



# **Attachments Excluded From Agenda**

## **Meeting of Singleton Council**

Tuesday 17 May 2022

*"To provide quality services to the community in an efficient and friendly manner encouraging responsible development"*

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# SINGLETON COMMUNITY SPORTS INFRASTRUCTURE STRATEGY 2022-2032

“SETTING THE DIRECTION FOR SPORT IN SINGLETON”

PART A: STRATEGY – JANUARY 2022

## ABOUT THIS DOCUMENT

Singleton Council has commissioned the development of a Community Sports Infrastructure Strategy to guide and unify investment into sports grounds and recreation infrastructure across Singleton for the 2022 to 2032 period.

The purpose of the Community Sports Infrastructure Strategy is to provide sustainable recommendations relating to infrastructure provision and improvement that align with the priorities of potential investment partners.

A clear vision for sporting infrastructure that assists in the prioritisation of projects over the short, medium and long term is a key outcome.

The Community Sports Infrastructure Strategy has been separated into two separate parts for ease of reading.

### **PART A: STRATEGY**

Provides the proposed strategic framework to guide future facility planning, investment and project prioritisation. It provides a 10-year capital plan with short, medium and longer-term priorities for each of the 14 community sport grounds and active recreation reserves that are the focus of the Strategy.

### **PART B: BACKGROUND & CONTEXT**

Provides background information, a summary of policy and strategy review and analysis of local and regional sport and associated future demand implications. A summary of stakeholder and community consultation undertaken is also provided. A summary of the site and asset audits undertaken (and relevant observations) for each of the 14 community sport grounds and active recreation reserves forms the remainder of Part B.

**The overall objective of the Singleton Community Sports Infrastructure Strategy is to address both the current and future demand for sport and related facilities and guide the provision of and investment into infrastructure and service levels over the 10-year period from 2022 to 2032.**

Desired outcomes and deliverables of the Community Sports Infrastructure Strategy include:

- Analyse and review the existing provision and hierarchy of sporting facilities and associated infrastructure in the Singleton Council area.
- Identify sporting needs and expectations of the community through a variety of engagement methods.
- Determine the limitations and gaps of existing sporting facilities, taking into consideration projected demographics and industry benchmarks for provision.
- Consider any issues and opportunities relating to Council's role in providing sporting opportunities to the wider community and provide advice, direction and recommendations.
- Develop a 10-year prioritised strategy for the future provision of sporting infrastructure incorporating a costed program which considers Council's funding constraints and the availability of external funding.

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# METHODOLOGY

The Community Sports Infrastructure Strategy has been developed in accordance with the key three stages identified below. These stages outline a structured approach that includes broad community engagement and promotes collaborative delivery and implementation.

## STAGE 1: REVIEW OF FACILITY PROVISION, USAGE AND RESEARCH

Undertake a review of all existing asset and inventory data, strategic plans and policy documentation and Council demographic information. Undertake site visits of all 14 Singleton sports grounds and recreation reserves.<sup>[1]</sup>

**KEY DELIVERABLE:** State of Play Report

## STAGE 2: CONSULTATION, GAPS AND OPPORTUNITIES ANALYSIS

Undertake community and stakeholder engagement including community and sporting club surveys, stakeholder interviews and consultation with internal Council departments and the Singleton Sports Council. Develop an overall Gaps and Opportunities Report.

**KEY DELIVERABLE:** Gaps and Opportunities Report and engagement summary

## STAGE 3: DRAFT AND FINAL STRATEGY

A Draft Strategy was prepared in 2021 with feedback provided by Council staff, Sports Council members and community members via public exhibition. The Final Singleton Community Sport Infrastructure Strategy's including public exhibition period and endorsement.

**KEY DELIVERABLE:** Draft and Final Strategy

In preparing the Community Sports Infrastructure Strategy, the following activities have been undertaken by project consultants and engagement methods have been utilised to inform the preparation of this report:

- **Site visits to 14 sports grounds** and recreation reserves were undertaken between 28<sup>th</sup> and 30<sup>th</sup> April 2021. Each field of play, training facilities and off-field amenities and associated buildings were audited to identify compliance of sporting facilities with recommended facility guidelines and best practice. Findings have been outlined for each of the 14 sites in Part B of this report.
- **Club questionnaires** were distributed to each sporting club that tenants or regularly uses one of the 14 sports grounds. Questionnaires were used to understand club participation trends, current facility limitations and constraints and future aspirations for facility provision and/or redevelopment. A total of 11 individual club questionnaires were completed and used to inform this report.

Additional club questionnaires were also sent to the remainder of Sports Council member organisations that occupy and use other sporting facilities across Singleton. This was conducted following the development of the initial Draft Strategy in order to broaden sporting club engagement.

- **On-site interviews** were conducted with clubs and user groups during site visits, with **additional telephone interviews** conducted with other clubs that could not attend a site visit. Interviews were used to further understand sports ground and facility use, current and future needs and demand for their sport and associated programs.
- An **online Community Survey** was conducted via the Singleton Council website during May, with the survey closing on 31<sup>st</sup> May 2021. In total 238 community survey responses were received and have been analysed to inform this report.
- **Public exhibition of the Draft Strategy** was conducted over November-December 2021, with 4 formal written submissions received.

[1] Detailed facility audits were only conducted at venues on Council owned and/or managed land. Other sites and sports facilities located on non-Council owned or managed land and those under management contract or lease were not audited and do not form part of the Strategy or the associated 10-Year Capital Plan.

# DEFINING SPORT, RECREATION AND PHYSICAL ACTIVITY

In order to appreciate the range of activities and associated facilities this Strategy covers, it is important to define them and identify where they fit in the physical activity spectrum. **The focus for encouraging and supporting participation through this Strategy is “active recreation, social sport and traditional sport”.**

	DEFINITIONS	ASSOCIATED FACILITIES
High flexibility Low structure	<b>PLAY</b> Unstructured activity for the purpose of fun and enjoyment, particularly by children	Playgrounds, play spaces, schools, parkland
	<b>ACTIVE LIVING</b> Physical activity integrated into everyday living	Trails, waterways, commuter routes/roads
	<b>ACTIVE RECREATION</b> Non-competitive physical activity undertaken during leisure time, individually or in groups	Swimming pools, gyms, leisure centres, recreation reserves, trails, sports courts
	<b>SOCIAL SPORT</b> Social, semi-organised, non-competitive sport activity during leisure time	Sports grounds, recreation reserves, sports courts (indoor & outdoor)
	<b>TRADITIONAL SPORT</b> Sports competitions and events that follow traditional rules and structures	Sports grounds, recreation reserves, sports courts (indoor & outdoor)
Low flexibility High structure	<b>ELITE SPORT</b> State, national and international sports competitions and events following traditional rules and requiring qualification to compete	Stadiums (indoor & outdoor), sports grounds, sports courts - all provided to governing body requirements

*The above definitions of physical activity are adapted from the VicHealth Doing Sport Differently resource (2020)*

# SINGLETON'S ACTIVE SPORTS GROUNDS, RESERVES AND FACILITIES

The Singleton and surrounding area is an active sporting community that offers a range of formal and informal sporting opportunities for its residents. Singleton has a generous provision of active and passive open spaces that encourage residents to engage in active sport and recreation activities to improve their health and wellbeing.

Thousands of Singleton residents of all ages participate in a diverse range of sport and recreation activities on a weekly basis, either via formal sporting club networks, social play or individualised participation. Analysis and consultation undertaken during this project indicates that the majority of sports in Singleton have experienced steady participation numbers in recent years, with a number also providing positive membership growth.

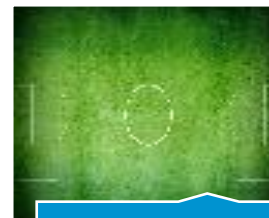
The focus of the Sports Strategy is to understand the needs of existing sporting clubs and organisations, and to deliver a facility improvement plan for the 14 outdoor community sports grounds, village recreation reserves and their associated facilities to enable clubs to deliver sport sustainably and effectively.

The Strategy also refers to a number of other sporting facilities provided across Singleton. These facilities fall outside the specific study scope, but are referenced due to their importance to the Singleton community and for their contribution to providing a range of sport and physical activity opportunities for residents and visitors.

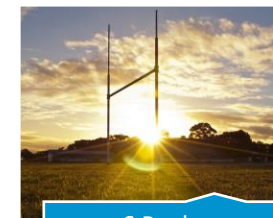
Singleton provides the following range of sports grounds and active recreation facilities.



25 Tennis Courts



3 Soccer Fields



6 Rugby  
League Fields



12 Netball Courts



8 Cricket Ovals



1 Athletic Fields



6 Touch Rugby  
Fields



3 Rugby Union  
Fields



1 Clay Target  
Shooting Range



4 Squash Courts



1 BMX & 1 MTB  
Track



1 Golf Course



## SINGLETON'S OTHER LEISURE FACILITIES AND ACTIVE SPACES

In addition to the sporting facilities identified on the previous page, the Singleton area also has the following recreation, leisure and youth facilities and public open spaces.

While identified here, the future use, development and planning for these venues is not provided within the scope of this Strategy.

### LEISURE AND RECREATION CENTRES

There are two leisure and recreation centres in Singleton.

Both of these centres are managed via Singleton Active, which represents a partnership between Singleton Council and Belgravia Leisure to deliver quality facilities and programs to promote the health and wellbeing of the Singleton community.

**Singleton Gym and Swim Centre** includes a health club, group fitness classes, a seasonal 50m outdoor swimming pool, an indoor heated 25m pool, a 12.5m indoor heated programs pool, a hydrotherapy pool sauna and spa.

**Singleton Heights Sport Centre** includes an indoor stadium with multi-use court, squash courts, kiosk, event and function facilities. Sports available to participate in include basketball, futsal, netball, gymnastics, squash and volleyball.

The Singleton Heights Sports Centre is 45 years old and reflects its age in appearance, configuration and maintenance requirements. Future redevelopment proposals to develop the Singleton Heights Sports Centre into a multi-functional, active recreation and sports centre will be considered via the Active Singleton partnership over the coming years.

A review of services, programs and long-term facilities required at the Singleton Gym and Swim Centre is also recommended to ensure it continues to meet community needs and expectations. However, this review falls outside the scope of this Report.

### COMMUNITY YOUTH CENTRES

There are three Youth Centres in Singleton.

The Police Citizens Youth Club (PCYC) is a club open to all members of the community. It works with young people to help them be active and to reach their potential. The PCYC offers sport and education programs.

Salvation Army Youth Group (Singleton) provide a youth group for high school aged teens. They offer a range of activities including games and challenges as well as short outings.

Singleton Youth Venue caters for young people aged between 11 and 17. The venue provides a range of social and educational activities and programs.

### PUBLIC OPEN SPACES

Singleton Council has 74 Parks and Reserves. Singleton has 486 hectares of Open Spaces, and Singleton Council maintains 230 hectares of this Open Space.

### MOUNTAIN BIKE (MTB) TRAILS AND FACILITIES

Singleton offers a range of sites that are used for a range of MTB activities. These include Travelling Stock Reserve (Maison Dieu) and Pioneer Road (Huntermuir). These sites, along with Bridgman Road (Singleton Heights) were the subject of a detailed *Singleton Council Mountain Bike Trail Feasibility Study in 2021*.

The future of these sites for MTB activities and the corresponding recommendations, adopted actions and associated budgets for implementation do not form part of this Report. However, they are worth noting within this Report and Council is encouraged to ensure adequate budgets are provided to support MTB.

