needs means part of a town water supply required for essential services included drinking water and sanitation but excluding lawns and gardens. The resource operations licence holder in conjunction with water allocation holders may establish additional essential purposes.

total available supply is useable volume for each storage adjusted to account for next year's high priority requirement and any transmission operation losses.

Total available supply = UV–RE–TOL, where the parameters for this formula are defined in the table under section 92.

nominated required volume is the volume to meet essential water needs as negotiated between the resource operations holder and essential water needs entitlement holders.

95 Orange Creek Weir release period for medium priority and medium A priority water allocations in the Upper Dawson sub-scheme

(1) The Orange Creek Weir release period for the Upper Dawson sub-scheme starts at such time the resource operations licence holder notifies under subsection (2).

(2) The resource operations licence holder may notify medium priority and medium A priority water allocation holders in the Upper Dawson sub-scheme of the activation of the Orange Creek Weir release period to make available supplies of water stored in Orange Creek Weir.

96 Carryover

(1) The resource operations licence holder may, subject to this section, allow a holder of a water allocation belonging to the high, medium or medium A priority groups, to carry over part of any unused water from one water year to the next water year.

(2) If a fourth quarter restriction period has been activated under section 94 during the current water year—carryover is not permitted.

(3) For each sub-scheme the total volume of unused water that is permitted to be carried over to the next water year is the lesser of—

(a) the total volume of unused water for that sub-scheme at the end of the water year; and

(b) 10 per cent of the total nominal allocation for that sub-scheme.

(4) The volume of water that may be carried over by a water user must not exceed the nominal volume of the water allocation.

(5) Any volume of water that is carried over into a water year that is unused by the water allocation holder as at the date of either of the following events, must be deducted from the volume of water available to the allocation holder—

(a) at 1 November; or

(b) for the Upper Dawson sub-scheme—at the time Gyranda Weir spills; or

(c) for the Lower Dawson sub-scheme—at the time Neville Hewitt Weir spills.

(6) The resource operations licence holder must make public the methodology for determining the volume of water permitted to be carried over by each water user if the volume determined under subsection (3)(b) is less than the total volume of unused water for the scheme.

(7) In this section—

unused water means the volume of water not taken under section 93.

Part 3 Dealing with water allocations

Division 1 Water allocation change rules

97 Scope of division 1

This division provides for changes to water allocations managed under a resource operations licence for the Dawson Valley Water Supply Scheme that are permitted and prohibited changes. Assessed changes and other changes are provided for in chapter 4, part 2.

98 Definitions for division 1

In this division—

total nominal volume in a zone means the sum of the nominal volumes of all water allocations in the same priority group—

(a) for the zone or zones; and

(b) for which relevant valid change certificates have been issued under section 129 of the *Water Act 2000*.

99 Permitted changes

(1) This section applies to a water allocation with a purpose of 'agriculture' or 'any'.

(2) The following changes to a water allocation are permitted—

(a) a change to the location for the taking of water under a water allocation if the change—

(i) results in the location of the allocation being zones Dawson B, C, D, E, F, G, H, I, J, K, L or M; and

(ii) would not result in a total nominal volume in a zone that is greater than the maximum volumes or less than the minimum volumes in table 10;

(b) a change to the purpose where the change results in the purpose being 'agriculture' or 'any'; and

(c) a change to the priority group—

(i) from medium A to medium—if the change would not result in a total nominal volume in a zone that is greater than the maximum volumes or less than the minimum volumes in table 10;

(ii) from medium to medium A if—

(A) the location of the medium A priority water allocation is zone Dawson I; and

(B) the change would not result in a total nominal volume in a zone that is greater than the maximum volumes or less than the minimum volumes in table 10;

(iii) from medium to high if—

(A) the location for the high priority water allocation is zones Dawson C or B;

(B) the nominal volume is changed by dividing the nominal volume of the allocation belonging to the medium priority group by 3 and rounding down to the nearest whole number; and

(C) the change would not result in a total nominal volume in a zone that is greater than the maximum volumes or less than the minimum volumes in table 10; or

(iv) from high to medium if—

(A) the location for the medium priority water allocation is zones Dawson C or B;

(B) the nominal volume is changed by multiplying the nominal volume of the allocation belonging to the high priority group by 3; and

(C) the change would not result in a total nominal volume in a zone that is greater than the maximum volumes or less than the minimum volumes in table 10.

(3) Subsection (2) does not apply if the change is prohibited under section 100.

Table 10: Limits of total nominal volume in a zone

<table>
<tr><th rowspan="2">Priority group</th><th rowspan="2">Nominal Volume</th><th colspan="8">Zones</th></tr>
<tr><th>Dawson L and M</th><th>Dawson K and J</th><th>Dawson I</th><th>Dawson H</th><th>Dawson G, F and E</th><th>Dawson D</th><th>Dawson C</th><th>Dawson B</th></tr>
<tr><td rowspan="3">High</td><td rowspan="2">Maximum Volume (ML)</td><td rowspan="2">0</td><td rowspan="2">600</td><td colspan="2" rowspan="2">1060</td><td rowspan="2">3519</td><td>1200</td><td>0</td><td>350</td></tr>
<tr><td colspan="3">1200</td></tr>
<tr><td>Minimum Volume (ML)</td><td>-</td><td>200</td><td colspan="2">662</td><td>3119</td><td colspan="3">998</td></tr>
<tr><td>Medium A</td><td rowspan="2">Maximum Volume (ML)</td><td colspan="2">0</td><td>19 456</td><td>0</td><td colspan="4">0</td></tr>
<tr><td>Medium</td><td>1760</td><td>9850</td><td colspan="2">30 500[10]</td><td>14 450</td><td>8838</td><td>1942</td><td>733</td></tr>
<tr><td rowspan="2">Medium A</td><td rowspan="2">Minimum Volume (ML)</td><td colspan="2" rowspan="2">-</td><td rowspan="2">3405</td><td rowspan="2">-</td><td rowspan="2">-</td><td colspan="3">8838</td></tr>
<tr><td>Medium</td><td>560</td><td>6350</td><td colspan="2">25 500[10]</td><td>9450</td><td colspan="3">6838</td></tr>
</table>

[10] Volume includes medium A.

100 Prohibited changes

The following changes to a water allocation are prohibited—

(a) a change to the location if the change would result in the location being other than zones Dawson B, C, D, E, F, G, H, I , J, K, L or M;

(b) a change to the location of a medium A priority water allocation from zone Dawson I; and

(c) a change that would result in the total nominal volume in a zone that is greater than the maximum volumes or less than the minimum volumes in table 10.

Part 4 Seasonal water assignment rules

101 Seasonal water assignment rules—*Water Act 2000*, section 146B

(1) The holder of a water allocation may enter into an arrangement for a seasonal water assignment in relation to the allocation under section 146B of the *Water Act 2000* only if the holder of the resource operations licence consents to the arrangement.

