



Annual System Performance Report

Cootamundra Sewerage Treatment System

Environmental Protection Licence No. 1603

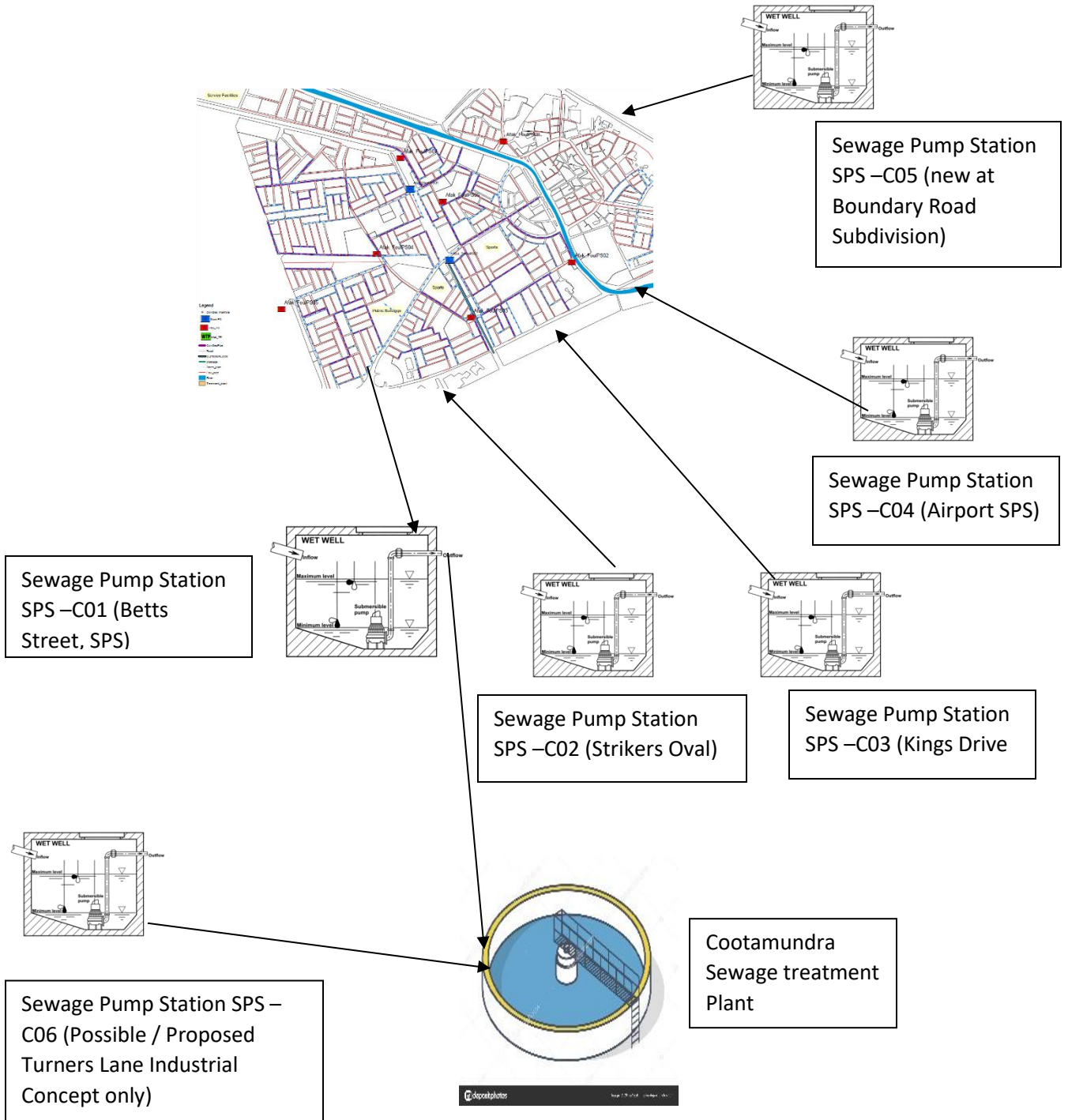
January 2022

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1.0 Cootamundra Sewerage System

The sewerage system at Cootamundra consists of four minor sewage pumping stations, a large sewer reticulation network consisting of pipe diameters DN150 to DN450, and a major sewage pumping station at Betts Street which is pumping the entire sewage to the existing sewage treatment plant. Figure 1 shows the system layout.