## FACILITIES BY HIERARCHY AND MANAGEMENT

The following sites and facilities provide for Singleton's sports, recreation and physical activities. Sites are categorised into Council's hierarchy of facilities (refer to page 18), with Village Recreation Reserves, and Local and District Sports Grounds only being included within the scope of the Community Sports Infrastructure Strategy. Only these 14 sites (numbered 1 to 14 below) have been visited, audited and included within the 10-Year Capital Plan (refer pages 28 to 32).

Site / Venue	Facility Hierarchy
1. Albion Park (Singleton)	Local Sports Ground
2. Allan Bull Reserve (Huntermuir)	District Sports Ground
3. Alroy Oval (Singleton Heights)	District Sports Ground
4. Broke Recreation Reserve (Broke)	Village Recreation Reserve
5. Bulga Recreation Ground (Bulga)	Village Recreation Reserve
6. Civic Park (Singleton)	District Sports Ground
7. Dunolly (Pirtek) Park (Dunolly)*	District Sports Ground
8. Gowrie Park (Singleton)	Local Sports Ground
9. Howe Park (Singleton)	District Sports Ground
10. James Cook / Rose Point Park (Singleton)	District Sports Ground
11. Jim Johnstone Park (Warkworth)	Village Recreation Reserve
12. Jerrys Plains Recreation Ground (Jerrys Plains)	Village Recreation Reserve
13. Stanhope Tennis (Stanhope)	Village Recreation Reserve
14. Victoria Square (Singleton)	Local Sports Ground

Site / Venue	Facility management
15. Country Tennis Club (Singleton)	Private land
16. Singleton Gym & Swim (Singleton)	Singleton Active managed
17. Singleton Clay Target Club (Warkworth)	Private land
18. Singleton Golf Club (Singleton)	Leased venue
19. Singleton Heights Sports Centre (Singleton Heights)	Singleton Active managed
20. Singleton Rugby Club (Singleton)	Private land
21. Singleton MTB Track – Travelling Stock Reserve (Maison Dieu)	Crown land not managed by Council

The sites listed above are referenced within this document to identify the range of sport and recreation facilities that exist across Singleton. As these sites are all used by Singleton Sports Council members they have been referenced as important facilities within this document. **However, as they are either located on non-Council land or are venues managed via lease or commercial arrangements, their future capital development has not been considered as a priority within the Community Sports Infrastructure Strategy.**

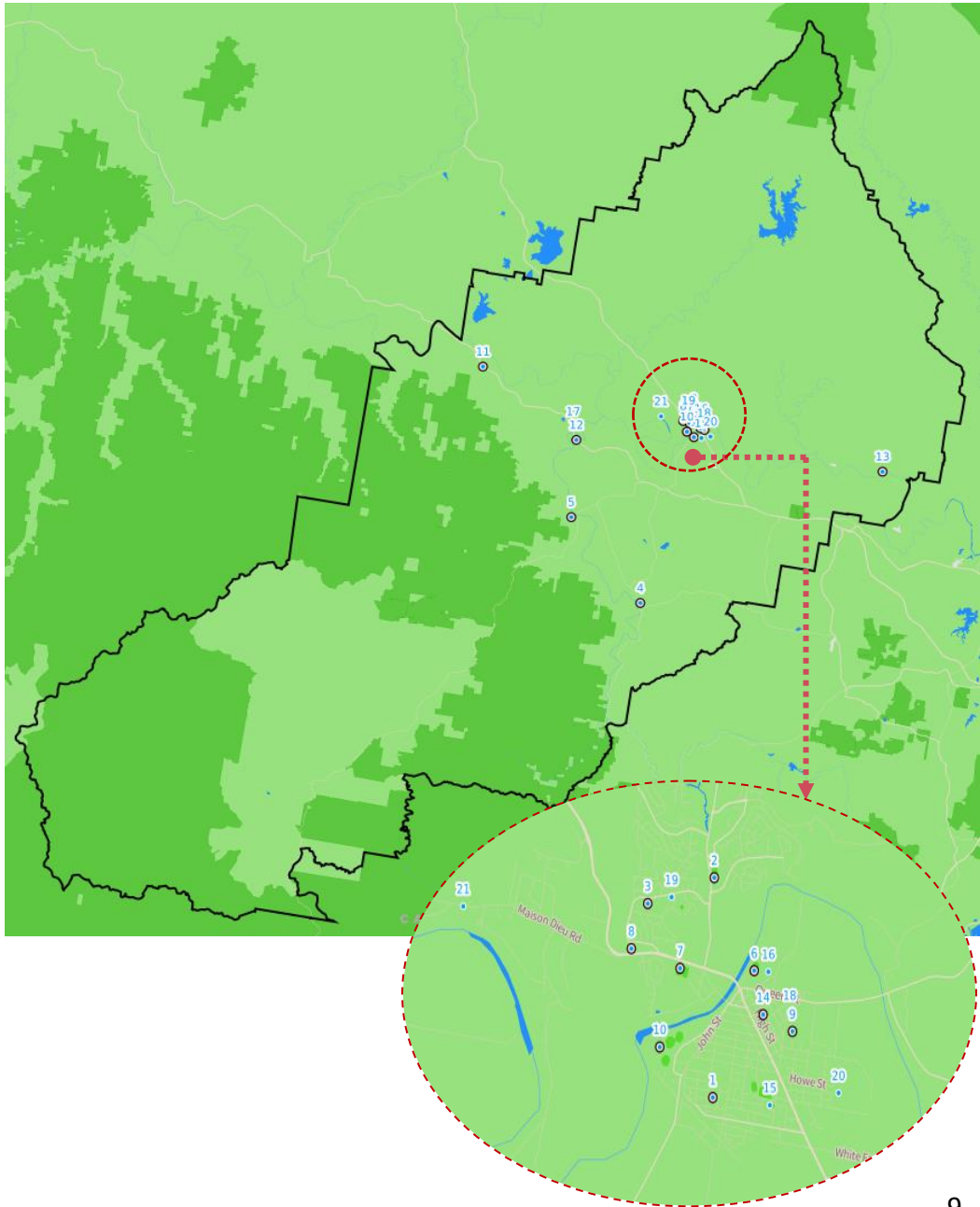
It is recommended that in-principle support for the ongoing capital improvement and development of these facilities is offered when land owners and venue managers seek non-Council investment from external partners.

\* Dunolly (Pirtek) Park is also a leased venue with Council oversight and as such, forms part of the 14 sports ground and village recreation reserves.



**SINGLETON'S ACTIVE SPORTING RESERVES  
AND FACILITY LOCATIONS**

Site / Venue
1. Albion Park (Singleton)
2. Allan Bull Reserve (Huntermview)
3. Alroy Oval (Singleton Heights)
4. Broke Recreation Reserve (Broke)
5. Bulga Recreation Ground (Bulga)
6. Civic Park (Singleton)
7. Dunolly (Pirtek) Park (Dunolly)
8. Gowrie Park (Singleton)
9. Howe Park (Singleton)
10. James Cook / Rose Point Park (Singleton)
11. Jim Johnstone Park (Warkworth)
12. Jerrys Plains Recreation Ground (Jerrys Plains)
13. Stanhope Tennis (Stanhope)
14. Victoria Square (Singleton)
15. Country Tennis Club (Singleton)
16. Singleton Gym & Swim (Singleton)
17. Singleton Clay Target Club (Warkworth)
18. Singleton Golf Club (Singleton)
19. Singleton Heights Sports Centre (Singleton Heights)
20. Singleton Rugby Club (Singleton)
21. Singleton MTB Track (Maison Dieu)



## SINGLETON SPORTS COUNCIL

The Singleton Sports Council is a Section 355 Committee of Council and provides a united voice for the Singleton sporting community. The Sports Council is made up of representatives from different sporting groups and clubs across the Singleton LGA.

The Singleton Sports Council is a forum to share ideas, resolve issues and promote sports in cooperation with Council to meet the collective needs of all sporting codes in Singleton. The Singleton Sports Council and its members have been actively engaged in the development of this Strategy.

The Sports Council was established for the following purposes:

- Increase communication between the sporting public and Singleton Council;
- Identify areas that may be suitable for sporting and recreational development;
- Cooperate with Singleton Council to ensure that sporting and recreation facilities are provided and maintained at an acceptable standard;
- Make recommendations to Singleton Council on sporting priorities;
- Make recommendations to Singleton Council from time to time on fees and charges for use of sporting facilities;
- Raise funds from any source to further the objectives of Singleton Sports Council and to promote the Singleton Sports Person of the Year award.

Of particular relevance to this Strategy, is the Singleton Council's Sports Grants program.

Singleton Council recognises the important contribution sport and recreation community organisations make in planning, developing and maintaining sport and recreation facilities and programs in their communities.

To support this contribution, Council's Sports Grants program offers opportunities twice annually to gain financial support on a dollar-for-dollar basis. Improving existing sporting infrastructure, increasing accessibility to facilities and professional facility planning are all priorities for grant funding and are specific objectives of this Strategy.

As at October 2021, the following sports were engaged in the Singleton Sports Council.

Sport / Activity
Australian Rules football
Cricket
Clay Target Shooting
Golf
Football (Soccer)
Mountain Bike Riding (Cycling)
Netball
Parkrun
Rugby League
Rugby Union
Squash
Swimming
Taekwondo
Tennis
Touch Football
Track and Field (Athletics)
Triathlon

## OVERVIEW OF SPORTING CLUB MEMBERSHIP AND PARTICIPATION ACROSS SINGLETON

**1250**



TOUCH FOOTBALL

**283**



CRICKET

**300**



MTB RIDERS\*

**595**



NETBALL

**235**



AUSTRALIAN RULES FOOTBALL

**300**



GOLF

**510**



FOOTBALL (SOCCER)

**170**



RUGBY UNION – JUNIORS

**100**



CLAY TARGET SHOOTING

**430**



RUGBY LEAGUE

**110**



RUGBY UNION – SENIORS

**350**



TENNIS

**125**



ATHLETICS

\* Due to the majority of MTB riders being casual or informal participants, and the relatively recent formation of the Singleton MTB Club in May 2021, estimates only of regular local riders are provided.

Cricket participants numbers only reflect those playing in the Singleton Cricket Association senior competition. Singleton Junior Cricket have not provided accompanying junior participation numbers.





# COMMUNITY SPORTS INFRASTRUCTURE STRATEGY

Howe Park, Singleton



## INTRODUCTION

Singleton Council provides a range of community sports grounds, village recreation reserves and associated facilities that cater for more than 4,000 registered members and players, most of whom are Singleton Council residents. With this number representing just under 20% of the Singleton population, engagement in formal sporting activities, programs and competitions is significant.

While there is a trend towards greater diversity in the way in which people participate in sport and recreation activities, and a movement towards informal activities, sport remains central to the fabric of the Singleton community and an important contributor to everyday life for many.

Council has a responsibility to deliver community infrastructure and related services that promote and activate communities and support the sustainability of sporting clubs and the facilities they use.

Council's Community Strategic Plan seeks to achieve a long-term vision of being *vibrant, progressive, connected, sustainable and resilient*. The Singleton Community Sports Infrastructure Strategy contributes to this vision through the continued *support of sport and recreational services which support the activation of the community and improving health, social connectivity and well-being*.

The Community Strategic Plan also focuses on places. In particular, *the provision of safe and well-maintained facilities and infrastructure*. In addition, there is a requirement for Council to *facilitate land use planning and development outcomes which respect and contribute in a positive way to the environment and community*.