(2) Water supplied under a seasonal water assignment may be used for any purpose.

102 to 125 section numbers not used

Chapter 20 Resource operations licence holder monitoring and reporting

381 Scope of chapter 20

This chapter sets out the monitoring and reporting requirements that apply to the resource operations licence holder for the—

(a) Dawson Valley Water Supply Scheme;

(b) Nogoa Mackenzie Water Supply Scheme;

(c) Lower Fitzroy Water Supply Scheme;

(d) Fitzroy Barrage Water Supply Scheme; and

(e) Callide Valley Water Supply Scheme.

382 Monitoring data must be made available

The resource licence holder must provide any monitoring data required under this chapter to the chief executive upon request and within the time requested.

Part 1 Monitoring requirements

Division 1 Water quantity

383 Stream flow and storage water level data

(1) The resource operations licence holder must record water level and volume and stream flow data in accordance with attachment 13.

(2) Infrastructure inflows may be determined based upon an infrastructure inflow derivation technique supplied by the resource operations licence holder and approved by the chief executive.

384 Releases from storages

(1) The resource operations licence holder must measure and record for each release of water from storages listed in attachment 13—

(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), storage outlets with selective withdrawal capabilities, the resource operation 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.

385 Monitoring Callide Groundwater Unit 1

(1) The resource operations 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 resource operations licence holder must within 2 months of commencement of this plan submit a proposed monitoring network program for Callide Groundwater Unit 1 to the chief executive for approval.

(3) The resource operations licence holder may apply to amend the monitoring network program.

(4) 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 resource operations licence holder to submit a revised program.

386 Use of waterholes

For each day that supplemented water is taken from a waterhole, the resource operations licence holder must measure and record the level of the water in the waterhole when it is drawn below the level specified in sections 84, 129 and 166 of this plan.

387 Water diversions

(1) The resource operations licence holder must measure and record the daily total volumes of water delivered to—

(a) for the Dawson Valley Water Supply Scheme—

(i) Gibber Gunyah channel system;

(ii) Theodore channel system;

(iii) Moura Offstream Storage; and

(iv) Moura Weir from Moura Offstream Storage;

(b) for the Nogoa Mackenzie Water Supply Scheme—

(i) Selma channel system;

(ii) Weemah channel system;

(iii) Blackwater pipeline; and

(iv) Retreat Creek from the confluence of Drain RR6 (approximate AMTD 9.5 km) to the Blair Athol Railway line crossing of Retreat Creek (approximate AMTD 3.0 km);

(c) for the Lower Fitzroy and Fitzroy Barrage water supply schemes—Stanwell pipeline;

(d) for the Callide Valley Water Supply Scheme—Callide diversion channel.

(2) The methodology for determining the volume delivered must be approved by the chief executive.

388 Water discharged

The resource operations licence holder must measure and record the daily total volumes of water discharged by—

(a) Woleebee Creek to Glebe Weir pipeline; and

(b) Awoonga Dam to Callide pipelines.

389 Announced allocations

The resource operations licence holder must record details—

(a) of announced allocation determinations for—

(i) medium priority allocation;

(ii) medium A priority allocation;

(iii) high priority allocation;

(iv) high A priority allocation; and

(v) high B priority allocation;

(b) the date announced allocations are determined; and

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

390 Restrictions

(1) The resource 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.

391 Carryover

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

392 Water taken by water users

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

(2) In addition to subsection (1) the resource operations licence holder must, on an annual basis—

(a) keep separate records of groundwater and surface water taken for high B and medium priority water allocations in the Callide Valley Water Supply Scheme; and

(b) measure and record the volume of water taken under the water licence granted under section 45 of this plan.

(3) The resource operations 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 section 194 of this plan.

393 Seasonal water assignment of a water allocation

The resource operations licence holder that gives 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—

(i) from which it was assigned; and

(ii) to which it was assigned;

(d) effective date of the seasonal water assignment.

Division 2 Impact of infrastructure operation on natural ecosystems

394 Water quality

The resource operations licence holder must monitor and record water quality data in relation to relevant infrastructure listed in attachment 12, parts 1 to 5.

395 Bank condition

(1) The resource operations licence holder must inspect banks for evidence of collapse and/or erosion identified within ponded areas of each storage listed in attachment 13 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.

396 Fish stranding

The resource operations licence holder must record and assess reported instances of fish stranding in watercourses and ponded areas associated with the operation of the resource operations licence holder's infrastructure as listed in attachment 12, parts 1 to 5 to determine if any instance is associated with the operation of that infrastructure.

Part 2 Reporting requirements

397 Reporting requirements

The resource operation licence holder must provide—

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

(b) operational or emergency reports.

Division 1 Annual reporting

398 Annual report

(1) The resource operations 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 section 399 of this plan;

(b) details of the impact of infrastructure operation on natural ecosystems as required under section 400 of this plan; and

(c) a discussion on any issues that arose as a result of the implementation and application of the rules and requirements of this plan.

399 Water quantity monitoring—annual report

(1) The resource operations 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, specified by each scheme, including—

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

(ii) the total volume of water seasonally assigned;

(d) a summary of carry over determinations, including—

(i) the total carry over to the water year from the previous water year; and

(ii) the total carry over from the water year to the next water year;

(e) the total annual volume of water taken by all water users, specified by zone and scheme, 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) details of waterhole monitoring which has been undertaken under section 386 of this plan;

(g) details of environmental releases, specified by each scheme and storage, including—

(i) an overview of first post-winter and seasonal base flow management strategy implementation; and

(ii) the date, storage level, storage inflow and storage outflow for each day during implementation of the first post-winter or seasonal base flow strategy;

(h) all details of changes to the storage and delivery infrastructure or the operation of the storage and infrastructure that may impact on compliance with rules in this plan;

(i) details of any new monitoring devices used such as equipment to measure stream flow;

(j) the details and status of any programs implemented under section 13 of this plan; and

(k) the total volume of treated CSG water discharged from the Woleebee Creek pipeline into Glebe Weir.

(l) the volume of water taken under a water licence granted under section 45 of this plan.

(2) The annual report for the Callide Valley Water Supply Scheme 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; and

(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.

400 Impact of infrastructure operation on natural ecosystems

The resource operations licence holder must include in their annual report—

(a) a summary of the environmental considerations made by the resource operations licences 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) 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 2 Operational or emergency reporting

401 Operational or emergency reporting[13]

(1) The resource operations 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 resource operations licence holder with the rules in this plan; and

(ii) instances of fish stranding or bank slumping downstream of the storages listed in attachment 13;

(b) an emergency where, as a result of the emergency, the resource operations licence holder cannot comply with a rule in this plan.

(2) The resource operations 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) conditions under which the incident or emergency occurred;

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

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

(iv) in relation to an emergency only, any rules specified in this plan that the resource operations licence holder is either permanently or temporarily unable to comply with due to the emergency.

