# WATER SUPPLY STRATEGY

Mill Road, Ōhoka – Fast Track Application

Carter Group Limited

## EXECUTIVE SUMMARY

This document sets out how the proposed community water supply for the Ōhoka Fast-Track Application complies with the information requirements of Schedule 25 of the Canterbury Land and Water Regional Plan (LWRP). This includes descriptions of the proposed water supply system, an assessment of existing and future demand, conservation methods and measures including performance targets, an assessment of alternative water sources and a Drought Management Plan.

It is concluded that the proposed community supply can service the proposed development, provided that the recommendations of this document are followed. This document should be read in conjunction with the report by Pattle Delamore Partners (PDP) titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects.

There are no adverse impacts that reach the threshold of a "sufficiently significant adverse impact" such that they need to be taken into account in terms of an assessment under s 85 of the FTAA2024.

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# Reference Materials

Watermain Plan Set, Rev. A by Inovo (Drawing No 16013-00-RC-6000-6007)

Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects by Pattle Delamore Partners Ltd (Job Reference: C045180002)

## DISTRIBUTION

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# 1 INTRODUCTION

## 1.1 Purpose

Inovo Projects Ltd has been engaged by Carter Group Ltd to prepare a Water Supply Strategy (WSS) in support of an application for a residential subdivision to the Environmental Protection Agency (EPA) under the Fast-track Approvals Act 2024.

This document has been prepared in accordance with Schedule 25 of the Canterbury Land and Water Regional Plan (LWRP), including details around restrictions to the use of water from the proposed community water supply during periods of low flow. This document is part of the 'Water Supply Assessment of Environmental Effects' report prepared by Pattle Delamore Partners Limited (PDP).

## 1.2 Schedule 25 of the Canterbury Land and Water Regional Plan (LWRP)

An abstract of Schedule 25 of the Canterbury Land and Water Regional Plan (LWRP) is in Appendix A. The key themes required to be addressed in the Water Supply Strategy are and the relevant sections of this report are listed below:

1. A description of the community water supply system (refer Section 2)
2. An assessment of existing and future demand for water (refer Section 3)
3. A description of conservation methods and measures (refer Section 4)
4. An assessment of alternative water sources (refer Section 2)
5. Drought Management Plan (refer Section 5)

## 1.3 Subject Site Location

The subject site is located to the southwest of the Ōhoka township and consists of approximately 154.4Ha of land. The site is bordered by Bradleys Road, Mill Road and Whites Road.

## 1.4 Proposed Subdivision

It is proposed to subdivide the subject site. The proposal includes approximately 875 residential lots, a commercial centre adjacent to the Ōhoka Domain, a retirement village, and grounds for a Polo Field next to Bradleys Road. The works are proposed to be carried out in up to 11 Stages and it is expected that construction for all subdivision stages will be complete in or around 2035.

It is proposed to construct a communal water supply to service the full extent of the subdivision.

## 1.5 Review and Update of the Water Supply Strategy

It is recommended that the WSS is updated after the construction of the Community Water Supply, once all associated bores and their distribution networks have been constructed and commissioned.

The Waimakariri District Council (WDC) Water Conservation Strategy (WCS) stipulates that said document should be reviewed and updated every three years in line with the Long Term Plan (LTP) planning period. It is recommended that this WSS is integrated with that process.

The WDC reviews their budget annually through the Annual Plan and Long Term Plan processes, and it is recommended that this Water Supply Strategy should be reviewed in conjunction with these processes. Additional times when it may be suitable to consider reviewing or updating the WSS is when the 3 Waters Rating Review is carried out, when changes are made to the Water Supply Bylaw, or when decisions are made which may affect water conservation and/or drought management strategies.

The Activity Management Plan 2024 Water Supply District Overview including any future updates should also be considered when reviewing this WSS.