Singleton Council is located in an area that is not likely to experience significant growth or decline in population over the next decade. It's greatest changes will be experienced within the local demographics and the influences of local industry and available employment opportunities.

The need to support sport and recreation, improve existing amenities and promote a diversity of opportunities was also identified in the Singleton Open Space and Recreation Needs Study (2013). Research conducted in the development of the Singleton Community Sport Infrastructure Strategy found that while sporting infrastructure around Singleton was generally well provided, a number of improvement and embellishment opportunities including floodlighting, clubroom, changeroom and gender inclusive amenities are a focus for future investment.

Within the more localised villages and rural communities, the management and maintenance of sport and recreation facilities and assets will require an improved level of service in order to prolong the life of existing infrastructure. This will also add to the diversity of use to better activate facilities commensurate with the needs of users.

As formalised sport plays such an important role in the everyday life of the Singleton community and greater Hunter Region, Council has prioritised the delivery of this Strategy to ensure future evidence based planning responds to the changing and evolving needs of the community.

## KEY FINDINGS & INFRASTRUCTURE GAPS

Through a review of strategic information, facility audits, investment opportunities and stakeholder consultation, a range of observations and findings in infrastructure provision have been identified. Gaps and related observations are discussed in detail in Part B of the Singleton Community Infrastructure Strategy, with the following providing a high-level summary of gaps relating to Facilities, Participation and Use, and Planning, Investment and Partnerships.

### FACILITIES

- Playing field lighting standards not being met, for training and competition.
- Lack of gender diverse changeroom amenities for players and officials.
- Off-field facilities not meeting minimum requirements of sporting facility guidelines.
- Limited clubroom and social amenities to support club sustainability.
- Limited provision of spectator accommodation and amenities at key sporting competition sites.
- Single purpose sporting facilities where shared use could promote increased use.
- Service levels not keeping pace with maintenance requirements at sporting facilities, predominately at Village Recreation Reserves.

### PARTICIPATION & USE

- Limited population growth to support significant growth in participation and demand, therefore a focus on existing facility improvement is important.
- Need for regular and consistent collection of participant and club data via the Singleton Sports Council to inform future planning.
- Most sporting clubs have a strong localised catchment and most have stable participation to support financial sustainability and pathway development.
- Single purpose sporting facilities could be enhanced to promote shared and increased use, as demand evolves.
- Ground and court capacity can be managed in-line with the current network of facilities, with increased shared use and enhanced capacity via lighting and improved amenity.
- Use of sports grounds and related infrastructure is a mix of sporting use (60%) and recreational use (19%). Other uses include for events and by schools. Further infrastructure improvements and reserve embellishment will provide even greater opportunity for informal sport and recreational use.

### PLANNING, INVESTMENT, PARTNERSHIPS

- Lack of long-term strategic site specific master planning has led to piecemeal site development over time, and inactivity in planning at other sites.
- Gaps in existing sporting infrastructure provision aligns with current funding priorities of sport and government (e.g. lighting, gender inclusive change rooms).
- Senior only clubs will need to retain strong links to junior clubs in order to sustain ongoing team numbers.
- Project readiness and “sinking funds” are required by clubs in order to promote their projects through Council processes – this is currently being done to varying levels.
- Sports club strategic planning is occurring spasmodically and needs to be at the forefront of each club and capital project development.
- Sporting club funds, combined with available government investment opportunities provide a strong basis from which to enhance existing infrastructure.
- Limited connectivity between state sporting organisations and capital project planning was evident via stakeholder consultation.

# THE STRATEGY

## WHAT DOES THE STRATEGY AIM TO ACHIEVE:

**The overall objective of the Singleton Community Sports Infrastructure Strategy is to address both the current and future demand for sport and related facilities and guide the provision of and investment into infrastructure and service levels over the 10-year period to 2032.**

Appropriately planned and managed, activated, sustainable, safe and fit-for-purpose facilities are central to the Strategy.

The following pages provide a Strategic Framework for the future support and delivery of community sporting infrastructure across Singleton. The framework summarises the vision, objectives, guiding principles and strategic priorities (the “why, what and how”) for the focus of Council and its stakeholders.

Strategic priorities have been developed to guide planning over the next 10 years, with key capital priorities identified for the short (within 3 years), medium (within 4-6 years) and long-term (7-10 years) in the associated 10-Year Capital Plan provided.

Priorities have been prepared and aligned with the proposed vision, objectives and principles to assist in providing a strategic response to future planning and capital project investment.

**Note:** The Strategy provides a focus on the 14 community sports grounds and recreation reserves only. Sports facilities on private land and their development are not considered a priority for Council funds. However, Council and the Sports Council will in-principle, support their approach(es) for non-Council funding. Council’s “Singleton Active” venues and their future development will be considered more broadly by Council and as such are not included within the Strategy.

## WHY WE NEED A STRATEGIC APPROACH TO PROVISION:

*To ensure there is a network of sustainable sporting infrastructure that creates and supports sport and active recreation opportunities for the Singleton community and builds the capacity of clubs to continue to respond to evolving needs.*

## SINGLETON'S COMMUNITY SPORTING INFRASTRUCTURE IS GUIDED BY THE FOLLOWING OBJECTIVES:

**Activated** - providing greater access to a broad range of sport, recreation and physical activities for residents and visitors and be managed and maintained to ensure infrastructure provides the best possible and affordable experience for users.

**Fit-for-purpose** – enabling a range of facilities, programs and services to meet evolving needs. Fit-for-purpose infrastructure will create a social, diverse and inclusive culture for sport in Singleton and improve experiences for participants, families, spectators and volunteers.

**Sustainable** - by using improved technology (e.g. LED lighting, online booking systems). Flexible infrastructure designs will maximise the capacity of existing facilities and ensure amenities and spaces support the financial sustainability of the local sporting club network.

**Multi-use** – delivering facilities and amenities that can provide for a range of uses and are not constrained to a single sport will ensure equitable and diversity in use of community infrastructure.

# PLANNING AND DEVELOPMENT PRINCIPLES

The following planning and development principles provided for each objective are proposed to guide the interpretation, consideration and preparation of the Strategy. These principles will underpin future directions and recommendations for community sporting infrastructure in Singleton.

## I. ACTIVATED

- 1.1 Through occupancy agreements and associated fees and charges, incentivise the use and activation of sporting facilities.
- 1.2 Promote infrastructure improvements that provide new active recreation opportunities (in addition to sporting opportunities), particularly at village recreation reserves and local sports grounds.
- 1.3 Promote and support facility improvements that increase participation opportunities for girls and women, young people, older adults and those not traditionally engaged in regular sport and physical activity.

## 2. FIT-FOR-PURPOSE

- 2.1 Sporting facility and amenity design should cater for inclusive use, particularly all gender, accessibility and child safety.
- 2.2 Enhance and develop sporting facilities and amenities to suit their intended level of use (e.g. competition level, surface type, lighting level).
- 2.3 Promote projects that support the delivery of community, peak sporting body and other broader government objectives.

## 3. SUSTAINABLE

- 3.1 Ensure infrastructure projects contribute to the viability and sustainability of sporting clubs and provide opportunities for management / maintenance efficiency.
- 3.2 Where possible consolidate sporting infrastructure to reduce the maintenance and asset management responsibilities of clubs.
- 3.3 Sporting infrastructure development should deliver sustainable outcomes and be designed to meet the extreme local climatic conditions, including periods of drought and flooding.
- 3.4 Promote projects that engage multiple stakeholders and attract shared investment partners (e.g. education sector, all levels of government, peak sporting bodies, community organisations, private sector).

## 4. MULTI-USE

- 4.1 Playing fields and associated infrastructure should be planned and designed to meet a range of uses and maintain flexibility to allow for potential change in use over time.
- 4.2 Where playing field or facility capacity is challenged, identify existing venue alternatives that can accommodate additional use before expanding Council's existing asset base.
- 4.3 New sporting infrastructure offers a range of uses and provides multi-use opportunities that reach beyond individual sport needs.



# STRATEGIC FRAMEWORK

WHY DO WE NEED A STRATEGY?	To ensure there is a network of sustainable sporting infrastructure that creates and supports sport and active recreation opportunities for the Singleton community and builds the capacity of clubs to continue to respond to evolving needs.			
WHAT TYPE OF INFRASTRUCTURE DO WE WANT BY 2032?	Community Sporting Infrastructure objectives			
	ACTIVATED	FIT-FOR-PURPOSE	MULTI-USE	SUSTAINABLE
HOW DO WE GET TO WHERE WE WANT TO BE?	Strategic priorities – How will we achieve our objectives?			
	1. DEVELOP A FACILITY HIERARCHY	2. PRIORITISE INFRASTRUCTURE IMPROVEMENTS	3. RESERVE MASTER PLANNING	
	Adopt a clear facility hierarchy that guides the improvement, development and management of sports grounds and recreation reserves to meet their intended purpose and level of use	Build the capacity of sporting infrastructure through facility improvements and developments that meet collective needs and address identified gaps in the network	Build strategic partnerships with peak sporting bodies, user groups and local communities to ensure each sports ground and recreation reserve has an agreed long-term plan	
PRIORITY ACTIONS TO BE DELIVERED	<ul style="list-style-type: none"> <li>• Endorsement and adoption of the facility hierarchy</li> <li>• Agreement on site management roles and service levels</li> <li>• Allocation of Council budget to implement levels of service that will promote increased asset use</li> <li>• Develop facilities that provide combined competition and training level amenities</li> </ul>	<ul style="list-style-type: none"> <li>• Endorsement and adoption of the Project Prioritisation framework</li> <li>• 10-Year Capital Plan</li> <li>• Projects that support women and girl's participation</li> <li>• Increase capacity of existing infrastructure</li> <li>• Sports buildings to meet relevant sport specific and universal design guidelines</li> <li>• Improve lighting infrastructure via LED technology</li> </ul>	<ul style="list-style-type: none"> <li>• Prioritise planning for District Sports Grounds</li> <li>• Development of site-specific master plans that address long-term, flexible use</li> <li>• Formal engagement with relevant regional and state sporting bodies to define sport specific infrastructure requirements</li> <li>• Allocation of appropriate funding to support site planning</li> </ul>	

## PRIORITY I – FACILITY HIERARCHY

### OBJECTIVE

Adopt a clear facility hierarchy that guides the improvement, development and management of sports grounds and recreation reserves to meet their intended purpose and level of use.

### RATIONALE

The establishment of a sporting reserve hierarchy provides a holistic approach to sports facility provision, use, development and management. It is required to guide future decision making as to the level of development and investment required at sporting reserves.

The hierarchy will be used to ensure both sport and community needs are met and sustainable models for allocation, provision and servicing can be implemented.

The adjacent table is the proposed venue hierarchy for Council's consideration. The following page outlines the core infrastructure and key activities that should be supported under each level of the hierarchy.