2.0 Sewage Treatment Process

Cootamundra sewage treatment plant is an activated sludge sewage treatment plant consisting of unit processes, inlet screens, aeration system with three surface aerators with return activated sludge and waste activated sludge facilities, a final clarifier from there the water is stored in Maturation Ponds.

Treated effluent is stored in an 80 ML capacity storage pond storage from there treated effluent is pumped for Municipal and golf course irrigation.



Figure 1- STP Layout

Cootamundra
Effluent Pipeline

Cootamundra
Effluent Pumping
Station

Cootamundra
STP

3.0 Plant Performance

This information contained below is for License No. 1603 from 1 May 2020 to 30 April 2021.

3.1 Customer Complaints

During the reporting period the following complaints were recorded.

Table 1- Customer Complaints

Date		Description	System	Comments
	Air			No complaints received during this reporting period
	Water			
	Noise			
	Waste			
	Other			

3.2 Concentration Monitoring

Concentration monitoring was done at the designated monitoring point and the summary of Concentration Monitoring is given in Appendix 1.

3.3 Volume Monitoring

The following volumes were monitored and recorded at monitoring points. In KI per year during the reporting period.

Table 2- Volume Monitoring Summary

Point No.	Description	2020/21
1	Spill way from 80 Meg dam to Muttamma Creek Muttuma Creek	976
2	Outlet weir Maturation Pond No. 2	461858
3	Mitchell Park Irrigation	5999
4	Albert Park Irrigation	5929
5	Jubilee Park	8463
6	Clarke Oval	4077
7	Fisher Park	0
8	Bradman Oval	4957
9	Cameron Square Park	0
10	Nicholson Park	7470
11	Country Club Oval	5685
12	80 Maga litre storage Dam outlet	132407
13	EA Southee Public School	0
14	Cootamundra High School	29688
15	Cootamundra Public School	363

3.4 Bio Solids

During the reporting period biosolids were not disposed off site and stored in the sludge lagoon.

4.0 Treatment Plant inflows

Cootamundra sewage treatment plant receives the inflow from a major sewage pumping station known as Betts Street SPS, SPS-C01. This pumping station is fitted with two submersible pumps (duty + standby) which are two speed pumps. It runs on low speed during dry weather flow condition and designed to move to high speed during high inflow during wet weather conditions.

Low flow pumping rates is 100 L/s and the plant inlet works has the capacity to take the entire flow during dry weather conditions. However, the wet weather overflow will occur during highspeed operation / pumping and during ts diluted sewage is overflowing from the inlet works will be directed to the maturation pond.

4.1 Catchment Rainfall

Rainfall recorded in the catchment area is provided below. The data was taken from Bureau of Meteorology web site for rainfall recorded at Cootamundra Airport during May 2022 to April 2021.

Table 3- Monthly Rainfall Data

Month	May 20	Jun 20	Jul 20	Aug 20	Sep 20	Oct 20	Nov 20	Dec 20	Jan 21	Feb 21	Mar 21	Apr 21	Total
Rainfall	31	54.1	68.3	109	46.4	84	52.8	37	98.8	85.8	116.1	1.1	784.4