# 2 PROPOSED COMMUNITY SUPPLY

## 2.1 Location of Groundwater Abstraction Points

The proposed groundwater abstraction points will be in the form of deep (> 60m below ground level) bores, located within the subject site. The number of bores required is subject to testing, however it is expected that four or five bores will be required to service the development. The plan in Appendix B illustrates 100m set-backs from the external boundaries and indicative locations for groundwater abstraction within the site.

## 2.2 Conveyance Method

Pumps will be installed with each bore, located within their respective utility reserve area, from which a pressurised pipe will convey water to the community water supply treatment facility. From the treatment facility and associated storage tanks, water will be distributed to the water supply network throughout the development. The network will be pressurised using pumps centrally located at the treatment facility.

Proposed materials will be in accordance with the WDC Engineering Code of Practice (WDC ECOP). It is noted that Table 13 in the WDC Activity Management Plan (AMP) 2024 states the adopted reticulation asset life span for PVC and PE installed post-1990 is 100 years, which is considered suitable for the proposed network.

## 2.3 Water Supply Distribution Network

The proposed Water Supply Distribution Network is illustrated in the Watermain Plans, Rev A by Inovo (Drawing No 16013-00-RC-6000-6007) and it may be connected to the existing water supply network in Ōhoka.

## 2.4 Water Treatment Methods

The proposed water treatment for the community water supply is chlorination and UV disinfection. This aligns with the existing and proposed upgrades to the treatment of the existing Ōhoka Water Supply as outlined in the AMP. Some water quality testing has been undertaken onsite, which is outlined in the report by PDP titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects, however further testing will be required once the bores onsite have been drilled.

## 2.5 Alternative Sources

Alternative water sources have been considered and discounted for the reasons outlined below.

### 2.5.1 Surface Water

There are no surface water bodies which could be used as alternative sources of water, due to the sensitive nature of the environments around the site. The report by Instream Fast Track Application - 531 & 535 Mill Road - Aquatic Ecology Assessment includes information regarding the importance of baseflow through the existing waterways for gravel beds to provide breeding grounds for fish.

A deep groundwater supply is likely to provide better water quality.

### 2.5.2 Existing Ōhoka Water Supply

The report by PDP titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects states that there is capacity to service Stage 1 of the development including residential and commercial areas, however there is not sufficient capacity to service the remainder of the development.

### 2.5.3 Existing Private Water Supply Bores

According to the report by PDP titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects, there are five (although one was not drilled) existing shallow bores located on the site which are authorised to take groundwater for irrigation purposes. The known depths of the bores that were drilled are: 9.4m, 12m and 12.5m below ground level. Due to the shallow nature of these bores, they are not considered suitable to provide drinking water to the site due to the increased risk of those bores being impacted by surface contaminants.

# 3 ASSESSMENT OF EXISTING AND FUTURE DEMAND

Ōhoka township and surrounding areas are currently supplied by reticulated water supply owned and operated by WDC. According to the WDC Activity Management Plan 2024, the existing network has approximately 124 connections and is sourced from two bores. The principal bore used is identified as Ōhoka Well No. 2 (BW24/0262). A second, shallower bore (Environment Canterbury bore number M35/5609) is used as backup emergency supply. The AMP 2024 projects that the existing Ōhoka Scheme will have an additional 307 connections (12.3 L/s projected peak daily flow) by 2073. The projected upgrade for the Ōhoka Scheme is 12.5 L/s in 2061, including increased storage volumes of 30 $m^3$ in 2033 and 200 $m^3$ in 2070.

As noted above, the existing Ōhoka supply does not have capacity to provide the demand for the new development.

## 3.1 Existing Demand

A farm is currently operating on the majority of the subject site. The five (four drilled) existing shallow irrigation bores within the property have been consented for groundwater abstraction of up to 60 L/s under consent CRC991022 and 45.6 L/s under consent CRC991827. These bores will be decommissioned and the respective consents surrendered. Abstraction limits are shown in Table 1.