### PROPOSED SPORTING FACILITY HIERARCHY

HIERARCHY	DEFINITION	LOCATIONS
<b>District Sports Grounds</b>	Multi-oval and/or multi-sport venues that deliver community sporting activities for a range of clubs and users. If required, they can also be configured to act as overflow sporting grounds or additional sites for regional level competitions or major events. District Sports Grounds provide higher level infrastructure and act as an aspirational pathway for sporting participants. Sites are typically managed by Council, but may also be leased to sporting clubs that can demonstrate sustainable management outcomes.	<ul style="list-style-type: none"> <li>• Allan Bull Reserve</li> <li>• Alroy Oval</li> <li>• Civic Park</li> <li>• Dunnolly (Pirtek) Park</li> <li>• Howe Park</li> <li>• Rose Point Park / Cook Park</li> </ul>
<b>Local Sports Grounds</b>	Mostly single or single purpose playing field sites that host summer, winter and/or overflow activities. Local sports grounds are used by schools and typically form community public open spaces when not in use for sport. Sites are managed by Council, with seasonal tenanted sports club use where required.	<ul style="list-style-type: none"> <li>• Albion Park</li> <li>• Gowrie Park</li> <li>• Victoria Square</li> </ul>
<b>Village Recreation Reserves</b>	Localised recreation reserves that provide a mix of play and informal sport and recreation infrastructure suitable for use by local residents, schools, visitors and tourists. Sites will typically be managed by Council.	<ul style="list-style-type: none"> <li>• Broke Recreation Reserve</li> <li>• Bulga Recreation Ground</li> <li>• Jim Johnstone Park</li> <li>• Jerry's Plains Recreation Reserve</li> <li>• Stanhope Tennis</li> </ul>
<b>Privately operated facilities</b>	Sporting clubs and facilities on private, education, non-council owned or Crown land. Sports occupying, leasing or managing these sites are considered part of the Singleton Sports Council and should be supported to attract non-Council investment and encouraged to follow the project planning and development principles and processes outlined in this Strategy.	<ul style="list-style-type: none"> <li>• Country Tennis Club</li> <li>• Singleton Bowls Club</li> <li>• Singleton Golf Club</li> <li>• Rugby Union (Seniors)</li> <li>• Singleton Clay Target Shooting</li> <li>• Singleton Swim &amp; Gym Centre</li> <li>• Singleton Heights Sports Centre</li> </ul>

## PRIORITY I – FACILITY HIERARCHY

### District Sports Grounds



#### Core aspirational infrastructure

- Multiple “premier” playing fields/courts of high-quality including drainage and irrigation
- Lighting to meet match conditions
- Community clubrooms and change facilities to suit diversity of use
- Spectator amenity
- Multiple parking opportunities
- Integrated passive recreational amenity to suit location and broader community use

#### Activities / Users

- Council managed / seasonal tenancy
- Caters for training, competition and events
- Greater Hunter population catchment
- Multi-user, multi-use facility

### Local Sports Grounds



#### Core aspirational infrastructure

- Minimum one playing field / area
- Integrated passive recreational facilities such as recreational courts, hit-up walls, playground
- Access to changerooms, public toilets and basic spectator amenity (could be shared with other site user/s)
- Formal car parking preferred

#### Activities / Users

- Council managed / seasonal tenancy
- Caters for training activities and community level competition
- Provides opportunity for school use
- Flexible spaces, suits seasonal or casual use

### Village Recreation Reserves



#### Core aspirational infrastructure

- Recreational facilities such as playing field or area / court(s)
- Floodlighting to recreational standard on court(s)
- Public toilets
- Shelter
- Playground

#### Activities / Users

- Council managed
- Informal recreation use
- School use
- Casual use by campers, tourists, visitors

## PRIORITY 2 – PRIORITISE INFRASTRUCTURE IMPROVEMENTS

### OBJECTIVE

**Build the capacity of sporting infrastructure through facility improvements and developments that meet collective needs and address identified gaps in the network.**

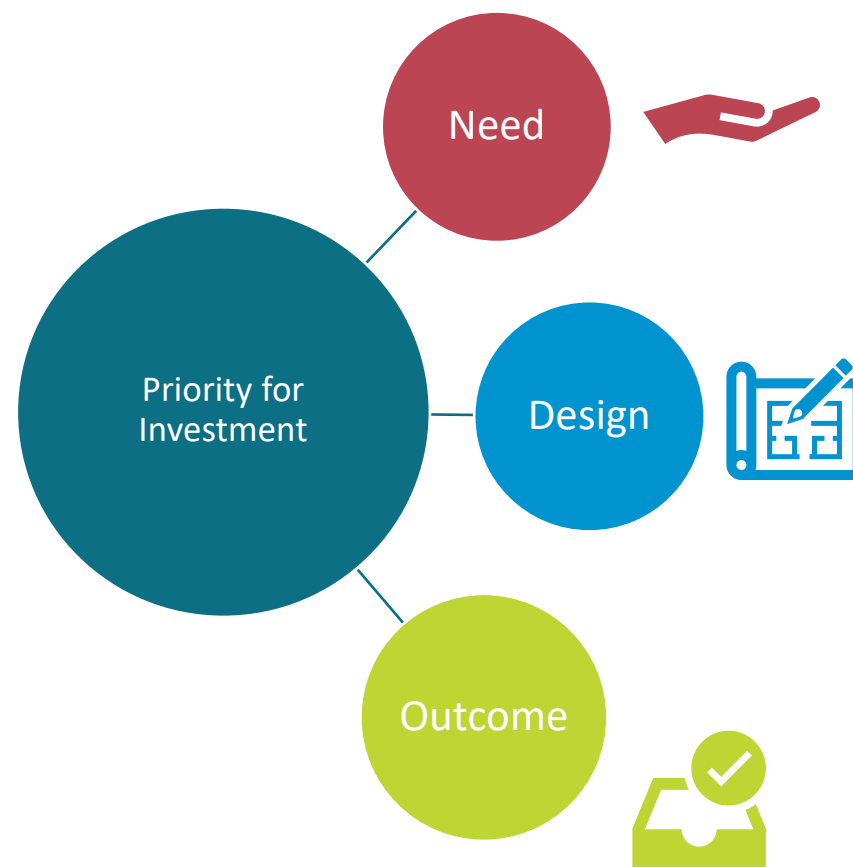
### RATIONALE

The need to support sport and recreation, improve existing amenities and diversify their opportunities for use was identified in the Singleton Open Space and Recreation Needs Study (2013). The findings from research conducted in the development of the Singleton Community Sport Infrastructure Strategy found that while sporting infrastructure is generally well provided, a number of improvement and embellishment opportunities including floodlighting, clubrooms and gender inclusive changerooms should be a focus for future investment.

Contemporary, sustainable and welcoming facilities are necessary to generate and maintain interest and participation in sporting activities. To further enhance the quality, functionality and access to community sporting infrastructure and sporting clubs to 2032, capital projects will need to be prioritised in terms of the overall benefit and value for money.

To assist this process, Council and the Sports Council should adopt a project prioritisation framework. The framework (outlined adjacent) will ensure the need for projects is quantified, the design meets stakeholder and sustainability requirements, and clear and meaningful outcomes are delivered. The framework is supported by a prioritisation checklist that is presented on the following page and should be considered when assessing new projects.

### PROPOSED PROJECT PRIORITISATION FRAMEWORK



## PROJECT PRIORITISATION CHECKLIST – ASSESSMENT TOOL FOR EACH PROPOSED INFRASTRUCTURE PROJECT

PROJECT COMPONENT / CAPABILITY	YES	NO
<b>NEED</b>		
Project aligns with the Community Sporting Infrastructure Strategy.		
Facility condition and gaps in compliance with relevant sporting code guidelines have been identified.		
Project demonstrates alignment with broader Council, Government and/or Peak Sporting Body strategy or facility plan.		
Club or key user group(s) have a dedicated Strategic Plan highlighting the importance and impact of the project.		
Club has capability to financially co-contribute (financial and/or in kind) to the infrastructure upgrade.		
Project is likely to attract external funding contribution outside of Club and Council contribution(s) / Are external funding contributions available.		
<b>DESIGN</b>		
Draft concept plans and cost estimates for the project(s) have been developed by qualified professional in conjunction with the relevant State Sporting Organisation, Council and all seasonal users of the facility.		
Design meets the minimum standards and preferred guidelines of relevant State Sporting Organisation(s) / relevant Australian Standard(s).		
Infrastructure design development has considered Environmentally Sustainable Design (ESD) initiatives and can demonstrate outcomes such as lower operating costs, reduced emissions and drought tolerance.		
Design development has considered outcomes in relation to improving the viability and sustainability of tenant club(s) (e.g. increased operational capacity, addresses safety risk, improves opportunities to generate income through increase usage etc).		
Design development has considered Universal Design Principles that encourage usage of the facility by any person of any ability.		
<b>OUTCOME</b>		
Project outcomes can demonstrate positive impacts on participation, particularly for women and girls.		
Project outcomes increase the use, activation and/or capacity of an existing facility (new activity or increase of an existing activity)		
Project can demonstrate multi-use and/or dual-purpose outcomes.		
Project contributes to the use and activation of the site or venue for 12-months of the year.		

## PRIORITY 3 – MASTER PLANNING

### OBJECTIVE

**Build strategic partnerships with peak sporting bodies, user groups and local communities to ensure each sports ground and recreation reserve has an agreed long-term plan.**

### RATIONALE

Long-term master planning of sites and related infrastructure should be led by Council's Recreation and Facilities Team. The planning of spaces to meet the evolving community and sporting club needs requires expertise in both planning and stakeholder consultation and engagement.

In order to support the implementation of the strategic framework and the proposed 10-year capital plan, all district sports grounds and local sports grounds should be master planned in order to identify long-term needs and evaluate the financial viability of delivering infrastructure improvements.

The presence of master plans will also provide some confidence to clubs and user groups as to how their site(s) and projects will be developed, in what likely order and in what timeframe. Master plan recommendations can also continually feed into annual refreshing of the Council's 10-year capital plan to ensure it remains current and reflective of priorities.

It will not be possible for Council to deliver on all aspects identified in master plans, but all elements including field of play (inc. level of use), clubrooms, landscaping, car parking and passive recreational elements should be built into site master planning.

A standard approach towards master plans should also be developed and adopted to ensure council, sport and community objectives can be addressed and aligned and a consistent output for each is delivered.

### PRIORITY ORDER FOR MASTER PLANS

1. Implement the recently adopted **Alroy Oval Master Plan**.
2. Building expansion and improvement plans for **Dunnolly (Pirtek) Park** have been completed and a DA lodged. It focuses on building development and footprint, which could be complemented with broader site landscape planning to help complete remaining site embellishments, car parking and traffic flow.
3. Update the 2004 **Rose Point Park and Cook Park Master Plan**, considering the inclusion of Athletics, potential increase to winter sport training areas and floodlighting plan.
4. Promote the **Draft Howe Park Master Plan** through public exhibition in conjunction with DPIE and the current Draft How Park Plan of Management (POM). Ensure the master plan considers the overall proposed playing field and lighting upgrades, as well as the ideal building footprint, reserve and landscape embellishments and any potential integration with adjacent golf and tennis clubs.
5. Prepare a **Civic Park Master Plan** that considers the overall use and layout of playing fields and associated lighting provision, as well as the ideal building footprint and location, car parking and riverbank embellishments.
6. **Albion Park** is Crown Land and a Plan of Management (POM) is required to be developed by Council as the Crown Land Manager. A Master Plan will be undertaken in conjunction with the POM that considers the integrated use of the playing field, community garden and community building. A focus on community use should drive the development of this site plan
7. A **Master Plan for Victoria Square** that considers broader community needs (beyond an overflow winter sport training ground) and potential integration with the adjacent PCYC programs should be considered.
8. **Allan Bull Reserve** requires the integration of spectator elements in-line with overall broader reserve and landscape plans.
9. A community led **Master Plan for Gowrie Park** that considers the needs of the surrounding community. This may identify an alternate use for the site and/or provide opportunities to re-engage with BMX riders and other users.