402 to 411 section numbers not used

Attachment 1 Dictionary

section 4

Term	Definition
AHD	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.
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.
announced period	The period of time, as determined and announced by the chief executive, when water 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 (e.g. seasonally assigned).
assignor	The person or entity who transfers an interest or right in water to an assignee (e.g. a seasonal assignment).
barrage	A barrier constructed across a watercourse to prevent the inflow of tidal water.
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.
channel system	A system of channels, canals, pumps and pipelines and other works used for the distribution of water to water users in a water supply scheme.
cumec	Cubic metre per second.
department	Department of Natural Resource and Mines
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.
distribution loss	Water that is lost when delivering water for water allocations in reticulated areas via constructed infrastructure through processes such as (but not limited to) evaporation, seepage, pipeline leakage, accidental loss through temporary pipe failure (breaks), loss through pressure relief systems and scouring.
EL	Elevation level
emergency	An occurrence that by nature of its severity, extent or timing, might be regarded as an emergency (for example contamination of water supply, structural damage to infrastructure or a danger to human health).
existing development permit	A development permit that is in effect at the commencement of this plan.
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.
first poster-winter flow	The first flow event in a year that— (1) Starts between 15 September and 10 April in the year; (2) Despite (1) if the flow starts in September, the water temperature must be is at least 24 degrees Celsius; (3) In the Dawson River immediately downstream of Glebe Weir— (a) is the first streamflow rise of at least 1000 ML/d that occurs at Glebe Weir Tailwater GS130345B; (b) after evaluation of streamflow and catchment rainfall would suggest an extended period of flow of a flow greater than 46 ML/d (Baseflow); (c) has at least 15 days of flow greater subsection (b). (4) In the Dawson River immediately downstream of Neville Hewitt Weir—

Term	Definition
	(a) is the first streamflow rise of at least 1200 ML/d that occurs at Beckers GS130322A; (b) after evaluation of streamflow and catchment rainfall would suggest an extended period of flow of a flow greater than 78 ML/d (Baseflow); (c) has at least 15 days of flow greater subsection (b). (5) In the Mackenzie River immediately downstream of the Comet River junction— (a) is the first streamflow rise of at least 2000 ML/d that occurs at Riley's Crossing GS130113A; (b) after evaluation of streamflow and catchment rainfall would suggest an extended period of a flow greater than 156 ML/d (Baseflow); (c) has at least 15 days of flow greater subsection (b). (6) In the Mackenzie River immediately downstream of Bingegang Weir— (a. is the first streamflow rise of at least 2600 ML/d that occurs at Bingegang Weir Tailwater GS130110B; (b) after evaluation of streamflow and catchment rainfall would suggest an extended period of flow of a flow greater than 163 ML/d (Baseflow); (c) has at least 15 days of flow greater subsection (b).
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— (a) the zone from which water under the water allocation can be taken; or (b) 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.
mean annual diversion	The long-term average annual volume of water diverted.
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.
multi-level off-take	An off-take arrangement that allows stored water to be released downstream from selected levels below the stored water surface.
nominal entitlement	See section 65 of the Water Regulation 2002.
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 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).
quarter or quarterly	Three monthly intervals commencing at the start of the water year.
release	Water from a dam or weir that passes downstream from the dam or weir through the dam or weir outlet works.
resource operations licence holder	A licence granted under the *Water Act 2000* to make provision for how infrastructure and water are managed under an approved resource operations licence.
resource operations plan	A plan approved under section 103 of the *Water Act 2000*. A resource operations plan, prepared by the chief executive implements a water resource plan for any water in the plan area in all or part of the plan area
simulated mean annual diversion	See schedule 13 of the Water Resource (Fitzroy Basin) Plan 2011.
supplemented water	Water supplied under an interim resource operations licence, resource operations licence or other authority to operate water infrastructure
tailwater	The flow of water immediately downstream of a dam, weir or barrage. Tail water includes all water passing the infrastructure, for example controlled releases and uncontrolled overflows.
treated Coal Seam Gas water	Means water produced during the extraction of gas from coal seams, which is treated and

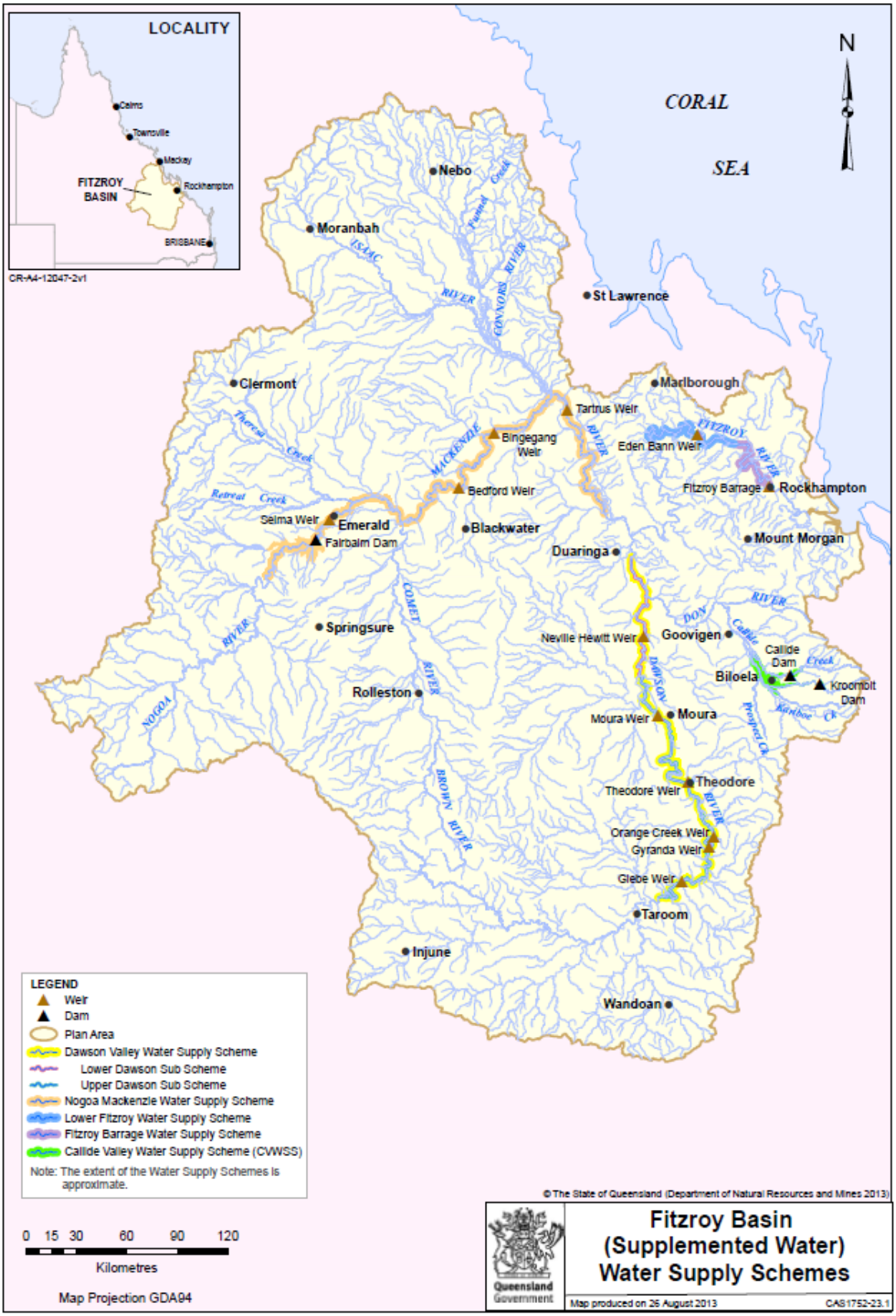
Term	Definition
(treated CSG water)	delivered by the Woleebee Creek to Glebe Weir pipeline to the Dawson Valley Water Supply Scheme.
unsupplemented water	Water that is not supplemented water.
water allocation change rules	The rules included in the Resource Operations Plan that define how certain attributes of a water allocation may be changed, for example, a change to the location from which water can be taken or the subdivision or amalgamation of a water allocation.
waterharvesting	Taking of unsupplemented water during specified high flow events. Generally involves storing the water offstream for later use.
water user	The holder of a valid water entitlement.