*Table 1: Consented Abstraction Limits*

| Consent | Abstraction Limit (L/s) |
|---|---|
| CRC991022 | 60 |
| CRC991827 | 45.6 |
| **Total** | **105.6** |

## 3.2 Estimated Demand for Proposed Development

Tables 2 and 3 below show the Estimated Average and Peak Water Supply Demands and Polo field irrigation demand in Tables 4, 5 and 6 overleaf are demands for the Polo field, Stormwater Management Areas and a summary. These numbers are taken from the report titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects by PDP.

*Table 2: Estimated Residential Average Water Supply Demand*

| Residential Lots / Units | | Average Demand per Connection | | Average Demand |
|---|---|---|---|---|
| | | L / day | $m^3$ / day | $m^3$ / day |
| Small Lots | 752 | 1,000 | 1.00 | 752 |
| Large Lots | 123 | 1,165 | 1.17 | 143 |
| Retirement Village | 250 | 250 | 0.25 | 63 |
| **Total** | **1,126** | **2,415** | **2.42** | **958** |
| **Total Average Demand (+15% allowance) ($m^3$ / day)** | | | | **1,102** |

*Table 3: Estimated Residential Peak Water Supply Demand*

| Residential Lots / Units | | Peak Demand per Connection | | Peak Demand |
|---|---|---|---|---|
| | | L / day | $m^3$ / day | $m^3$ / day |
| Small Lots | 752 | 2,500 | 2.50 | 1,880 |
| Large Lots | 123 | 3,810 | 3.81 | 469 |
| Retirement Village | 250 | 500 | 0.50 | 125 |
| **Total** | **1,126** | **6,810** | **6.81** | **2,474** |

*Table 4: Estimated Irrigation Demand for the Polo Field*

| Polo Field Irrigation<br>Ha | Adopted Profile Available Water (PAW) | Daily Volume<br>$m^3$ / day | Annual Volume<br>$m^3$ |
|---|---|---|---|
| 4.8 | 120 | 254 | 36,288 |

*Table 5: Estimated Irrigation Demand for Stormwater Management Areas*

| Irrigation Area<br>Ha | Daily Application Depth<br>mm | No. of days per year | Daily Volume<br>$m^3$ / day | Annual Volume<br>$m^3$ |
|---|---|---|---|---|
| 7.2 | 5 | 60 | 360 | 21,600 |

*Table 6: Estimated Total Water Supply Peak Demand*

| Total Water Supply Demand | Peak Demand<br>$m^3$ / day |
|---|---|
| Residential | 2,474 |
| Commercial | 86 |
| Polo Field Irrigation | 254 |
| SMA Area Irrigation | 360 |
| Total | 3,174 |

As discussed in the report titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects by PDP, WDC has indicated that N + 1 redundancy would be suitable for a proposed water supply of this size, which means that the water supply must be able to meet peak network demand with one bore offline. Based on the data available, it is expected the proposed development can be serviced by four or five new bores (three or four plus the one for redundancy), assuming performance similar to BW24/0262. Exact yields can be confirmed once testing of any new bores is carried out.

## 3.3 Staging

It is proposed that the subdivision will be constructed in up to eleven stages. The proposed four or five bores (subject to capacity testing) will be constructed sequentially from the north-north-eastern portion of the site next to Mill Road, to the southern side ahead of each stage(s) served. The exact ratio or stages and lots to each bore will be determined following confirmation of the bore locations. It is likely that the treatment facility will be located at or near the first bore to be established towards the northern end of the site.

## 3.4 Future Demand

The densities proposed for the Ōhoka development are higher than that of the surrounding environments. It is therefore not anticipated that further intensification will be proposed within the subject site beyond what can be accounted for in the conservative estimates above. Therefore, it is considered suitable to assume these estimates to be in line with capacities reflective of the maximum probable development (MPD).

Existing supply bore BW24/0262 provides additional supply to exceed the N+1 redundancy requirements through to 2073, as outlined in the report by PDP titled Fast Track Application – 535 Mill Road, Ohoka – Water Supply Assessment of Environmental Effects.