## 10-YEAR CAPITAL PLAN (2022-2032)

A range of infrastructure and amenity upgrades and reserve embellishments is the focus for the 10-year capital plan, along with recommended broader site and reserve master planning to guide future investment. It is important to note that projects that involve routine maintenance and general renewal of existing assets are not included in the capital plan.

All 14 Council owned sports grounds and village recreation reserves across the Singleton LGA were audited to inform the capital plan. Individual audit reports have been prepared and summarised within the Site Summary section of this Strategy. Facility provision, condition, dimensions and compliance (with sporting standards and guidelines) were all assessed for both field of play and off-field assets.

Infrastructure improvement projects that directly align with identified planning and development principles and partner investment objectives, as well as those that improve the overall quality and experience of users have also influenced capital project recommendations.

Recommendations and actions have been developed to guide project delivery over the next 10 years, with priorities identified for the short (within 3 years), medium (within 4-6 years) and long-term (7-10 years) in the associated 10-Year Capital Plan provided.

The colour code below has been applied to each project to indicate short, medium or long-term recommendations. Following is a brief description of these priority levels.

- Short-term – deliver within 3 years
- Medium-term – deliver within 4 to 6 years
- Long-term – deliver within 7 to 10 years

### SHORT TERM:

Important recommendation that underpins the future delivery of sport and community infrastructure initiatives. These are high priority projects that are considered to have the greatest potential of attracting external funding and require immediate planning to commence at the earliest opportunity.

### MEDIUM TERM:

Recommended project(s) that strongly align with the proposed principles of the Community Sports Infrastructure Strategy and deliver on meeting the overall objectives outlined within the strategic framework.

### LONG TERM:

Recommended project(s) that will contribute to the overall improvement of sport and community infrastructure in Singleton. Long term projects are not considered to be *immediate priorities* but are likely to be required into the future in order to continue to support sport and recreation clubs and activities.

Council and the Singleton Sports Council have a responsibility to continue to plan, invest and deliver improvement projects that can provide a range of participation opportunities and respond to the evolving needs of the local community.

Over the next 10-years (to 2032), an estimated \$23,516,000 investment into the development of existing and new sporting assets and planning for new and improved community sporting infrastructure has been highlighted.

The following pages provide a detailed summary of the proposed capital plan by priority level (short, medium and long) and by project category.

## EXPLANATION OF PROBABLE COSTS

The following definitions have been used to provide the opinion of probable costs for the various capital planning projects. Costs are estimated based on industry knowledge, previous similar projects completed (locally and interstate) and from current industry sources including Rawlinsons Australian Construction Cost Guide. True final costs for projects will only be known via site specific planning and project cost estimations completed by qualified Quantity Surveyors. For most costs identified, they do not include elements such as cost escalations, planning and design fees and contingencies (unless specified in the definitions below).

Capital plan by project category	Definition of cost inclusions
Field of play infrastructure	
<b>Court surface upgrade / new</b>	Refers to the provision of a new or replacement of existing court area. If a replacement, costs assume like-for-like replacement of surface without additional consideration of base or sub-surface works. New courts would be developed to NSO / SSO compliance for size and consider full construction costs including design, preliminary site works, sub-surface drainage, pavement works, fencing and surface coating/covering. It does not include costs for floodlighting.
<b>Grass playing surface upgrade / redevelopment</b>	Refers to the provision of a new or replacement of existing grassed playing field. If an upgrade to existing surface, costs assume like-for-like replacement of surface without additional consideration of base or sub-surface works. New playing fields consider full construction costs including design, preliminary site works, drainage / irrigation, levelling and seeded surface provision. It does not include costs for floodlighting or fencing for upgrades or new playing fields.
<b>Lighting upgrade / new installation (LED)</b>	Upgrades assume the retention of existing poles and conversion from metal halide to LED fixtures. All new installations assumes provision and installation of LED system, poles and associated design and engineering. All proposed lighting projects are recommended to meet Australian Standards for the relevant sport and the associated minimum competition standards for community sport (refer to Council's Sportsground Lighting Audit for details). Major power or sub-station upgrades have not been included in cost estimates.
<b>Recreation reserve / play space embellishment</b>	Provides an allowance to include basic site embellishments such as landscaping, small range of "off the shelf" playground equipment, fitness equipment or multi-purpose active recreation courts. Allowances are general in nature and specific detail is not provided.



## EXPLANATION OF PROBABLE COSTS

Capital plan by project category	Definition of cost inclusions
<b>Buildings and supporting infrastructure</b>	
<b>Changeroom amenity upgrade</b>	Changeroom upgrades refer to the conversion of existing player and official change facilities to provide for all gender use and access. This predominately includes retrofitting urinals to pan toilet cubicles and open showers to individual shower cubicles. Costs also include general improvements including flooring upgrade, lighting replacement and wall / ceiling painting.
<b>Clubroom development / redevelopment</b>	Clubroom developments and redevelopments assume a general m2 rate of around \$4,500 for single level buildings, including site assessment, planning, design, construction, contingencies and cost escalations. Costs also assume that buildings are provided to meet the size, dimensions and standards of relevant NSO / SSO guidelines for community level competition and are "future proofing" the sport.
<b>Spectator amenity improvement / embellishment</b>	Spectator amenity refers to built infrastructure, predominately covered concrete spectator terracing. It includes engineering design and construction costs.
<b>Planning</b>	
<b>Site / facility master planning</b>	Site master planning refers to a complete site plan prepared by a Landscape Architect (or similar) and should consider all elements including building footprint, field(s) of play / court areas, car parking and vehicle movements, lighting and general site landscaping. Facility master plan refers specifically to an individual building, clubroom, changeroom or public toilet facility and focuses on the built environment. It would typically include a basic concept plan or building floor plan.

## CAPITAL PLAN BY PRIORITY LEVEL & PROJECT CATEGORY

The following table outlines the level of funding that will be required in the short, medium and long term to deliver the proposed capital plan.

Capital plan by priority level	Estimated capital budget
Short term recommendations	\$11,261,000
Medium term recommendations	\$8,655,000
Long term recommendations	\$3,600,000
<b>Estimated total 10-year capital plan</b>	<b>\$23,516,000</b>

The capital plan has been separated into three distinct categories to assist Council in identifying the areas that will require the most funding and to align projects with specific funding programs.

The three categories of the capital plan include:

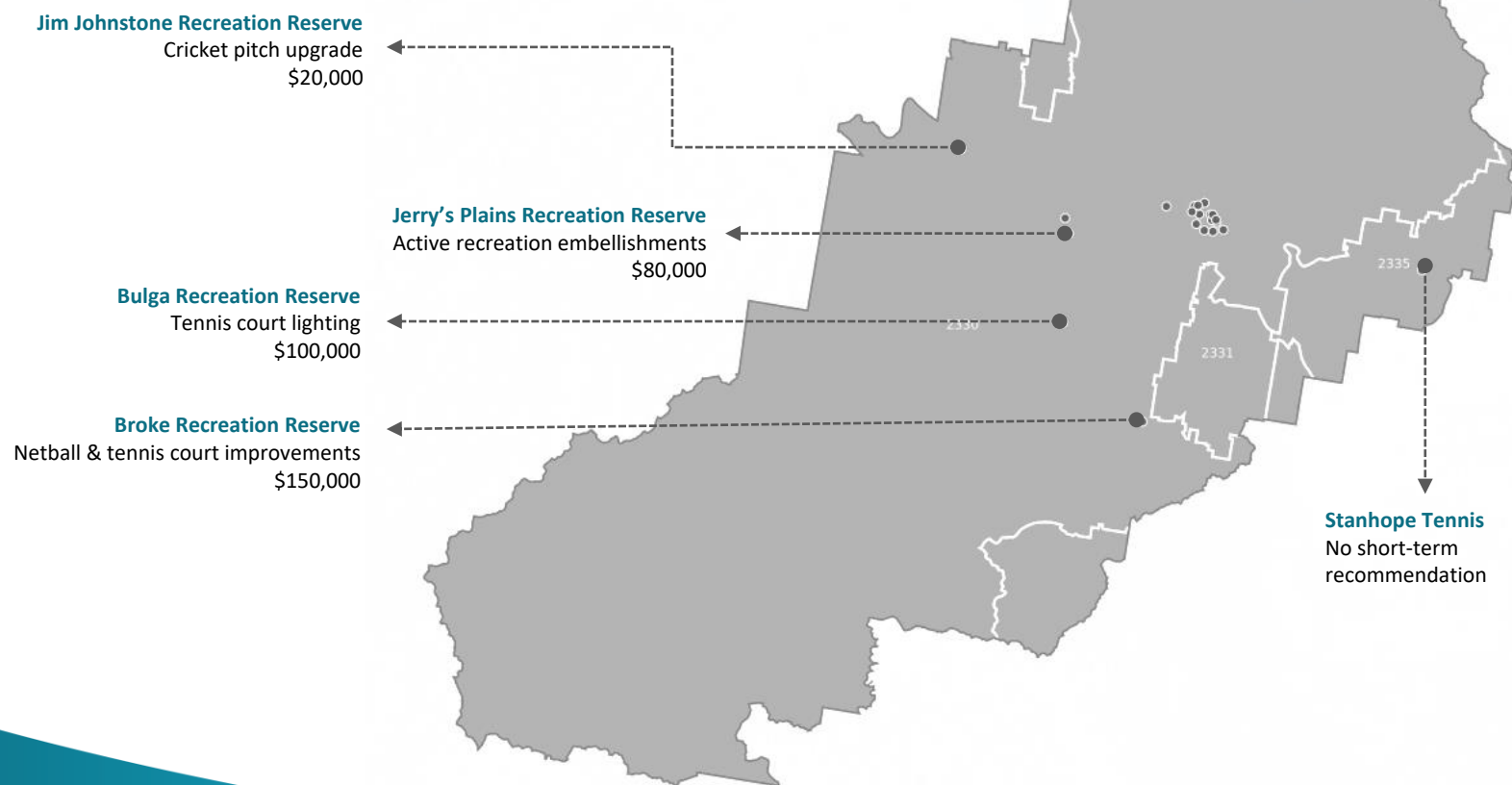
- 1. Field of play infrastructure** - Playing surface upgrades, lighting, new developments and reserve embellishments.
- 2. Building and supporting infrastructure** – Change room provision or upgrade, clubroom redevelopment and spectator amenity improvements.
- 3. Planning** – Site and facility master planning.

The following table outlines the level of funding that has been identified for each project category over the 10-year life of the capital plan.

Capital plan by project category	Estimated capital budget
<b>Field of play infrastructure</b>	<b>\$10,956,000</b>
Court surface upgrade / new	\$815,000
Grass playing surface upgrade / redevelopment	\$5,361,000
Lighting upgrade / new installation (LED)	\$1,990,000
Recreation reserve / play space embellishment	\$2,790,000
<b>Buildings and supporting infrastructure</b>	<b>\$12,400,000</b>
Changeroom amenity upgrade	\$900,000
Clubroom development / redevelopment	\$10,145,000
Spectator amenity improvement / embellishment	\$1,355,000
<b>Planning</b>	<b>\$160,000</b>
Site / facility master planning	\$160,000

The following pages provide an overall summary of the capital works program and recommended future planning required for each venue over the 2022 to 2032 period. In many cases, more planning, detailed design and professional costings will need to be completed to support the implementation of identified priorities. However, it is anticipated that the proposed actions will provide opportunity to address the range of gaps and priorities identified.