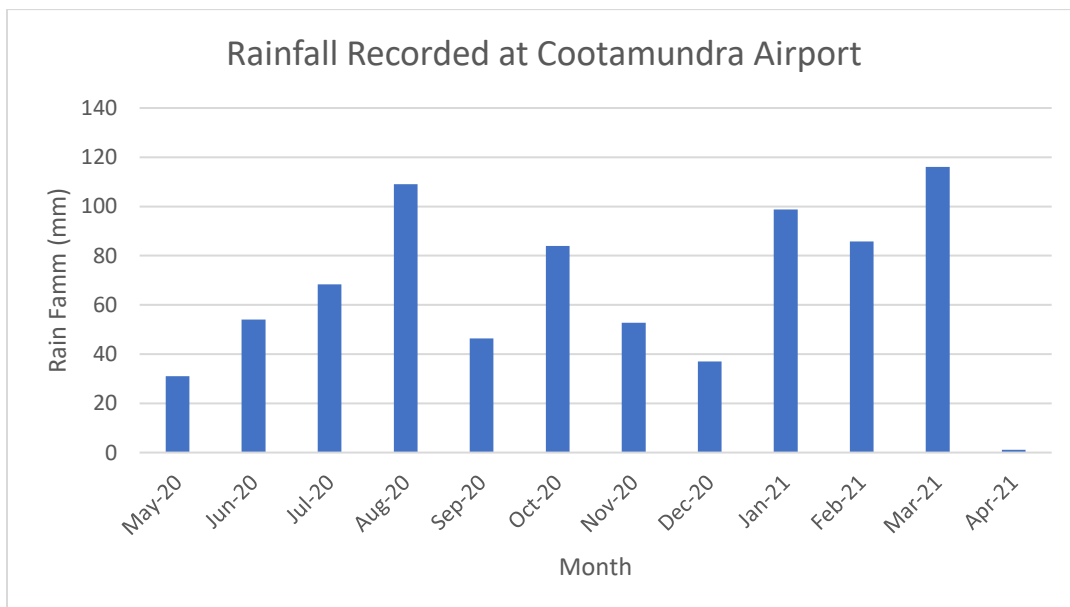


Figure 2-Monthly Rainfall

4.2 Plant Overflows

No dry weather overflow occurred at the plant during the reporting period. However, on the following days the wet weather overflows occurred at Cootamundra STP.

The estimated quantify based on the pump run and related information is used to estimate the wet weather overflows.

Table 4 - Plant Wet weather overflows

Date	Rain fall	Wet weather Overflow (kL)
24-Oct-20	11.4	
25-Oct-22	17.8	580
27-Jan-21	52.4	559
12-Mar-21	24.6	321
22-Mar-21	13.2	
23-Mar-21	35.8	1,250
24-Mar-21	34.5	1,480