Any increased demand outside of the subject site would be accommodated by the existing public reticulation associated with the Mandeville and/or Ōhoka Schemes.

The Activity Management Plan (AMP) 2024 Water Supply District Overview by the Waimakariri District Council discusses growth projections for the various towns within the district and the necessary works have been incorporated into the capital project budgets.

Should any changes be proposed to increase the density of the land served by this water supply system, the demand will need to be assessed to ensure that any proposed additional demand can be accounted for by upgrades and/or additions to the community supply system.

## 3.5 Public Health Needs

### 3.5.1 Drinking (Potable) Water

Safe drinking water is a necessity for good health. As per the Water Service Act 2021, Te Whatu Ora is the drinking water regulator as of 15 November 2021 and following that, Taumata Arowai published new Drinking Water Standards which came into effect on 14 November 2022. Public health needs are safeguarded through the Drinking Water Quality Assurance Rules which set out how drinking water suppliers must comply with key parts of the Drinking Water Standards and the Water Services Act 2021. The Drinking Water Standards include limits for a range of health factors relating to safety and quality of drinking water and are based on those set by the World Health Organization (WHO).

### 3.5.2 Firefighting

The New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008) stipulates the minimum supply of water pressure and volume for firefighting in urban areas. The requirements can be used to provide advice for similar systems outside fire districts, such as rural areas. SNZ PAS 4509:2008 does however state that the effectiveness of a water supply for firefighting in rural areas will be affected by aspects including the time and distance from a fire station and seasonal sustainability of the water supply.

Any proposed building will need to comply with fire fighting requirements and will be assessed at Building Consent Stage for each individual project and will be the responsibility of the property owner.

## 3.6 Responsibilities of Municipal Water Supply Authorities

The Local Government Act (LGA) 2002 addresses specific obligations to ensure that communities have access to safe drinking water to the point of supply of each dwelling. The responsibility of WDC as the Municipal Water Supply Authority, once the water supply assets have been vested and the maintenance liability period has ended, shall be as per the obligations outlined in the LGA, the Water Service Act 2021 and as outlined in the Waimakariri Water Supply Bylaw 2018 and any subsequent versions superseding it.

At a regional level, the Canterbury Water Management Strategy (CWMS) – Strategic Framework by the Canterbury Mayoral Forum (Nov 2009, Targets updated Jul 2010, Interim Targets for 2025 and 2030 added Aug 2019) references R19/122 E19/7624 outlines that Canterbury's water resources have been coming under pressure and that aquifer allocation limits are exceeded in some areas. The document further states that some substantial water use efficiency gains can be made both by existing and new users. The identified target for 2040 relating to community water supply is:

*Reduced water used for community water supply by 20% (measured in litres per person per day) compared to that used in 2010.*

This Water Supply Strategy is intended to align with the CWMS and it is the responsibility of the Municipal Water Supply Authority to continue to work with the other regulatory bodies to implement these strategies. To achieve this target, two proposed methods that have been given are 'Community water supply strategies and asset management plans' and 'educational initiatives'.

# 4 WATER CONSERVATION STRATEGY

According to the Water Conservation Strategy, 2010 (revised September 2020) by the WDC the principal drivers identified for conserving water are:

- Environmental – minimising water use reduces the impacts on the environment
- Financial – reduced water use results in lower costs to build and operate water supplies
- Regulatory – resource consent holders are required to use water efficiently
- Cultural – water conservation promotes cultural wellbeing

The water conservation strategy for the subdivision is proposed to include measures that align with the principles outlined above.