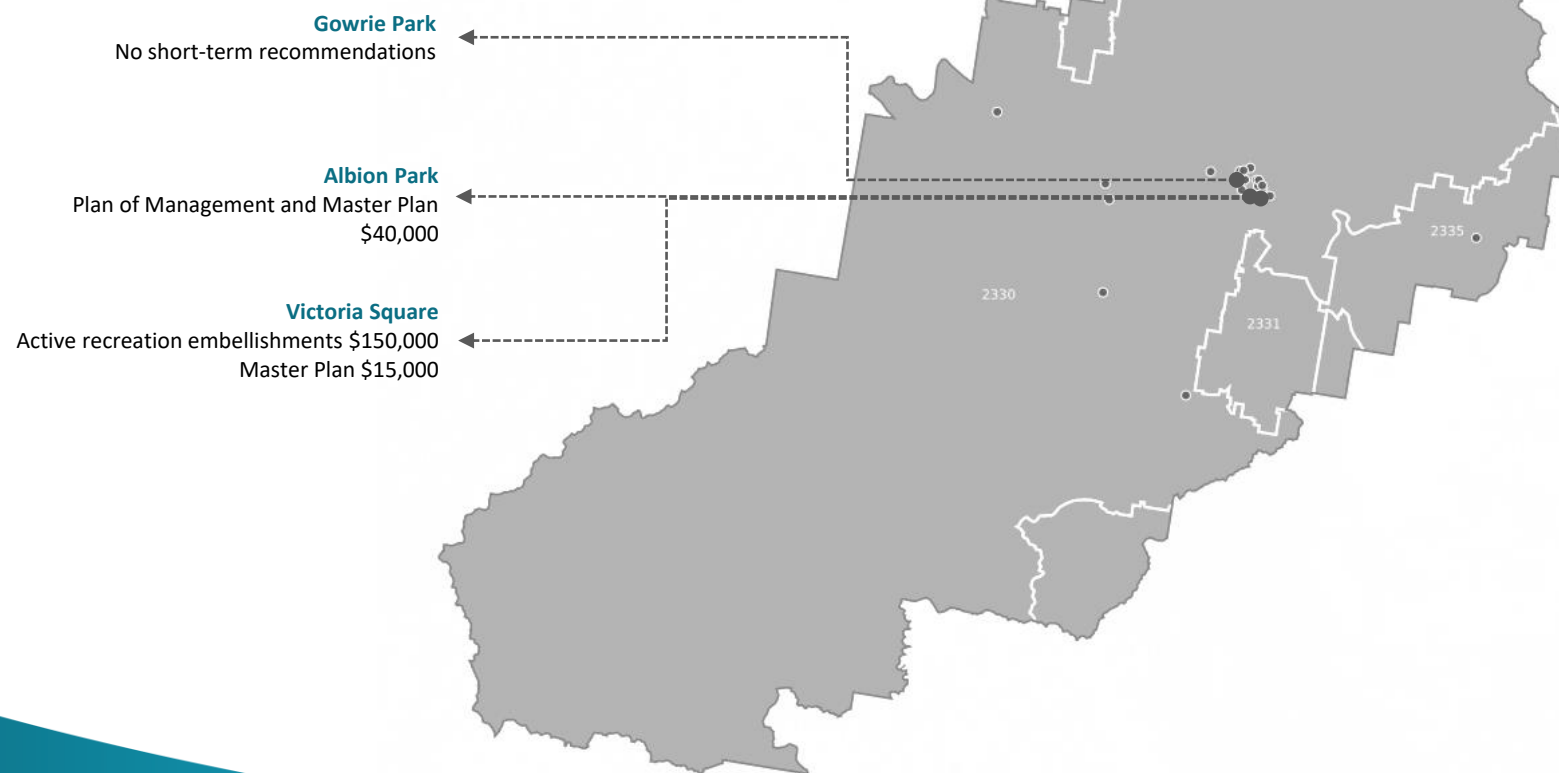
## VILLAGE RECREATION RESERVES SHORT-TERM RECOMMENDATIONS



## 10-YEAR CAPITAL PLAN – VILLAGE RECREATION RESERVES

Project Type > Site Name	BROKE	BULGA	JERRYS PLAINS	JIM JOHNSTONE	STANHOPE TENNIS
<b>Field of play infrastructure</b>					
Court surface upgrade / new	Netball & tennis court \$150,000	Tennis courts x 2 \$160,000	Multi courts x 2 \$160,000	Cricket pitch upgrade \$20,000	Tennis court \$75,000
Grass playing surface upgrade / redevelopment				Oval upgrade \$100,000	
Lighting upgrade / new installation (LED)	All court lighting \$100,000	Tennis court lighting \$100,000	Tennis court lighting \$100,000		
Recreation reserve / play space embellishment	Playground upgrade \$100,000		Active recreation \$80,000	Playground upgrade \$100,000	
<b>Buildings and supporting infrastructure</b>					
Changeroom amenity upgrade					
Clubroom development / redevelopment	Expanded shade & shelter to replace clubrooms \$70,000				Building improvements \$100,000
Spectator amenity improvement / embellishment					
<b>Planning</b>					
Site / facility master planning					
<b>TOTAL ESTIMATED 10-YEAR COST</b>	<b>\$420,000</b>	<b>\$260,000</b>	<b>\$340,000</b>	<b>\$220,000</b>	<b>\$175,000</b>
<b>TOTAL ESTIMATED 10-YEAR SPEND AT VILLAGE RECREATION RESERVES</b>					<b>\$1,415,000</b>

## LOCAL SPORTS GROUNDS SHORT-TERM RECOMMENDATIONS



## 10-YEAR CAPITAL PLAN – LOCAL SPORTS GROUNDS

Project Type > Site Name	ALBION PARK	GOWRIE PARK	VICTORIA SQUARE
<b>Field of play infrastructure</b>			
Court surface upgrade / new		Track improvements \$100,000	
Grass playing surface upgrade / redevelopment	Oval upgrade \$100,000		Field / Pitch upgrade \$100,000
Lighting upgrade / new installation (LED)			
Recreation reserve / play space embellishment		Active recreation \$80,000	Active recreation \$150,000
<b>Buildings and supporting infrastructure</b>			
Changeroom amenity upgrade			
Clubroom development / redevelopment			
Spectator amenity improvement / embellishment	Shade, shelter & toilets \$120,000		Shade and shelter \$50,000
<b>Planning</b>			
Site / facility master planning	PMO & associated Master Plan \$40,000	Feasibility / Master Plan \$10,000	Master Plan \$15,000
<b>TOTAL ESTIMATED 10-YEAR COST</b>	<b>\$260,000</b>	<b>\$190,000</b>	<b>\$315,000</b>
<b>TOTAL ESTIMATED 10-YEAR SPEND AT LOCAL SPORTING GROUNDS</b>			<b>\$765,000</b>

# DISTRICT SPORTS GROUNDS SHORT-TERM RECOMMENDATIONS

**Alroy Oval**  
Playing field upgrade \$2,400,000  
Playing field lighting upgrade \$600,000  
Amenities building redevelopment \$1,600,000

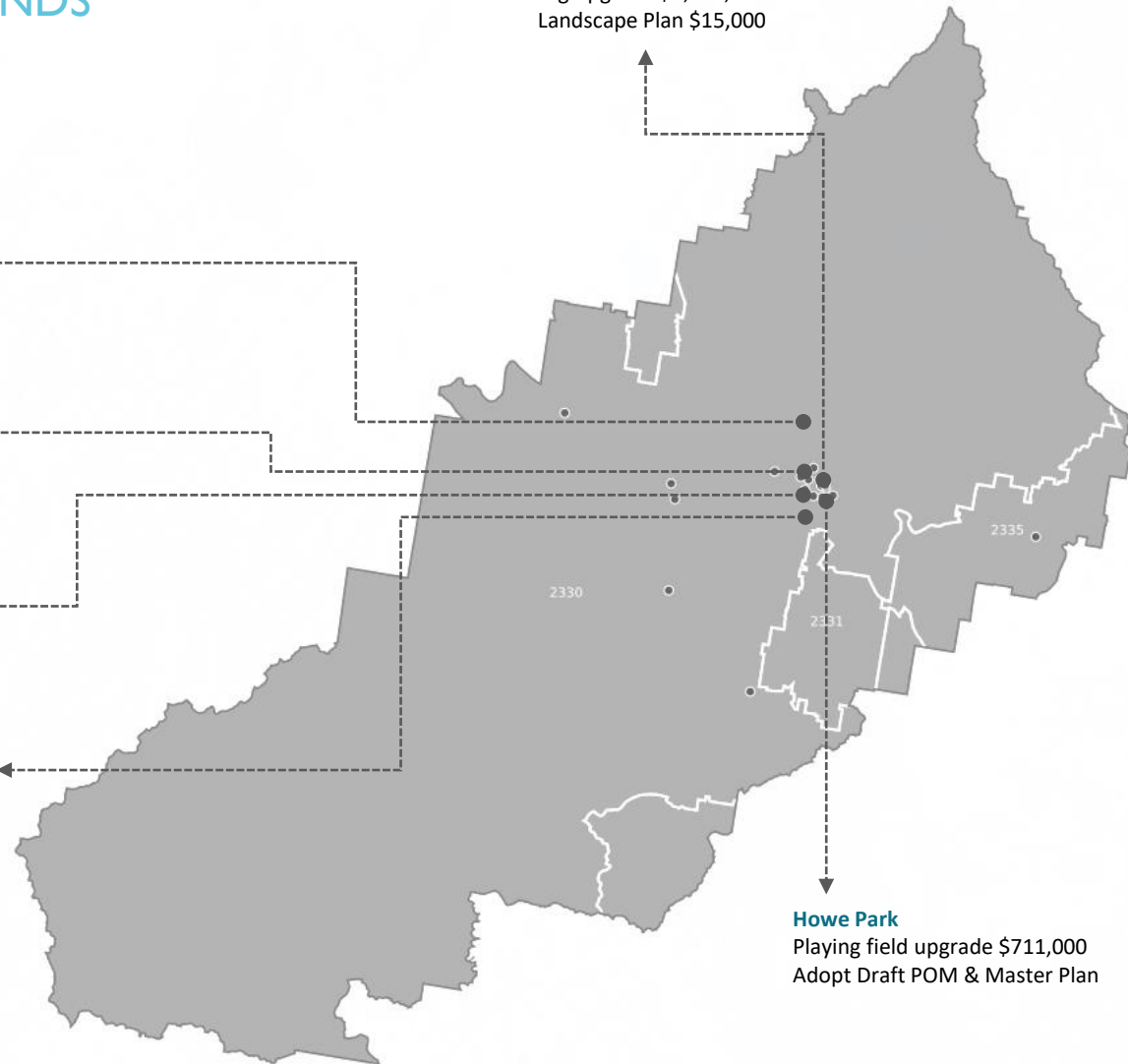
**Allan Bull Reserve**  
Playing field lighting \$100,000  
Landscape Plan \$15,000

**Civic Park**  
Playing field lighting \$200,000  
Master Plan \$25,000

**James Cook / Rose Point Park**  
Junior Rugby League field lighting \$250,000  
AFL field lighting \$100,000  
Athletics track improvements & lighting \$350,000  
Athletics amenities building \$1,200,000  
Full Site Master Plan \$40,000

**Dunolly (Pirtek) Park**  
Playing field lighting \$200,000  
Club & amenities building upgrade \$2,900,000  
Landscape Plan \$15,000