Attachment 2 Fitzroy Basin Plan Area

section 5

Attachment 3 Water supply schemes

sections 7 and 81(2)(b)



Attachment 4 Water management areas

section 8

Attachment 5 Resource Operations Plan Zones

Part 1 Dawson Valley Water Supply Scheme (supplemented water) and Dawson Valley Water Management Area (unsupplemented water)

section 9 and chapters 4, 5, 9 and 10

Zones that apply to the Dawson Valley Water Supply Scheme and Dawson Valley Water Management Area

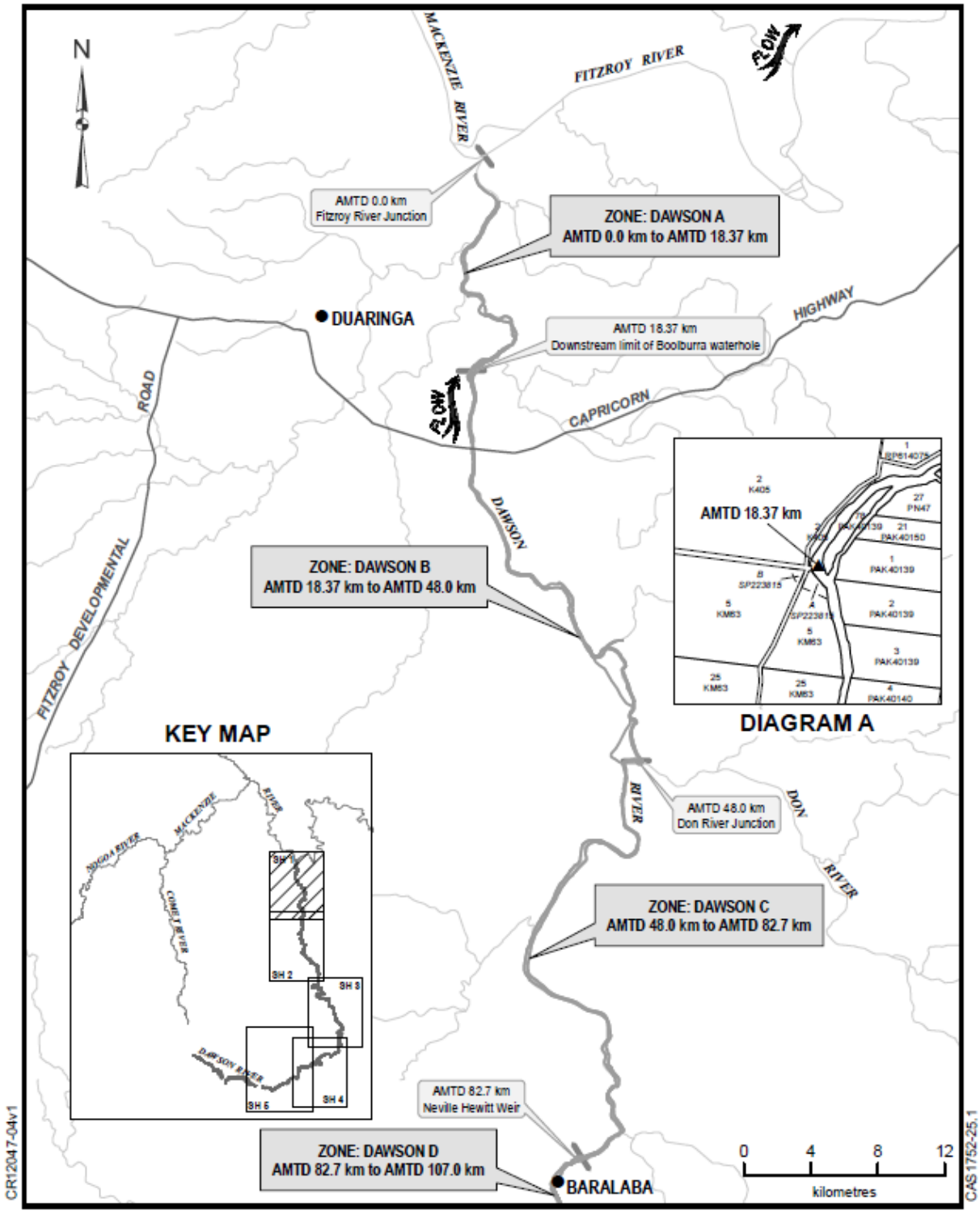
Zone	AMTD (KM)	Description
Dawson A	0–18.37	Fitzroy River junction to end of supplemented section (downstream end of Boolburra waterhole)
Dawson B	18.37–48	End of supplemented section to Don River junction
Dawson C	48–82.7	Don River junction to Neville Hewitt Weir
Dawson D	82.7–107	Neville Hewitt Weir to effective upstream limit of Neville Hewitt Weir
Dawson E	107–133	Effective upstream limit of Neville Hewitt Weir to Mimosa Creek junction
Dawson F	133–150.2	Mimosa Creek junction to Moura Weir
Dawson G	150.2–167	Moura Weir to effective upstream limit of Moura Weir
Dawson H	167–228.5	Effective upstream limit of Moura Weir to Theodore Weir
Dawson I	228.5–242	Theodore Weir to effective upstream limit of Theodore Weir
Dawson J	242–270.7	Effective upstream limit of Theodore Weir to Orange Creek Weir
Dawson K	270.7–311	Orange Creek Weir to effective upstream limit of Gyranda Weir
Dawson L	311–326.2	Effective upstream limit of Gyranda Weir to Glebe Weir
Dawson M	326.2–356.5	Glebe Weir to upstream limit of Glebe Weir
Dawson N	356.5–428.0	Upstream limit of Glebe Weir to Euromba Creek Junction
Dawson O	428.0–453.5	Euromba Creek Junction to Utopia Downs Gauging Station

(a) upstream limit–the upstream limit of an instream storage is the adopted upstream extend of the storage.

