



Annual System Performance Report

Cootamundra Sewerage Treatment System

Environmental Protection Licence No. 1603

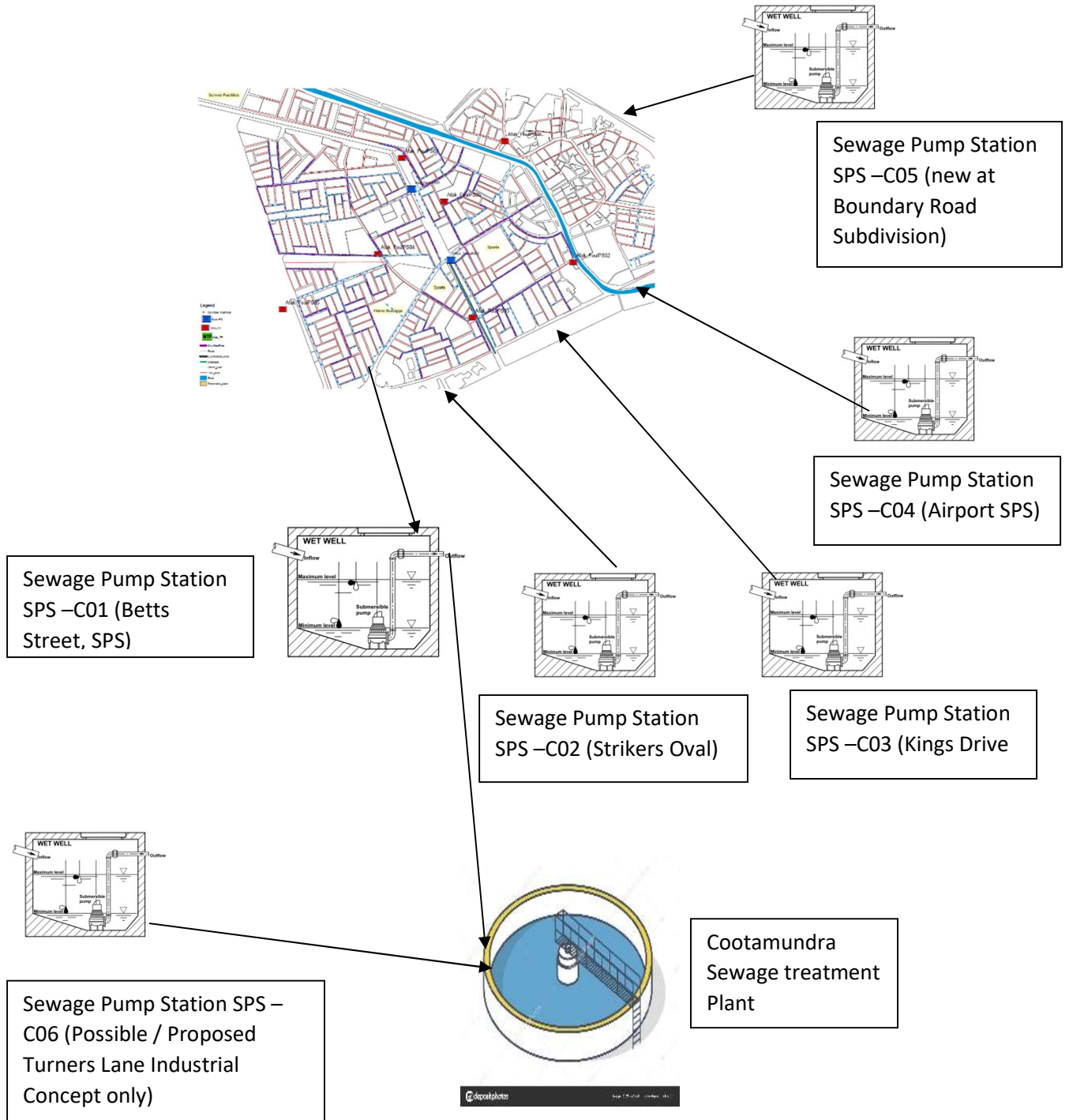
December 2021

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1.0 Cootamundra Sewerage System