**Howe Park**  
Playing field upgrade \$711,000  
Adopt Draft POM & Master Plan



## 10-YEAR CAPITAL PLAN – DISTRICT SPORTS GROUNDS

Project Type > Site Name	ALLAN BULL RESERVE	ALROY OVAL	CIVIC PARK	DUNOLLY (PIRTEK) PARK	HOWE PARK
<b>Field of play infrastructure</b>					
Court surface upgrade / new					
Grass playing surface upgrade / redevelopment	Field upgrade \$100,000	Field upgrade \$2,400,000	Field upgrade \$250,000	Field upgrade \$250,000	Field upgrade \$711,000
Lighting upgrade / new installation (LED)	Field lighting \$100,000	Field lighting \$600,000	Field lighting \$200,000	Field lighting \$200,000	Tennis lighting \$60,000
Recreation reserve / play space embellishment		Active recreation \$1,850,000	Active recreation \$80,000		
<b>Buildings and supporting infrastructure</b>					
Changeroom amenity upgrade	Changeroom upgrade \$300,000				**Commence planning in the short-term and deliver in-line with Management Plan.
Clubroom development / redevelopment		Amenities building \$1,600,000	Amenities building \$1,800,000	Club & changeroom replacement (2 level) \$2,900,000	Football / Cricket amenities building \$2,475,000**
Spectator amenity improvement / embellishment	Spectator viewing \$60,000	Spectator amenities \$200,000			Football / Cricket spectator amenities \$200,000
<b>Planning</b>					
Site / facility master planning	Landscape Plan \$15,000		Master Plan \$25,000	Landscape Plan to complement building designs \$15,000	POM / Master Plan already prepared, requires adoption
<b>TOTAL ESTIMATED 10-YEAR COST</b>	<b>\$575,000</b>	<b>\$6,650,000</b>	<b>\$2,355,000</b>	<b>\$3,365,000</b>	<b>\$3,446,000</b>



## 10-YEAR CAPITAL PLAN – JAMES COOK / ROSE POINT PARK

Project Type > Site Name	CRICKET	JUNIOR RUGBY LEAGUE	AFL	NETBALL	ATHLETICS
<b>Field of play infrastructure</b>					
Court surface upgrade / new	Cricket practice \$150,000				
Grass playing surface upgrade / redevelopment	Oval/Field upgrades \$1,100,000				Track & Field improvements \$250,000
Lighting upgrade / new installation (LED)		Field Lighting \$250,000	Field Lighting \$100,000	Court Lighting \$80,000	Field Lighting \$100,000
Recreation reserve / play space embellishment	Parkrun and car parking upgrades \$350,000				
<b>Buildings and supporting infrastructure</b>					
Changeroom amenity upgrade		Rugby changeroom upgrade \$100,000	AFL changeroom upgrade \$500,000		
Clubroom development / redevelopment					Athletics amenities building \$1,200,000
Spectator amenity improvement / embellishment		Spectator amenities \$400,000	Spectator amenities \$260,000	Spectator amenities \$65,000	
<b>Planning</b>					
Site / facility master planning	Master Plan \$40,000				
<b>TOTAL ESTIMATED 10-YEAR COST</b>	<b>\$4,945,000</b>				
<b>TOTAL ESTIMATED 10-YEAR SPEND AT DISTRICT SPORTS GROUNDS</b>	<b>\$21,336,000</b>				

## IMPLEMENTATION ROLES AND PARTNERS

The Strategy will rely on several key partners and stakeholders in its implementation and delivery.

### COUNCIL AND SPORTS COUNCIL ROLES

Singleton Council will play a lead role in coordinating, driving, delivering, supporting and evaluating recommendations and priorities outlined within the Strategy. Council is responsible for facilitating, fostering and convening the Singleton Sports Council to engage, interpret and prioritise actions.

Whilst the Strategy will sit with the Recreation and Facilities team within Council, cross-departmental collaboration will ensure the Strategy's greatest chances of success. Another key role for Council will be to align investment and resources with recommended actions and to leverage external funding opportunities.

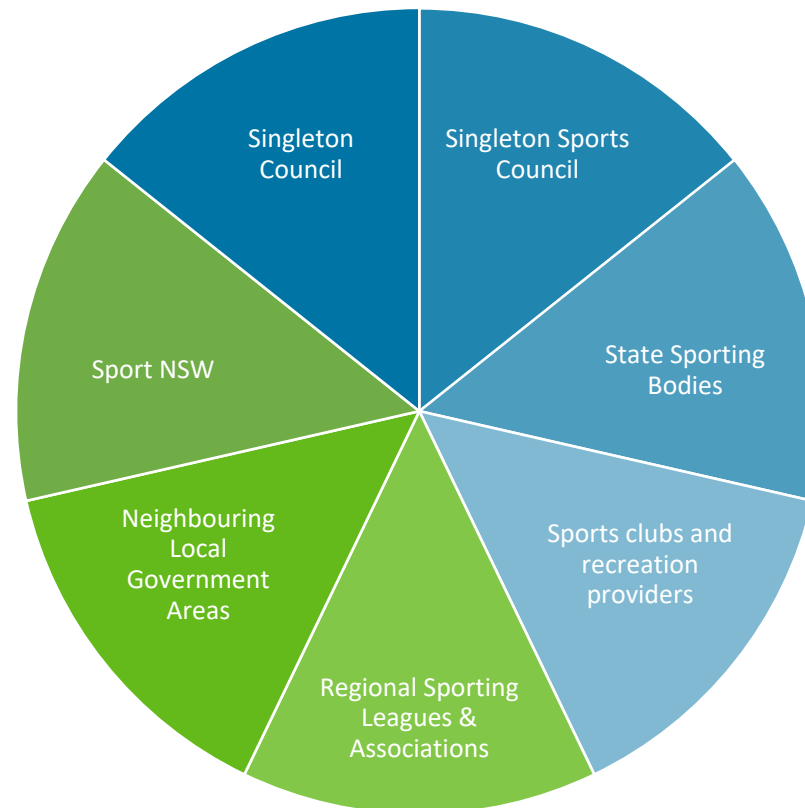
Council will also continue to be responsible for the approval of identified capital works and infrastructure projects, including supporting clubs and Sports Council members to ensure their projects are well planned and designed. Council is also encouraged to incorporate the directions and actions from this Strategy, where appropriate, into other future relevant Council strategies and policies.

### PARTNER AND STAKEHOLDER ROLES

All partners external to Council will be engaged to assist in Strategy delivery. Roles will vary for each stakeholder group, but will typically include:

- Investment support and attraction
- Policy direction
- Technical facility standard setting, guidance and compliance checking
- Data sharing, evidence preparation and benefits promotion
- Fostering collaboration and resource sharing
- Supporting facility use and participation activation.

Across the actions identified, the following organisations are considered critical in supporting the improvement of the Strategy.



## HOW WILL THE STRATEGY BE RESOURCED?

Identified infrastructure improvement and development recommendations and the proposed 10-year capital plan provides a road map for addressing gaps in existing community sporting infrastructure across Singleton. In addition to using the proposed project prioritisation tool to assess recommendations against objectives and principles, the aspirations of clubs, committees, peak sporting body partners and the community must be considered.

Ultimately, implementation priorities will be heavily influenced and determined by the benefit and impact they will have on users and the local community, as well as the capacity of projects to be supported and funded by key partners and investors. When making decisions on priorities and their implementation, Council will need to consider the financial contributions available from a range of sources.

### PARTNERSHIPS

Council recognises the valuable input from many organisations and individuals in delivering sporting activities, many of whom are reflected through this Strategy. Growing and supporting partnerships with sporting clubs and tenants of sporting infrastructure is imperative to delivering sustainable infrastructure that services the needs of the community.

The continuation of club and user group contributions towards funding infrastructure improvements will be critical, as will the need for “sinking funds” to be collectively managed between clubs and Council. This is a strong and valued mechanism for ensuring ongoing facility renewal is budgeted and planned for.

### EXTERNAL FUNDING

Council has partnered with several NSW Government agencies and departments on many sporting infrastructure projects directly and via grant programs available to local government. Council will continue to work with State and Federal Government departments to secure funding for future projects. It is worth noting that funding programs and priorities of State and Federal Government can change regularly and flexibility in securing a range of funding sources will be an ongoing requirement.

Of major significance is the **NSW Government's \$1.3 billion Regional Growth Fund**. This fund has a range of categories relevant to Singleton, including:

- Resources for Regions
- Connecting Country Communities
- Stronger Country Communities

Known state or national sporting organisation funding dedicated towards community infrastructure also includes the following and should be explored for relevant projects:

- Australian Cricket Infrastructure Fund (ACIF)
- Northern NSW Football Facilities Fund
- NSW ATP Cup Tennis Legacy Fund
- Australian Football Facilities Fund.

### PLANNING

The strategic framework in this document provides the mechanism to prioritise community sporting facility improvements and their planning. It will help to develop intelligent, robust plans for upgrading existing infrastructure and developing new facilities and amenities in-line with their intended purpose, compliance and evolving community needs.

### CAPITAL WORKS

Many projects and recommendations represented within the 10-year capital plan can be funded through annual capital works allocations via efficient and prioritised planning. A whole of Council approach to allocating funding towards sporting infrastructure that supports growing participation opportunities should be taken.



# SINGLETON COMMUNITY SPORTS INFRASTRUCTURE STRATEGY 2022-2032

“SETTING THE DIRECTION FOR SPORT IN SINGLETON”

PART B: BACKGROUND AND CONTEXT – JANUARY 2022





## STRATEGIC CONTEXT AND TRENDS

*Dunolly (Pirtek) Park, Dunolly*

## LOCAL, STATE AND FEDERAL POLICIES AND STRATEGIES

The following provides a high level overview of strategic documents which guide and support the development of the Community Sports Infrastructure Strategy. It should be noted that a number of these strategies may not reflect the recent impacts of COVID-19. These documents however still provide critical context from a policy perspective and will continue to guide and support future Strategy recommendations.

### STATE & FEDERAL GOVERNMENT

- National Sport Plan 2030
- Ausplay 2019-2020
- NSW Government - Office of Sport Strategic Plan 2018-2022
- NSW Government – Hunter Sport and Active Recreation Plan 2018-2023
- NSW Government – Her Sport, Her Way: Shaping the Future of Women’s Sport in NSW 2019-2023

### SINGLETON COUNCIL

- Singleton Community Strategic Plan 2017-2027
- Singleton Council Open Space and Recreation Needs Study
- Singleton Plan of Management of Singleton Sports Grounds and Riverside Parks
- Singleton Sports Grounds User Guide
- Singleton Council Mountain Bike Trail Feasibility Study 2021
- Alroy Oval Master Plan 2021
- Rose Point and James Cook Park Landscape Master Plan 2004
- Community Sports Lighting Audit 2019

### SPORT

- National Rugby League Preferred Facility Guidelines
- Rugby Australia National Facility Guidelines
- AFL Preferred Facility Guidelines
- Cricket Australia Community Cricket Facility Guidelines
- Netball Australia National Facilities Policy
- Tennis Australia Infrastructure Planning, Design and Delivery Resource
- NSW and Northern NSW Football Facility Guides
- NSW Football Infrastructure Strategy 2020-2030
- Cricket NSW Infrastructure Strategy 2020-2030
- AFL NSW/ACT Facilities Strategy 2020-2023
- Squash Australia Participation Plan 2016-2020



# NSW GOVERNMENT STRATEGIC PLANNING

## OFFICE OF SPORT: STRATEGIC PLAN 2020-2024

Developed by the NSW Government, the Office of Sport Strategic Plan aims to provide a consolidated approach to building more active communities through connections and opportunities in sport and active recreation.