(b) effective upstream limit–the effective upstream limit of an instream storage is the upstream limit of where access to stored water is expected most of the time under typical operating conditions.

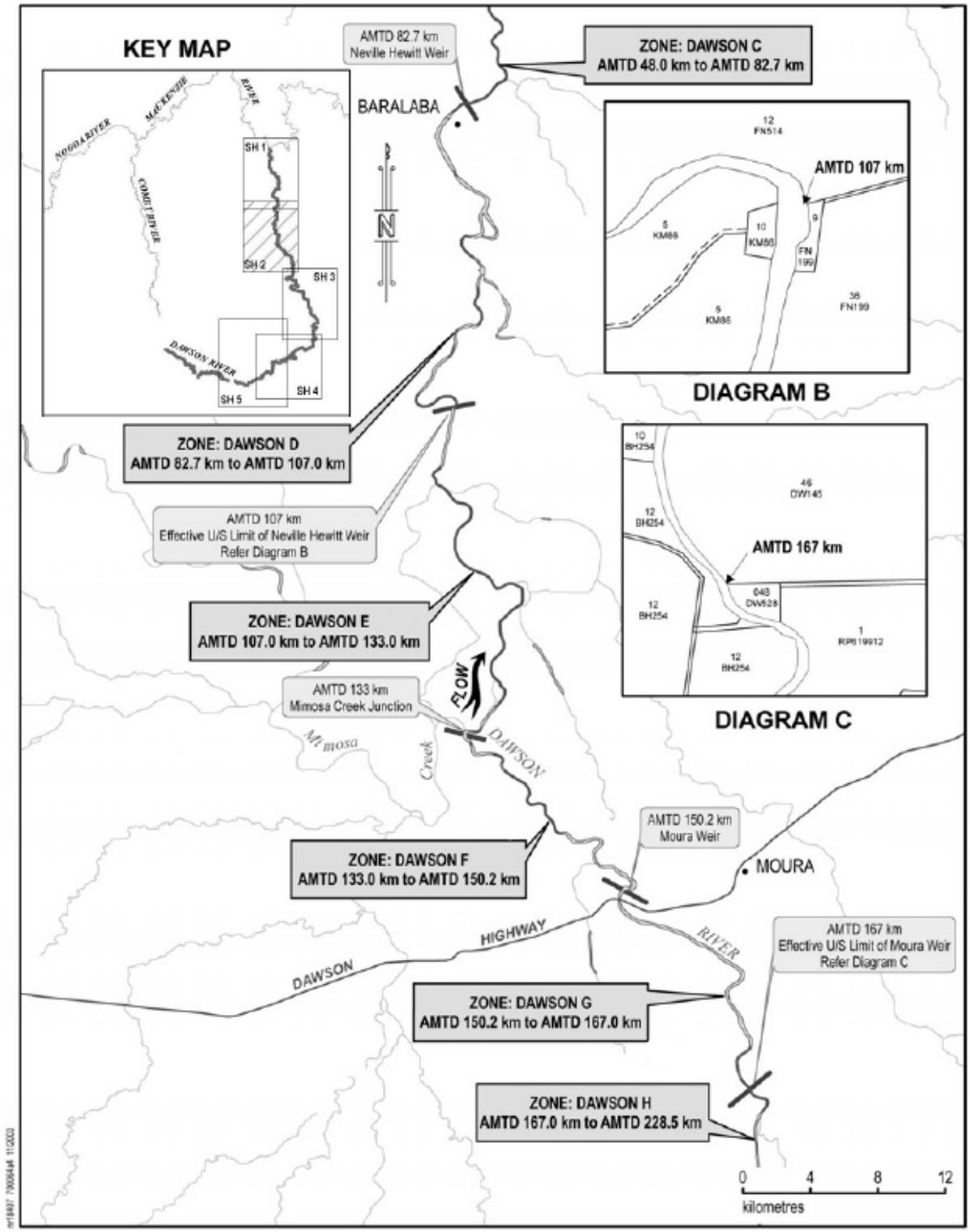
(c) each zone includes those sections of tributaries where there is access to flow or pondage from the Dawson River.