Location of Monitoring Points



Figure 3- Monitoring Points

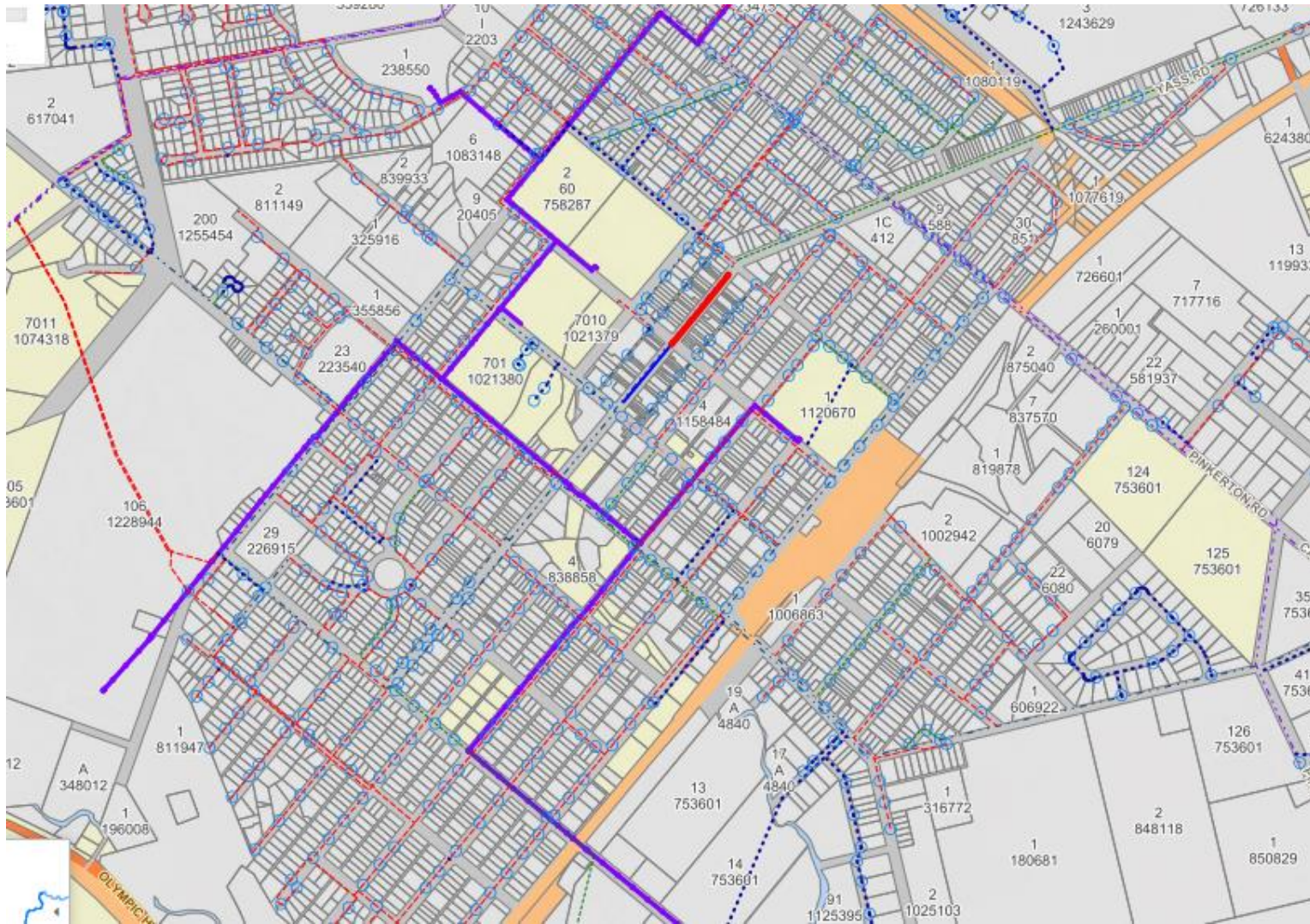


Figure 4 - Parks and Garden Irrigation Wastewater with Sewage Effluent

Appendix 1 – Concentration Monitoring

80 ML Dam Muttuma Creek

Point No	Parameter	Unit	LOR	100 percentile concentration limit	Required tests	Undertaken tests	min	mean	max
1	BOD	mg/L	2	30	4	4	1	1	1
1	Faecal Coliforms	cfu/100mL	1	200	4	4	0.5	0.5	0.5
1	Nitrogen (total)	mg/L	2	20	4	4	1	1.5	2
1	Oil & Grease	mg/L	1	10	4	4	3	3.5	4
1	pH	pH	0.1	5.5-9.5	4	4	7.4	7.55	7.7
1	Phosphorus (total)	mg/L	0.01	1	4	4	0.005	0.0725	0.14
1	Total suspended solids	mg/L	2	40	4	4	1	5.5	10

Mitchell Park – Irrigation

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
3	Available Phosphorus	mg/kg	0.1	1	1	68.8	68.8	68.8
3	Conductivity	dS/m	0.01	1	1	0.14	0.14	0.14
3	Exchangeable Calcium	cmol/kg	1	1	1	6	6	6
3	Exchangeable Magnesium	cmol/kg	1	1	1	4	4	4
3	Exchangeable Potassium	cmol/kg	1	1	1	0.5	0.5	0.5
3	Exchangeable Sodium	cmol/kg	0.1	1	1	0.1	0.1	0.1
3	Nitrate	mg/kg	0.1	1	1	0.2	0.2	0.2
3	Nitrogen (Total)	mg/kg	20	1	1	2800	2800	2800
3	Organic matter	w/w%	0.5	1	1	4.6	4.6	4.6
3	pH	pH	0.1	1	1	6.5	6.5	6.5
3	Phosphorus (total)	mg/Kg	2	1	1	579	579	579

Albert Park

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
4	Available Phosphorus	mg/kg	0.1	1	1	9.7	9.7	9.7
4	Conductivity	dS/m	0.01	1	1	0.2	0.2	0.2
4	Exchangeable Calcium	cmol/kg	1	1	1	7	7	7
4	Exchangeable Magnesium	cmol/kg	1	1	1	5	5	5
4	Exchangeable Potassium	cmol/kg	1	1	1	1	1	1
4	Exchangeable Sodium	cmol/kg	0.1	1	1	0.3	0.3	0.3
4	Nitrate	mg/kg	0.1	1	1	0.25	0.25	0.25
4	Nitrogen (Total)	mg/kg	20	1	1	2850	2850	2850
4	Organic matter	w/w%	0.5	1	1	4.9	4.9	4.9
4	pH	pH	0.1	1	1	6.5	6.5	6.5
4	Phosphorus (total)	mg/Kg	2	1	1	390	390	390