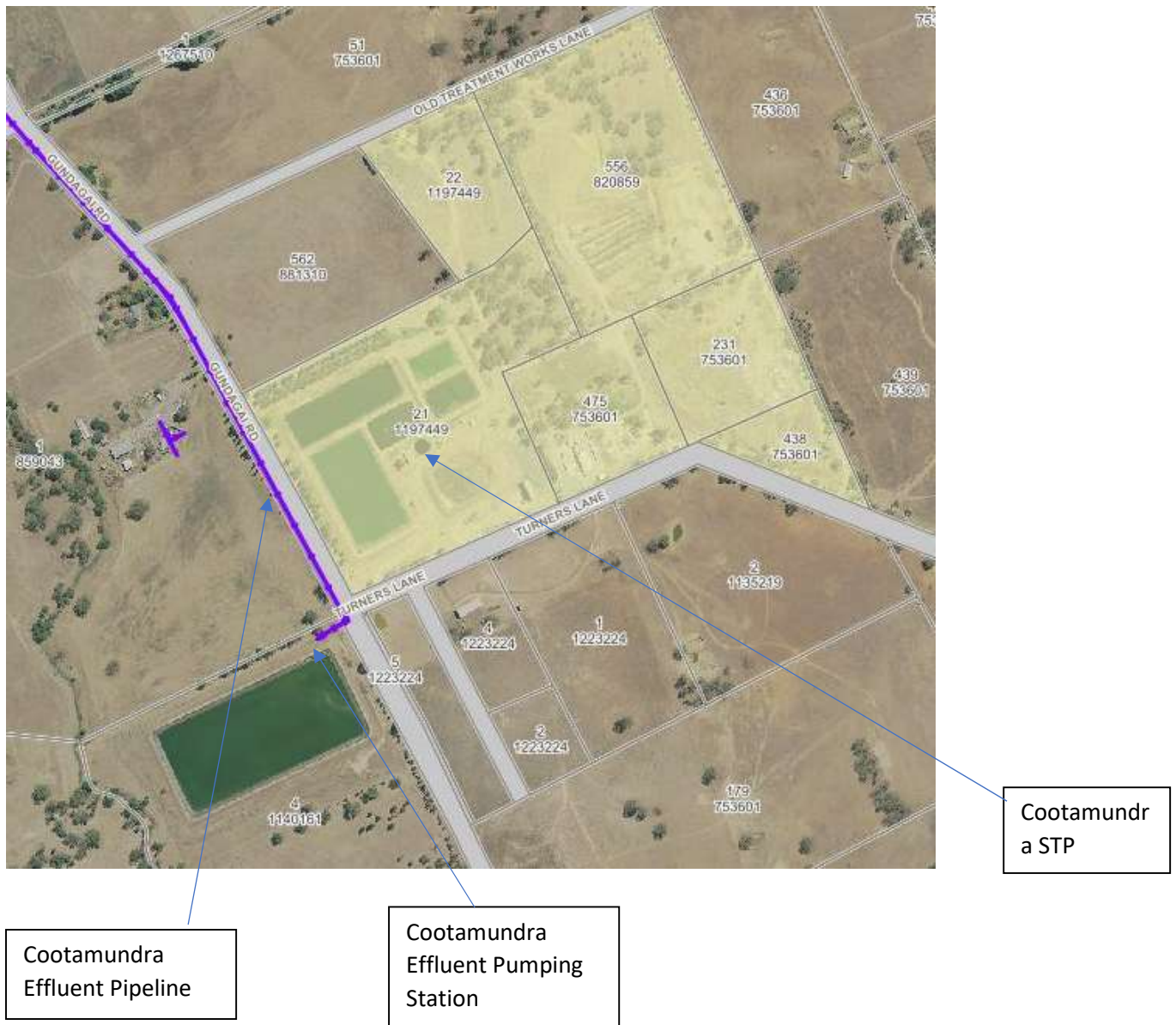
The sewerage system at Cootamundra consists of four minor sewage pumping stations, a large sewer reticulation network consisting of pipe diameters DN150 to DN450, and a major sewage pumping station at Betts Street which is pumping the entire sewage to the existing sewage treatment plant. Figure 1 shows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



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.

| 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.