Sheet 1 Zones Dawson A, B and C



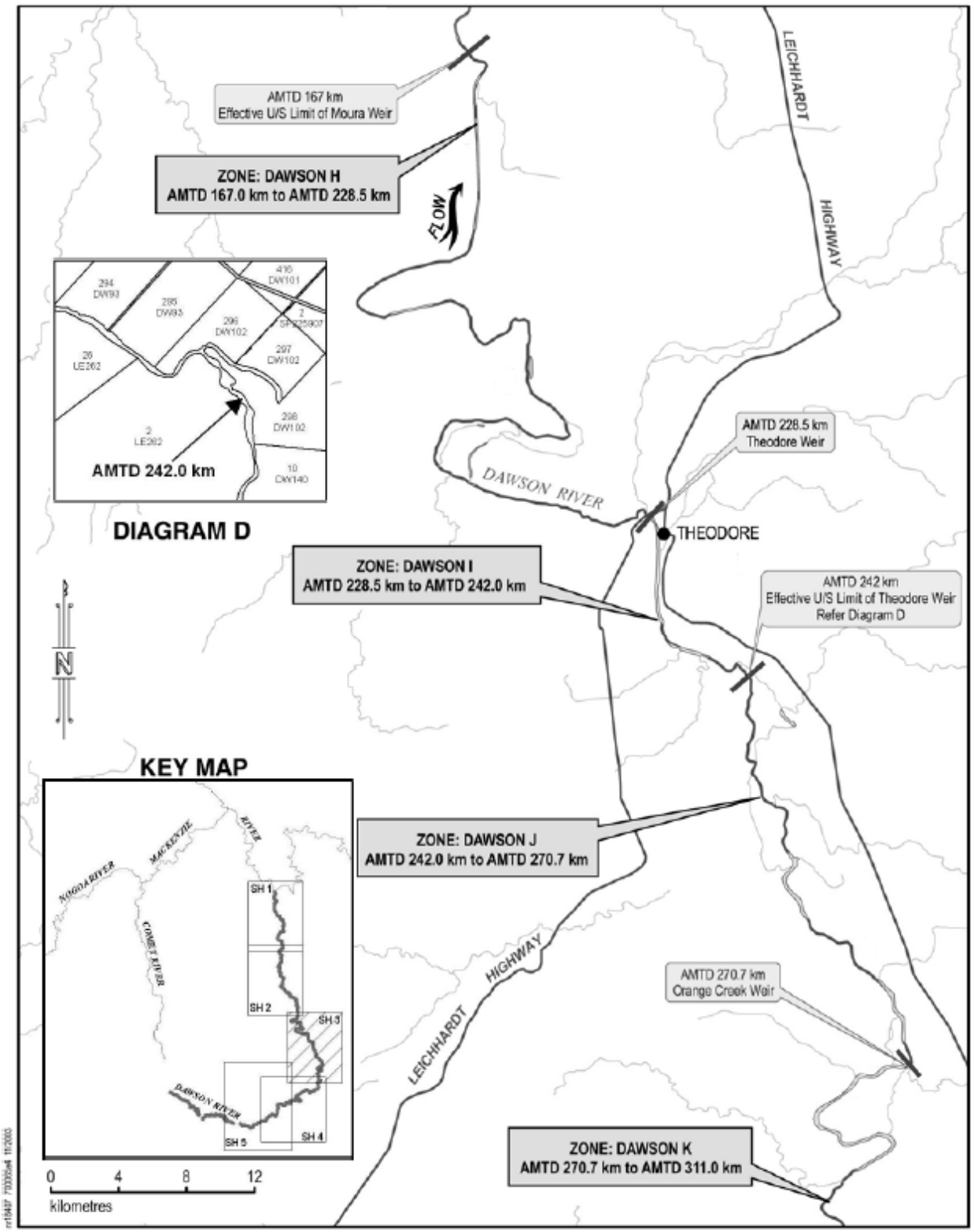
Sheet No 1

Sheet 2 Zones Dawson D, E, F and G



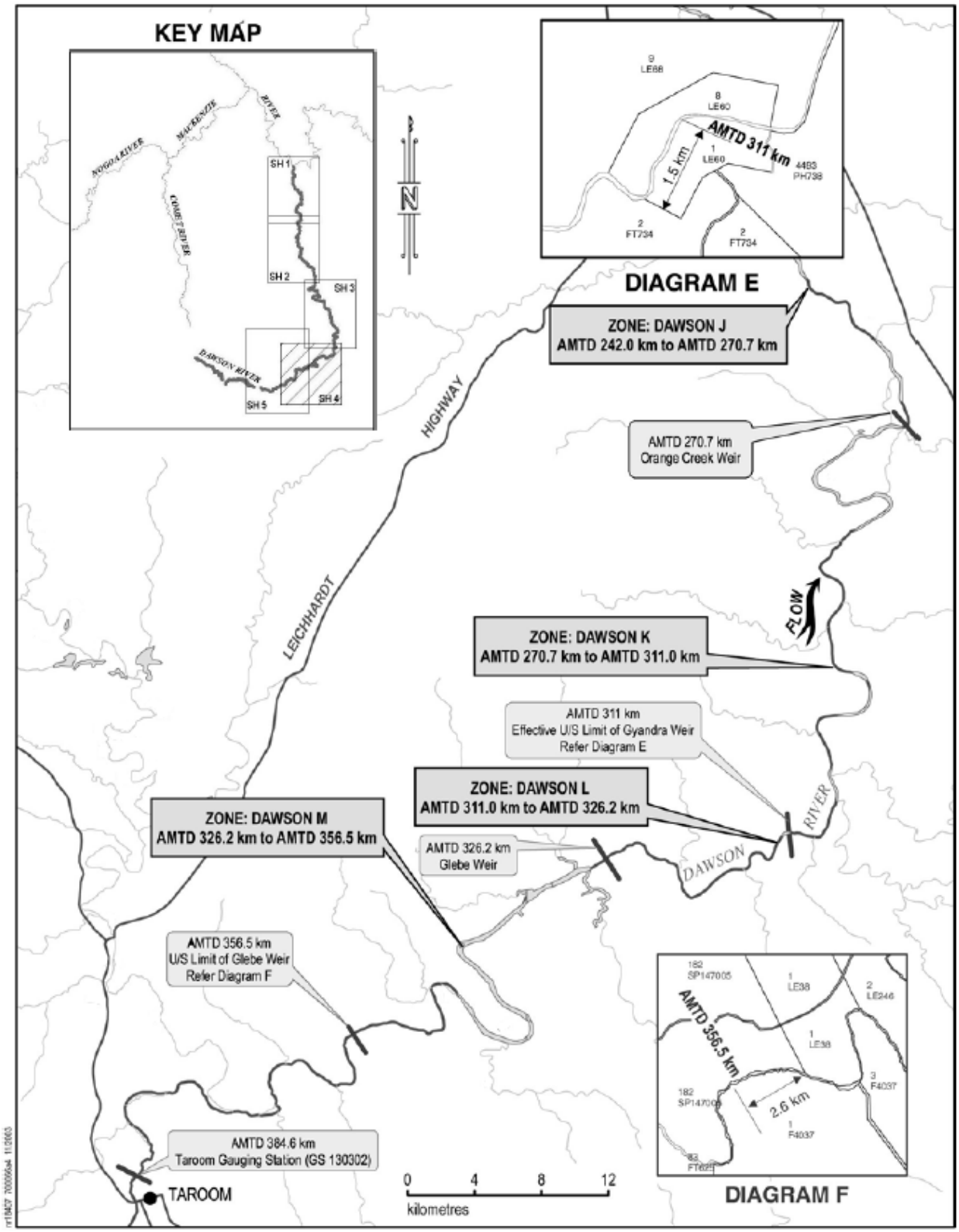
Sheet No 2

Sheet 3 Zones Dawson H, I and J



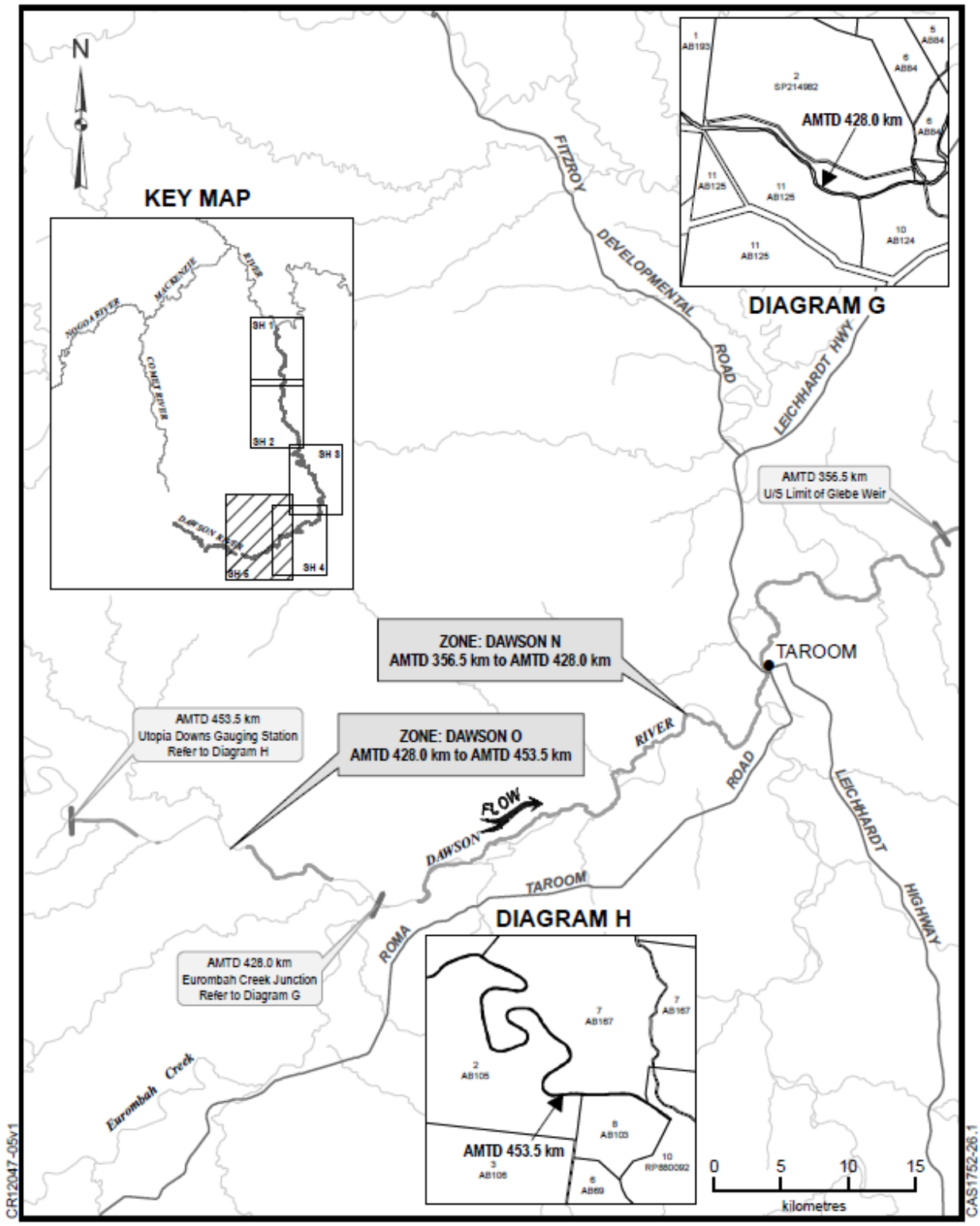
Sheet No 3

Sheet 4 Zones Dawson K, L and M



Sheet No 4

Sheet 5 Zones Dawson N and O



Sheet 5

Attachment 12 Infrastructure details for water supply schemes

section 62 and chapter 20

Part 1 Operated by the resource operations licence holder for the Dawson Valley Water Supply Scheme

chapter 5

Glebe Weir–Dawson River AMTD 326.2 km

Description of water infrastructure	
Main embankment	Mass concrete and steel sheet piling weir
Full supply level	EL 170.54m AHD
Fixed crest level	EL 170.54m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	17 700 ML
Dead storage volume	430 ML
Surface area/elevation and storage volume/elevation relationship	Irrigation and Water Supply Commission Drawing No. A3-55197 (15/03/79)
Spillway arrangement	
Description of works	An inlet tower equipped with dropboards discharging through a 1200 mm pipe bifurcating to two 675 mm diameter release valves.
Multi-level inlet	Dropboards
Cease to flow level	Invert EL 160.44 m AHD
Discharging characteristics	Estimated maximum outlet discharge at FSL is 625 ML/day Irrigation and Water Supply Commission Drawing No. A3-55197 (15/03/79
River Inlet/outlet works	
Description of works	An inlet tower equipped with dropboards discharging through a 1200 mm pipe bifuricating to two 675 mm diameter release valves.
Multi-level inlet	Dropboards
Cease to flow level	Invert EL 160.44 m AHD
Discharge characteristics	Estimated maximum outlet discharge at FSL is 625 ML/day