Jubilee Park Irrigation

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
5	Available Phosphorus	mg/kg	0.1	1	1	14	14	14
5	Conductivity	dS/m	0.01	1	1	0.22	0.22	0.22
5	Exchangeable Calcium	cmol/kg	1	1	1	10	10	10
5	Exchangeable Magnesium	cmol/kg	1	1	1	7	7	7
5	Exchangeable Potassium	cmol/kg	1	1	1	1	1	1
5	Exchangeable Sodium	cmol/kg	0.1	1	1	0.7	0.7	0.7
5	Nitrate	mg/kg	0.1	1	1	0.9	0.9	0.9
5	Nitrogen (Total)	mg/kg	20	1	1	2990	2990	2990
5	Organic matter	w/w%	0.5	1	1	5.7	5.7	5.7
5	pH	pH	0.1	1	1	6.6	6.6	6.6
5	Phosphorus (total)	mg/Kg	2	1	1	423	423	423

Clarke Oval

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
6	Available Phosphorus	mg/kg	0.1	1	1	62.1	62.1	62.1
6	Conductivity	dS/m	0.01	1	1	0.2	0.2	0.2
6	Exchangeable Calcium	cmol/kg	1	1	1	7	7	7
6	Exchangeable Magnesium	cmol/kg	1	1	1	6	6	6
6	Exchangeable Potassium	cmol/kg	1	1	1	2	2	2
6	Exchangeable Sodium	cmol/kg	0.1	1	1	0.8	0.8	0.8
6	Nitrate	mg/kg	0.1	1	1	0.25	0.25	0.25
6	Nitrogen (Total)	mg/kg	20	1	1	1930	1930	1930
6	Organic matter	w/w%	0.5	1	1	5.5	5.5	5.5
6	pH	pH	0.1	1	1	6.8	6.8	6.8
6	Phosphorus (total)	mg/Kg	2	1	1	493	493	493

Fisher Park

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
7	Available Phosphorus	mg/kg	0.1	1	1	83.3	83.3	83.3
7	Conductivity	dS/m	0.01	1	1	0.23	0.23	0.23
7	Exchangeable Calcium	cmol/kg	1	1	1	7	7	7
7	Exchangeable Magnesium	cmol/kg	1	1	1	4	4	4
7	Exchangeable Potassium	cmol/kg	1	1	1	1	1	1
7	Exchangeable Sodium	cmol/kg	0.1	1	1	0.4	0.4	0.4
7	Nitrate	mg/kg	0.1	1	1	0.25	0.25	0.25
7	Nitrogen (Total)	mg/kg	20	1	1	3080	3080	3080
7	Organic matter	w/w%	0.5	1	1	5.1	5.1	5.1
7	pH	pH	0.1	1	1	6.8	6.8	6.8
7	Phosphorus (total)	mg/Kg	2	1	1	959	959	959

Bradman Oval

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
8	Available Phosphorus	mg/kg	0.1	1	1	13.4	13.4	13.4
8	Conductivity	dS/m	0.01	1	1	0.11	0.11	0.11
8	Exchangeable Calcium	cmol/kg	1	1	1	5	5	5
8	Exchangeable Magnesium	cmol/kg	1	1	1	4	4	4
8	Exchangeable Potassium	cmol/kg	1	1	1	0.5	0.5	0.5
8	Exchangeable Sodium	cmol/kg	0.1	1	1	0.5	0.5	0.5
8	Nitrate	mg/kg	0.1	1	1	0.25	0.25	0.25
8	Nitrogen (Total)	mg/kg	20	1	1	1760	1760	1760
8	Organic matter	w/w%	0.5	1	1	3.5	3.5	3.5
8	pH	pH	0.1	1	1	6.5	6.5	6.5
8	Phosphorus (total)	mg/Kg	2	1	1	324	324	324

Cameron Square

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
9	Available Phosphorus	mg/kg	0.1	1	1	196	196	196
9	Conductivity	dS/m	0.01	1	1	0.32	0.32	0.32
9	Exchangeable Calcium	cmol/kg	1	1	1	14	14	14
9	Exchangeable Magnesium	cmol/kg	1	1	1	6	6	6
9	Exchangeable Potassium	cmol/kg	1	1	1	4	4	4
9	Exchangeable Sodium	cmol/kg	0.1	1	1	0.6	0.6	0.6
9	Nitrate	mg/kg	0.1	1	1	0.8	0.8	0.8
9	Nitrogen (Total)	mg/kg	20	1	1	4180	4180	4180
9	Organic matter	w/w%	0.5	1	1	9.2	9.2	9.2
9	pH	pH	0.1	1	1	6.7	6.7	6.7
9	Phosphorus (total)	mg/Kg	2	1	1	462	462	462