| 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 |

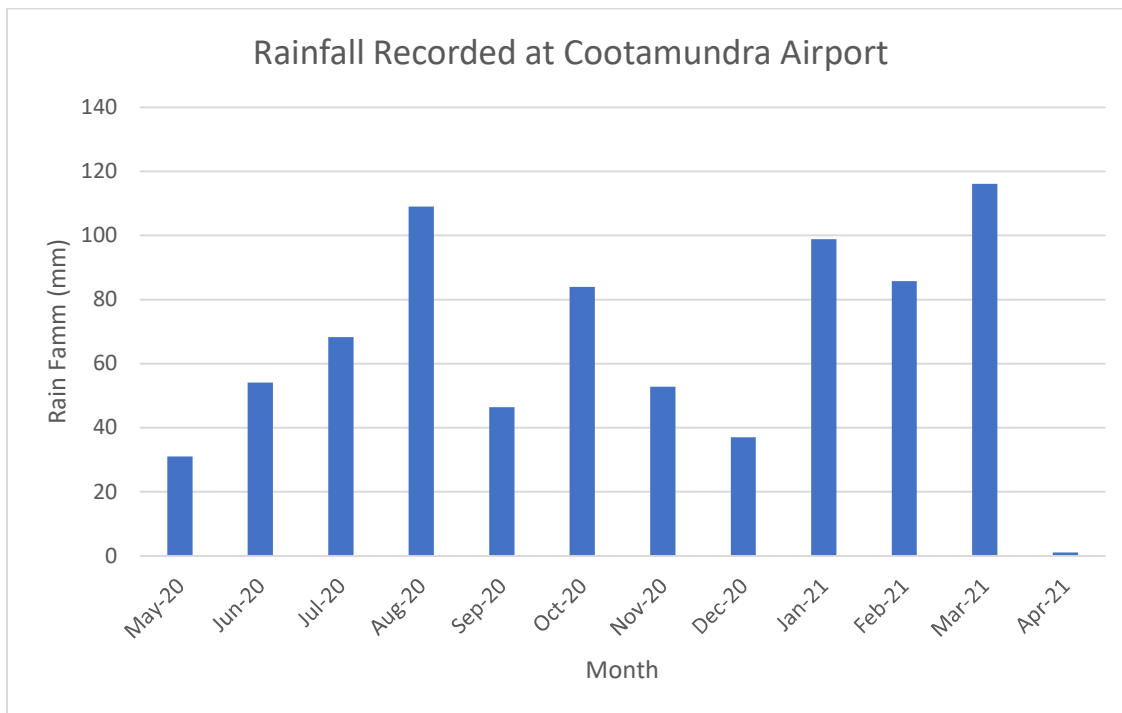
3.4 Bio Solids

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

4.0 Catchment Rainfall

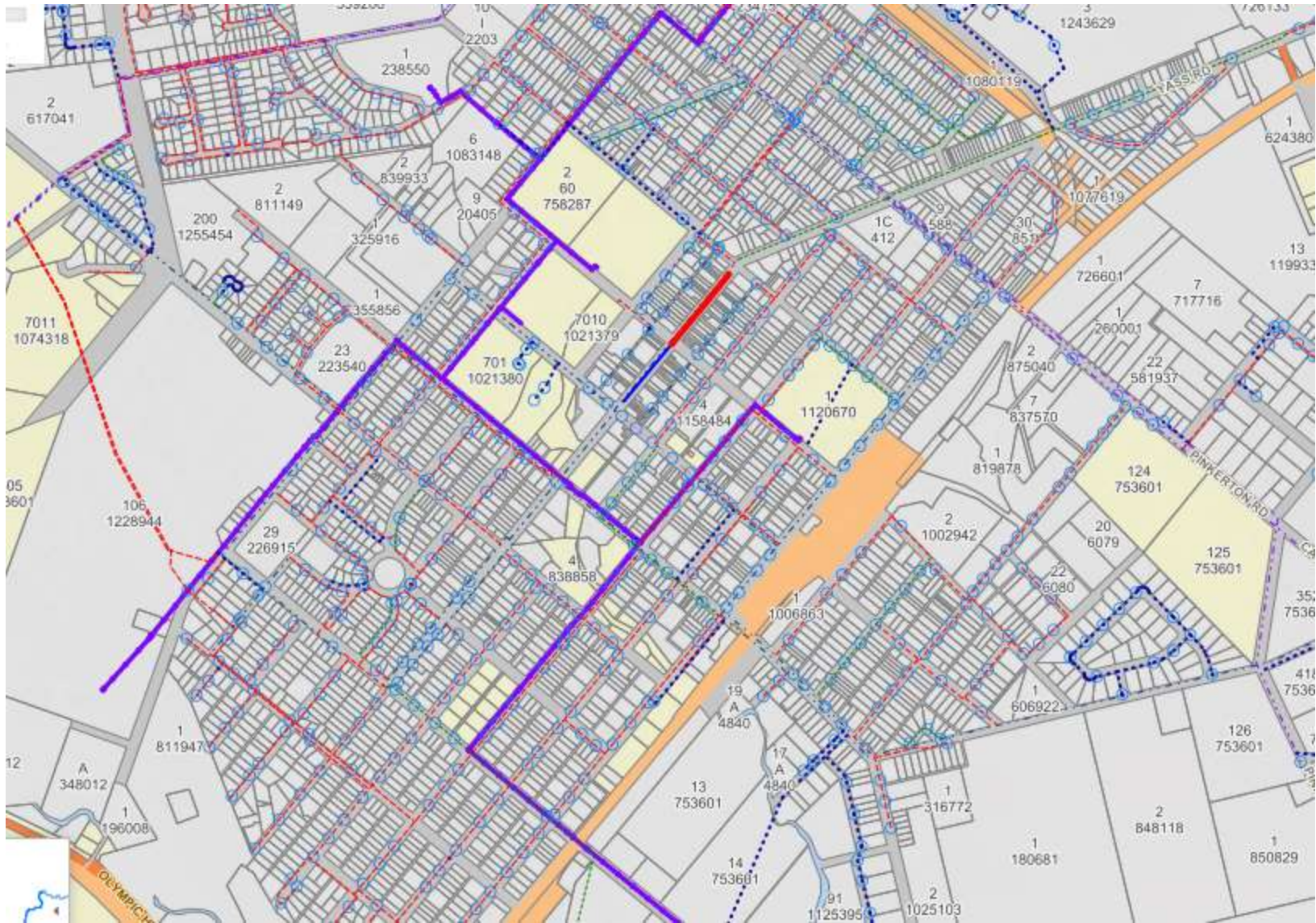
Rainfall recorded in the catchment area is provided below.

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



Location of Monitoring Points





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 |