## 4.1 Water Efficiency and Conservation Measures

### 4.1.1 The Waimakariri District Council Water Conservation Strategy

The Waimakariri District Council Water Conservation Strategy and the AMP 2024 include three primary initiatives and additional other initiatives:

Primary Measures:

- Community Awareness Programme, including media campaigns and school education programmes
- Leak Reduction, including monitoring and budgeting for works to reduce leaks
- Water Metering Investigations, including monitoring installed flowmeters

Other Measures:

- Water Restrictions during critical times
- Restrictor Checks to ensure that excessive wear or damage has not occurred
- Water Efficient Technologies
- Investigations into Alternative Sources of Non-Potable Water including rain water collection and grey water reuse for garden water use (not currently actively programmed in by WCS)

Measures that WDC have identified as not to be adopted include a universal water metering programme due to the estimated cost not being an acceptable solution for the ratepayers.

The rating method for the existing Water Supply Scheme for Ōhoka is Fixed Charge, however there are Variable Charge schemes in other areas of the Waimakariri District.

### 4.1.2 Proposed Water Conservation Strategy for the Proposed Community Water Supply

Proposed Measures for the subdivision include:

- Signage to aid community awareness
- School Education and other public awareness programmes already implemented by the WDC
- Maintenance of the Reticulation Network to reduce loss to leakage
- Water Restrictions during critical times

The WDC WCS states that 3 Waters rating will continue to be reviewed as part of the Long Term Plan Process.

Other optional measures which could be implemented in the future include:

- Water meters for extraordinary users, which may include the commercial activities, retirement village and polo field sports facility
- Variable charge rating
- Water Meter Monitoring for leak detection using smart water meters with remote water metering
- Water efficient technologies such as tap aerators and/or half flush toilets for proposed dwellings

## 4.2 Reduction of Water Loss from Reticulated Network

Material selection for the proposed reticulated network will be in accordance with the Engineering CoP and therefore is anticipated to align with the expectations of the wider network performance over time. Regular maintenance will be required and should be budgeted for.

During the investigation undertaken by the WDC as assessed 30 Jun 2019 outlined in the WCS, the existing Ōhoka scheme fell into the (A) band for leakage management, where further loss reduction may be uneconomic unless there are shortages. On this basis, it appears that the existing reticulation in Ōhoka is performing reasonably well as compared to for example the Mandeville network which was the worst performing network identified in 2019. Therefore, it is proposed that a network similar to the existing Ōhoka water supply should be constructed for the new subdivision.

Leakage reduction works identified through night flow analysis is in line with WDC's existing practices and is therefore a recommended strategy. Any active leak detection resulting from the night flow analysis include:

- Step testing
- Acoustic logging
- Temporary metering
- Leak correlation, pinpointing and repair

It is also recommended that abstraction rates are monitored in relation to the night flow analysis, similar to what is discussed in the Water Conservation and Demand Management Plan by Selwyn District Council, dated September 2023 using SCADA, to integrate with Council's existing systems.

At detailed design, the proposed network and pumpstation(s) shall be designed to allow for the lowest pressure that is suitable for the demand required for potable supply and firefighting purposes, to reduce risk and magnitude of leakage and mains bursts. This may also extend the life of the proposed infrastructure. It may also be considered at detail design stage, whether pressure reductions could be implemented during times of lower demand, such as overnight.

The target level of service for WDC on demand schemes is to provide greater than 300kPa for 95% of the time and greater than 250 kPa 100% of the time according to the WDC WCS 2010.

## 4.3 Performance Targets

The WDC WCS includes both mandatory and non-mandatory targets, which will be adopted for the proposed Community Water Supply, to maintain consistency across the WDC assets and water supply schemes.

### 4.3.1 Mandatory Targets

Performance targets for the proposed Water Supply are in accordance with the WDC WCS. Table 7 below is for a mandatory performance measure related to leakage.

*Table 7: Mandatory Performance Target*

| Level of Service | Performance Measure | 2021 Target |
|---|---|---|
| **Maintenance of the Reticulation Network**<br><br>All public supplies are actively maintained to minimise the loss of water leakage | The percentage of real water loss from the networked reticulation system | Less than 22% |

### 4.3.2 Non-mandatory Targets

Four non-mandatory performance measures were also identified as outlined in the WDC WCS, as per Table 8 below.