Nicholson Park

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
10	Available Phosphorus	mg/kg	0.1	1	1	6	6	6
10	Conductivity	dS/m	0.01	1	1	0.2	0.2	0.2
10	Exchangeable Calcium	cmol/kg	1	1	1	10	10	10
10	Exchangeable Magnesium	cmol/kg	1	1	1	6	6	6
10	Exchangeable Potassium	cmol/kg	1	1	1	2	2	2
10	Exchangeable Sodium	cmol/kg	0.1	1	1	0.8	0.8	0.8
10	Nitrate	mg/kg	0.1	1	1	6	6	6
10	Nitrogen (Total)	mg/kg	20	1	1	2580	2580	2580
10	Organic matter	w/w%	0.5	1	1	5.2	5.2	5.2
10	pH	pH	0.1	1	1	6.7	6.7	6.7
10	Phosphorus (total)	mg/Kg	2	1	1	362	362	362

Country Club

11	Available Phosphorus	mg/kg	0.1	1	1	26	26	26
11	Conductivity	dS/m	0.01	1	1	0.19	0.19	0.19
11	Exchangeable Calcium	cmol/kg	1	1	1	7	7	7
11	Exchangeable Magnesium	cmol/kg	1	1	1	4	4	4
11	Exchangeable Potassium	cmol/kg	1	1	1	1	1	1
11	Exchangeable Sodium	cmol/kg	0.1	1	1	0.6	0.6	0.6
11	Nitrate	mg/kg	0.1	1	1	0.25	0.25	0.25
11	Nitrogen (Total)	mg/kg	20	1	1	2580	2580	2580
11	Organic matter	w/w%	0.5	1	1	4.1	4.1	4.1
11	pH	pH	0.1	1	1	6.8	6.8	6.8
11	Phosphorus (total)	mg/Kg	2	1	1	317	317	317

80 ML Storage Reuse

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
12	BOD	mg/L	2	4	4	1	1.75	4
12	Faecal Coliforms	cfu/100mL	1	4	4	0.5	16.125	30
12	Nitrogen (total)	mg/L	2	4	4	1	1.25	2
12	Oil & Grease	mg/L	1	4	4	0.5	2.25	6
12	pH	pH	0.1	4	4	7.5	8.225	8.9
12	Phosphorus (total)	mg/L	0.01	4	4	0.005	0.35875	0.69
12	Total suspended solids	mg/L	2	4	4	2	13.5	26

Cootamundra High School

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
13	Available Phosphorus	mg/kg	0.1	1	1	26.6	26.6	26.6
13	Conductivity	dS/m	0.01	1	1	0.16	0.16	0.16

13	Exchangeable Calcium	cmol/kg	1	1	1	6	6	6
13	Exchangeable Magnesium	cmol/kg	1	1	1	4	4	4
13	Exchangeable Potassium	cmol/kg	1	1	1	1	1	1
13	Exchangeable Sodium	cmol/kg	0.1	1	1	0.2	0.2	0.2
13	Nitrate	mg/kg	0.1	1	1	0.2	0.2	0.2
13	Nitrogen (Total)	mg/kg	20	1	1	2430	2430	2430
13	Organic matter	w/w%	0.5	1	1	2.6	2.6	2.6
13	pH	pH	0.1	1	1	6.6	6.6	6.6
13	Phosphorus (total)	mg/Kg	2	1	1	342	342	342

Cootamundra Public School

Point No	Parameter	Unit	LOR	Required tests	Undertaken tests	min	mean	max
15	Available Phosphorus	mg/kg	0.1	1	1	38.3	38.3	38.3
15	Conductivity	dS/m	0.01	1	1	0.16	0.16	0.16
15	Exchangeable Calcium	cmol/kg	1	1	1	6	6	6
15	Exchangeable Magnesium	cmol/kg	1	1	1	3	3	3
15	Exchangeable Potassium	cmol/kg	1	1	1	0.5	0.5	0.5
15	Exchangeable Sodium	cmol/kg	0.1	1	1	0.2	0.2	0.2
15	Nitrate	mg/kg	0.1	1	1	0.25	0.25	0.25
15	Nitrogen (Total)	mg/kg	20	1	1	1740	1740	1740
15	Organic matter	w/w%	0.5	1	1	2.9	2.9	2.9
15	pH	pH	0.1	1	1	6.6	6.6	6.6
15	Phosphorus (total)	mg/Kg	2	1	1	394	394	394