Fish transfer system	
Description of works	Nil
Local supply area/levels	
Local Supply Level	El 163.6 m AHD
Local Supply Area	Glebe Weir pond and downstream to, but excluding, Gyranda Weir pond

Gyranda Weir–Dawson River AMTD 284.5 km

Description of water infrastructure	
Main embankment	Steel sheet piling weir
Full supply level	EL 157.25m AHD
Fixed crest level	EL 157.25m AHD
Saddle dam(s)	Anabranch Weir
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	16 500 ML
Dead storage volume	2 120 ML
Surface area/elevation and storage volume/elevation relationship	Queensland Water Resources Commission Drawing No. A3-64635 (16/3/87)
Spillway arrangement	
Description of works	Water flows over full width of weir
Spillway level	EL 157.25 m AHD
Spillway width	148.3 m
Discharge characteristics	Queensland Water Resources Commission Drawing No. A4-64655
River inlet/outlet works	
Description of works	Main embankment: Multi level inlet discharging through 1600 mm by 1600 mm box culvert to a 'vee' notch weir approximately 50 metres downstream of embankment. Anabranch structure: 750 mm diameter pipe
Multi-level inlet	Multi level inlet equipped with: 900 mm by 900 mm sluice gate opening at EL 156.32 m AHD 1060 mm by 1060 mm sluice gate opening at EL 153.14 m AHD 1500 mm by 1500 mm sluice gate opening at EL 150.08 m AHD
Cease to flow level	Invert vee notch EL 149.75 m AHD Invert anabranch pipe approximately EL 153.64 m AHD
Discharge characteristics	Estimated maximum outlet discharge at FSL is 1000 ML/day
Fish transfer system	
Description of works	Nil
Local supply area/levels	
Local Supply Level	EL 151.80 m AHD
Local Supply Area	Gyranda Weir pond and downstream to, but excluding, Theodore Weir pond