*Table 8: Non-mandatory Performance Targets*

| Level of Service | Performance Measure (2021) | Target |
|---|---|---|
| Losses | Water losses as determined by the Infrastructure Leakage Index (ILI) based on an annual assessment | <u>Scheme Level:</u><br>ILI >= "B" or an economic assessment carried out and recommended measured implemented<br><br><u>District level:</u><br>ILI >= "B" |
| Water Usage | Actual usage on average day | Maintain the average daily water use below 100% of the assessed reasonable water use |
| Water Usage | Actual usage on peak day | Reduce the peak daily usage to below 110% of the assessed reasonable water use |
| Flow – Allocated Units | Percentage of properties where flow received is consistent with allocated units at the point of supply in restricted or semi-restricted schemes as demonstrated by restrictor checks completed. | 100% of restrictors tested at no more than 5 yearly intervals. |

### 4.3.3 Measuring and Reporting on Targets

Table 9 below is what is referred to as Table 26 in the WDC WCS 2010 for measuring and reporting on success of the WCS. As the proposed Water Supply System will be vested to WDC, the same performance targets and reporting is proposed for the purpose of this Water Supply Strategy.

*Table 9: Measuring and Reporting Targets (Table 26 in the WDC WCS 2010)*

| Initiative | Measure | Frequency / Method of Assessment | Reporting |
|---|---|---|---|
| Metering of extra-ordinary users | Data is collected quarterly on selected sample properties where meters have been installed. | Two assessments of this data have been carried out to date. This data will be utilised again if required, to help inform any future policy decisions / changes. | This will be reported as part of the wider consideration into 3 Waters rating, if opted for following consultation as part of the 2021-31 Long Term Plan |
| Community Awareness Programme | Number of classroom hours / students engaged with to be reported on as part of school education programme. General report on progress for other elements. | A summary of activities undertaken as part of this initiative will be collated annually. May include water audits, or education regarding water efficient devices. | To be included within annual report to Council's Utilities and Roading Committee. |
| Leak Reduction | Infrastructure Leakage Index (ILI) | Annual calculation based on minimum night flows, comparison with level of service for this measure. | Annual report to Council's Utilities and Roading Committee. Included within water supply Activity Management Plans. Percentage is reported to the Department of Internal Affairs as part of the mandatory performance measure reporting. |
| | Percentage of total water Used | Annual calculation based on minimum night flows, comparison with level of service. | |
| | L / conn. / day | Annual calculation on each scheme based on minimum night flows. | Included within annual report to Council's Utilities and Roading Committee. |
| | m3 / km / day | | |
| Restrictor Checks | Percentage of properties where flow received is consistent with allocated units at the point of supply in restricted or semi-restricted schemes as demonstrated by restrictor checks completed. 100% of restrictors to be checked at no more than 5-yearly interval. | The Asset Management Information System (AMIS) project Phase 2 is required to be completed to allow this to be reported on. When completed test dates will be stored against each restrictor asset, and a query run to determine the percentage tested within the last 5 year interval. | This is included within performance level reporting, within each relevant scheme Activity Management Plan on a three yearly basis. |
| Pressure Management | N/A | N/A | The use of pressure management to reduce night flows while still ensuring adequate pressures are able to be achieved during high demand times will be trialled initially on Kaiapoi or Rangiora in the 2020/21 financial year, and the results of this reported back to the Utilities and Roading Committee as part of the annual WCS implementation report. |

# 5 DROUGHT MANAGEMENT PLAN

During droughts or other events where flows are reduced, advertising messages to the public to encourage wise water use to avoid the risk of restrictions should be put in place. It is recommended that measures, such as refraining from unnecessary irrigation, washing of cars and other outdoor equipment and having short showers are encouraged through this messaging.

Flow reductions can be imposed to assist in reducing use. WDC may impose water restrictions as a 'last resort' measure.