Orange Creek Weir–Dawson River AMTD 270.7 km

Description of water infrastructure	
Main embankment	Timber piled weir, with concrete work following maintenance/flood repairs
Full supply level	EL 150.29 m AHD
Fixed crest level	EL 150.29 m AHD
Saddle dam(s)	Anabranch weir
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	6 140 ML
Dead storage volume	2 320 ML
Surface area/elevation and storage volume/elevation relationship	Water Resources Commission (DPI) Drawing No. A3-101017 and 101018 (14/10/92)
Spillway arrangement	
Description of works	No separate spillway. Flows overtop full weir.
Spillway level	EL 150.29 m AHD
Spillway width	48.82 metres
Discharge characteristics	Queensland Water Resources Commission Drawing No. A3-55199, submitted to NR&M 12/7/01
River inlet/outlet works	
Description of works	Main embankment: Outlet works consists of a high and low level outlet. Low level outlet is a 600 mm nominal diameter pipe controlled on the upstream end by a gate valve. The high level outlet is a 900 mm nominal diameter, two-barrel dropboard structure for crest releases. Anabranch structure: Outlet works consist of a 300 mm nominal diameter pipe controlled on the upstream end by a gate valve.
Multi-level inlet	High and low level outlets
Cease to flow level	Low level outlet invert EL 145.82 m AHD High level outlet invert EL 148.25 m AHD Anabranch outlet invert EL 147.42 m AHD
Discharge characteristics	Estimated maximum outlet discharge at FSL is 360 ML/day
Fish transfer system	
Description of works	Nil
Local supply area/levels	
Local Supply Level	Not applicable
Local Supply Area	Not applicable

Theodore Weir–Dawson River AMTD 228.5 km

Description of water infrastructure	
Main embankment	The main weir was originally of timber pile construction, with concrete abutment and apron slabs additions.
Full supply level	EL 133.63 m AHD
Fixed crest level	EL 133.63 m AHD
Saddle dam(s)	Timber piled anabranch weir
Fabridams	Nil
Gates	Nil, but note river inlet/outlet
Storage volume and surface area	
Full supply volume	4 760 ML
Dead storage volume	750 ML
Surface area/elevation and storage volume/elevation relationship	Queensland Water Resources Commission Drawing No. A3–36527B (10/1/84)
Spillway arrangement	
Description of works	Flows overtop full width of weir
Spillway level	EL 133.63 m AHD
Spillway width	60.63 metres
Discharge characteristics	Queensland Water Resources Commission Drawing No. A3–55200 (21/3/79)
River inlet/outlet works	
Description of works	Two 1000 mm by 750 mm gates
Multi-level inlet	Single level outlet with no inlet structure
Cease to flow level	Invert EL 131.75 m AHD
Discharge characteristics	Estimated maximum outlet discharge at FSL is 275 ML/day
Fish transfer system	
Description of works	Nil
Local supply area/levels	
Local Supply Level	EL 131.75 m AHD
Local Supply Area	Theodore Weir pond and downstream to, but excluding, Moura Weir pond

Moura Offstream Storage–Dawson River Diversion AMTD 156.9 km

Description of water infrastructure	
Main embankment	Compacted earth
Full supply level	EL 125.29 m AHD
Fixed crest level	EL 125.29 m AHD
Saddle dam(s)	Not applicable
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	2 820 ML
Dead storage volume	140 ML
Surface area/elevation and storage volume/elevation relationship	Natural Resources (State Water Projects) Drawing No. A3–213163 (10/3/00)
Diversion works	
Description of works	Extracts from the Dawson River at AMTD 156.9 km. Reinforced concrete pump station with two by one cumec submersible pumps. Rising main comprising two by 660 mm OD steel pipes joining to a 960 mm OD steel pipe.
River inlet/outlet works	
Description of works	Floating intake arrangement installed in the offstream storage. Concrete base slab EL 118.30 m AHD Steel pipe through embankment invert level EL 118.50 m AHD. River releases are made via: • rising main direct into the river; • rising main, then into the 200 mm diameter return line; or • combination of both the above.
Multi-level inlet	Floating inlet arrangement
Cease to flow level	EL 118.6 m AHD
Discharge characteristics	Maximum 18 ML/day at FSL through return line Maximum 120 ML/day with pumps removed
Local supply area/levels	
Local Supply Level	Not applicable
Local Supply Area	Not applicable

Moura Weir–Dawson River AMTD 150.2 km

Description of water infrastructure	
Main embankment	Timber piled weir, which has been renovated to include steel and concrete
Full supply level	EL 104.75 m AHD
Fixed crest level	EL 104.75 m AHD
Saddle dam(s)	Nil
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	7 700 ML
Dead storage volume	600 ML
Surface area/elevation and storage volume/elevation relationship	Natural Resources (State Water Projects) Drawing No. A3–214477 (5/9/00)
Spillway arrangement	
Description of works	Flow overtops full width of weir
Spillway level	High level crest EL 105.05 m AHD Low level crest EL 104.75 m AHD
Spillway width	High level crest 135.67 metres Low level crest 55.70 metres
Discharge characteristics	Not available
River inlet/outlet works	
Description of works	River: 1440 mm diameter outlet pipe with a 1200 mm diameter butterfly valve. Back Creek: 900 mm diameter pipe
Multi-level inlet	Single level outlet only
Cease to flow level	River: invert EL 99.47 m AHD Back Creek: EL 101.25 m AHD
Discharge characteristics	Estimated outlet discharge at FSL is 850 ML/day
Fish transfer system	
Description of works	Vertical slot fishway
Local supply area/levels	
Local Supply Level	Not applicable
Local Supply Area	Moura Weir pond and downstream to, but excluding, Neville Weir pond

Storage infrastructure details for Neville Hewitt Weir–Dawson River AMTD 82.7 km

Description of water infrastructure	
Main embankment	Mass concrete weir
Full supply level	EL 80.30 m AHD
Fixed crest level	EL 80.30 m AHD
Saddle dam(s)	Anabranch weir
Fabridams	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	10 646 ML
Dead storage volume	72.53 m AHD
Surface area/elevation and storage volume/elevation relationship	SunWater Ltd Drawing No. S 43910 (Ver. B, March 2012)
Spillway arrangement	
Description of works	Central ogee crest with cribbed sheet piling on both sides
Spillway level	EL 80.30 m AHD
Spillway width	EL 76.20 m AHD
Discharge characteristics	Tabulated discharge relationship submitted to NR&M on 30/3/01
River inlet/outlet works	
Description of works	Main embankment: inlet structure with dropboards discharging through 750 mm nominal diameter pipe with 750 mm nominal diameter butterfly valve and a 300 mm nominal diameter gate valve. Anabranch structure: inlet structure with dropboards discharging through 600 mm nominal diameter outlet pipe with 375 mm gate valve.
Multi-level inlet	Dropboards
Cease to flow level	Main embankment: outlet pipe invert EL 72.53 m AHD Anabranch structure: outlet sill invert EL 74.80 m AHD Main embankment: inlet pipe invert EL 72.45 m AHD Anabranch structure: inlet sill invert EL 74.74 m AHD
Discharge characteristics	Outlet rating curve submitted to NR&M on 30/3/01 Estimated maximum outlet discharge at FSL is 300 ML/day
Fish transfer system	
Description of works	Fish lock
Local supply area/levels	
Local Supply Level	EL 77.0 m AHD
Local Supply Area	Neville Hewitt Weir pond and downstream to downstream limit of Dawson Valley Water Supply Scheme