## 5.1 Drought Management Methods

In the event of a forecasted or unexpected drought, the methods described below may be implemented to manage water use. The various methods vary in nature, including pre-emptive, precautionary, voluntary and imposed measures.

### 5.1.1 Public Education Programmes

Public Education Programmes may include initiatives in schools, signs in public places, social media or newspapers. These campaigns may instil good habits, raise awareness and reduce peak and/or total demand, however without financial incentives the effectiveness may be limited.

### 5.1.2 Reduced Consumption

Reduced consumption may be encouraged or enforced depending on the severity of the drought. Actions to reduce total daily demand and/or peak may include one or a combination of the items in Table 10 below, which should vary in implementation depending on the severity of the drought:

*Table 10: Options for Restriction Actions per Application*

| Application | Options for Restriction Actions may Include |
|---|---|
| Irrigation / Outdoor Water Use | Split outdoor water use between odd and even houses, to spread the load of daily water demand |
| | No watering of lawns by automated irrigation (hose, sprinklers) during a certain time e.g. between the hours of 6am to 9am and 4pm and 9pm, or no watering during the day to reduce evaporation losses |
| | No washing of vehicles or outdoor surfaces by house or water blasters (unless from rainwater) |
| | Garden watering by hand only (watering can or hose with a trigger nozzle) |
| | No watering of lawns permitted |
| | No watering of gardens permitted |
| | Total ban on external/outdoor water use |
| Indoor Water Use | Shorter showers |
| | Reducing laundry to one load per person per week |
| Commercial Use | No watering of lawns during a certain time e.g. between the hours of 6am to 9am and 4pm and 9pm, or no watering during the day to reduce evaporation |
| | No washing of vehicles or outdoor surfaces by house or water blasters (unless from rainwater) |
| | No watering of landscaped areas permitted |
| | Restricting watering of sports fields to those which have an irrigation system fitted with soil moisture or rain sensors |
| | Total ban on external/outdoor water use unless it is for health, safety, emergency or biosecurity reasons |
| | No sports fields irrigation permitted |

### 5.1.3 Compliance and Enforcement Measures

Compliance and enforcement measure may be implemented in accordance with Council Bylaws and the LGA.

## 5.2 Mediums for Communication and Messaging

Ways to communicate to residents may include the mediums listed below.

- Schools Education Programmes,
- Signs in public places such as community boards or store fronts,
- Social media,
- Newspapers,
- Letter drops / mailouts

Key messages to the public may include the options listed in Table 11 below, however it is recommended that any communications are signed off through the appropriate person(s) within Council before releasing.

The messaging should be tailored to the severity and forecasted duration of the drought.

*Table 11: Options for Key Messaging per Scenario*

| Scenario | Options for Key Messaging to the Public may Include |
|---|---|
| General Education | • Environmental benefits of water conservation<br>• By everyone saving a little, together we can save a lot in the event of a drought |
| Forecasted drought | • Due to projected droughts residents are being urged to reduce their water use to avoid formal restrictions<br>• The focus for the current, preventative drought management is on limiting outdoor water use to ensure that there is enough water for residential and business customers and to avoid mandatory restrictions should the drought persist<br>• By everyone saving a little, together we can save a lot<br>• Council is doing their part by proactively undertaking leak detection and repair work |
| Drought experienced | • Due to the ongoing drought, water restrictions are being introduced<br>• Detail around the level of water restriction applied<br>• Commencement date of water restrictions<br>• Explanatory statement as to why restrictions are imposed, such as 'The local community water supply is struggling to meet demand, in some cases resulting in pressure drops in the network'<br>• Details regarding capacity increases being implemented<br>• Enforcement measures may apply should the restrictions not be complied with. Any restriction is enforced through council bylaws.<br>• Council is doing their part by proactively undertaking leak detection and repair work |

# APPENDIX A | SCHEDULE 25 OF THE LWRP

# APPENDIX B | WATER SUPPLY BORE INDICATIVE LOCATIONS PLAN