The vision of the document will see *'sport and active recreation creating healthier people, connecting communities and making a stronger NSW'* through the following key focus areas:

**Participation:** Everyone in NSW participating in sport and active recreation throughout their whole life. This includes increasing the percentage of people participating, improving retention rates across all age groups, creating greater awareness and improving opportunities for under-represented groups.

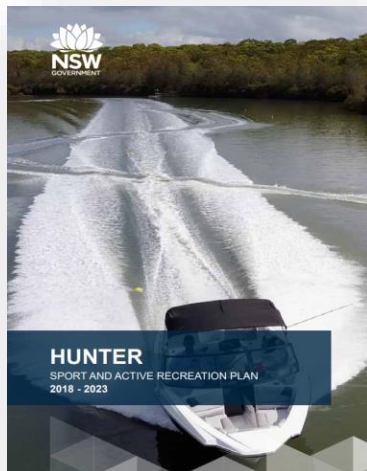
**Places and Spaces:** Everyone in NSW can access places and spaces for sport and active recreation. This includes increasing the number of fit for purpose sport and active recreation facilities and increasing the compatibility of facilities that are accessible and multi-purpose.

**Sector Sustainability:** The sector continues to grow sport and active recreation across NSW. This will be achieved by improving the sector's capability to respond to emerging trends and challenges, and help to create more safe and inclusive environments for all.

**Partnerships and Investment:** Partnerships and investment in sport and active recreation that maximise value for everyone in NSW. This is to be achieved by supporting a range of partners to work collaboratively to reach mutually beneficial outcomes. Increasing the number of programs and services that promote sport and recreation across all of government, including the number of programs delivered, and greater contributions from partners and stakeholders of the Office of Sport.







### OFFICE OF SPORT: HUNTER SPORT AND ACTIVE RECREATION PLAN 2018-2023

This document provides a regional approach to the planning and delivery of sport and recreation in the Hunter Region. It outlines a series of outcomes to drive improved opportunities for sport and active recreation to 2023, including:

- Increased participation of adults and children in regular sport and active recreation
- Improved access to sport and active recreation for everyone in the region, regardless of background or ability
- Integrated performance pathways for participation in sport
- Fit for purpose facilities in the region
- Valued regional sporting events
- Improved collaboration within the sport and active recreation sector.



### HER SPORT, HER WAY: SHAPING THE FUTURE OF WOMEN'S SPORT IN NSW 2019-2023

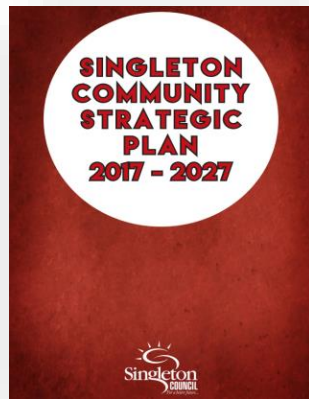
The Her Sport, Her Way Strategy affirms the NSW Government's commitment to empower women and girls to have full access to opportunity and choice, be valued for their diversity, be recognised for their contribution, and be able to participate in all aspects of life freely and safely.

Focus areas identified within the Strategy include: **Participation, Places and Spaces, Leveraging Investment and Leadership.**

Indicators of success include:

- More women and girls playing sport
- Improved retention of adolescent girls in sport
- Sport facilities that meet the current and future needs of female participants
- Gender inclusive sporting cultures
- More women in leadership positions on and off the field
- Major women's sport events secured and showcased
- Increased investment in women's sport across the sector.

## LOCAL PLANS AND STRATEGIES



### SINGLETON COMMUNITY STRATEGIC PLAN 2017-2027

This Community Strategic Plan outlines the approach to achieve Singleton's long term vision of being '*vibrant, progressive, connected, sustainable and resilient*'. This vision is set to be achieved through five pillars; those most relevant to the project at hand include:

#### Our People:

- Provide social, recreational and cultural services which educate, inspire and entertain
- Collaborate with government and other agencies to improve services relating to health, education, integration, connectivity, security and well-being
- Facilitate and support programs and activities which promote inclusion and celebrate diversity.

#### Our Places:

- Provide safe and well-maintained facilities and infrastructure
- Facilitate land use planning and development outcomes which respect and contribute in a positive way to the environment and community.



### SINGLETON OPEN SPACE AND RECREATION NEEDS STUDY (2013)

The document provides guidance to the need, demand and supply of open space and recreational facilities within the Singleton municipality. The Study identifies the importance of recreation reserves in their contribution to the broader open space network.

Within the document there are a number of recommendations for improvements to sporting facilities to support and enhance their quality and capacity. These opportunities will be tested through the development of the project at hand. Where relevant, the Open Space and Recreation Needs Study has been referenced within individual sports ground site summaries within this report.

## PLANNING FOR SPORT



### SPORT FACILITY STRATEGIES, FRAMEWORKS & GUIDELINES

To support local, state and federal strategic planning, many peak sporting bodies have developed resources that help guide sustainable facility development and delivery. Across the many sports represented in Singleton, including tennis, touch football, cricket, football (soccer), athletics, rugby league, rugby union, netball and AFL, most offer guidelines or strategies of some description.

Common priorities and principles identified within these documents however, include:

**Gender neutral amenities:** Providing facilities that are welcoming, inclusive, accessible and encourage use by people of all-genders.

**Multi-purpose facilities:** Providing facilities that offer opportunities for multiple users and a variety of uses to generate greater community benefit and asset utilisation.

**Growing venue capacity:** Increasing the quality and capacity of existing facilities through innovative approaches (e.g. LED lighting, synthetic surfaces) that greater more programming opportunities.

**Planning for growth and demand:** Investment and prioritisation of facilities and infrastructure upgrades where greatest need and demand is demonstrated.

**Partnerships and collaborative investment:** Enhancing and maintaining relationships between all levels of government, industry partners and sport to promote collaborative investment into facility development.



## INVESTMENT OPPORTUNITIES

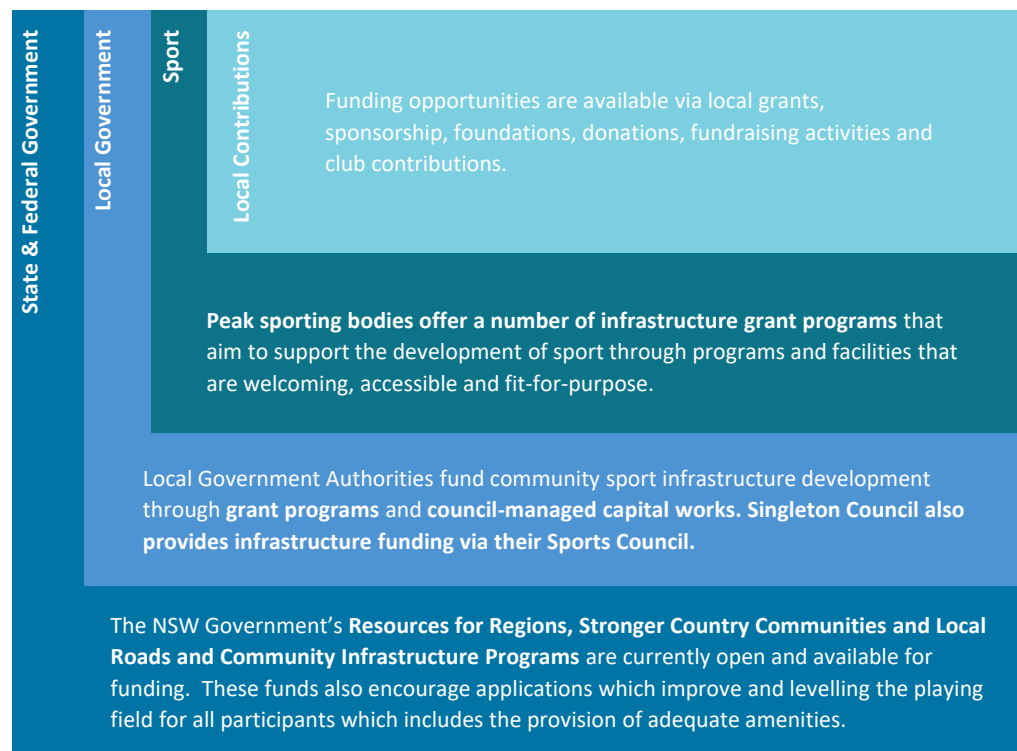
All levels of government provide facility development funding opportunities. Federal and State Governments provide funding via targeted grant programs that aim to increase participation and access to sport and recreation activities.

Local Government are the primary asset owner and manager of the 14 sports grounds included within this Strategy. Council also play an active role in other community sporting facilities and provide a range of funding opportunities through grants, capital works programs and operating subsidies.

Investment from local sources also contributes to progressing facility projects, often assisting in attracting and leveraging additional investment from funding partners. Partnerships between sport, community and government stakeholders will continue to be vital in delivering the facilities needed to support participation.

Prioritising local infrastructure projects should be measured against the recommendations within the future Community Sports Infrastructure Strategy, local government strategic planning, capital works budget cycles and external funding availability.

The Singleton Sports Council and its members also play a role in identifying broader priorities for sport locally. All Sports Council member organisations should be supported to prepare plans and become “project ready” in order to help identify and attract non-Council investment opportunities.







## COMMUNITY PROFILE



*Bulga Recreation Ground, Bulga*

## POPULATION AND DEMOGRAPHICS

### ABOUT SINGLETON

Singleton Council is located 200km north-west of Sydney in the heart of the Hunter Valley. The municipality is bordered by World Heritage Parks including Wollemi and Yengo and is powered by a variety of industries including tourism, mining, agriculture, hospitality and defence. Singleton spans over 4,893 square kilometres and is set along the banks of the Hunter River. The municipality is located on the traditional lands of the Wonnarua / Wanaruah people who have occupied the Upper Hunter for at least 30,000 years\*.

### POPULATION OVERVIEW AND DEMOGRAPHIC FORECAST

In 2021, the population of the Singleton Council area was approximately 23,800 people\*\*. This is set to increase slightly to 23,900 in 2031 and then remain stable to 2036. The median age of people currently living in Singleton is 37 years. This population pattern is consistent with previous years which, from 2015, has also seen limited change in the number of persons living in Singleton.

In 2021, the highest number of people living in Singleton are aged between 5 and 14 years, followed by 20-29 and 45-54. To 2036# these age cohorts will not be as dominant, seeing a mostly even spread across all age groups. The 65+ age group will continue to be the smallest group of people represented in the municipality however will see some growth and change to 2036.

The bulk of competitive sport players are typically aged between 5 and 39 years. Around 50% of the local Singleton population falls within this category.

\* Source: <https://www.singleton.nsw.gov.au/212/Aboriginal-History>

\*\* Source: [planning.nsw.gov.au](https://planning.nsw.gov.au)

# Age cohorts to 2041 were unavailable at the time of writing this report



# 23,800

2021 Singleton  
population



# 23,900

2036 Singleton  
population



### Our People in 2021

0-9: 14%

10-19: 14%

20-29: 14%

30-39: 13%

40-49: 13%

50-59: 13%

60-69: 10%

70-79: 7%

80+: 3%



### Our People in 2036

0-9: 12%

10-19: 12%

20-29: 12%

30-39: 12%

40-49: 13%

50-59: 12%

60-69: 11%

70-79: 9%

80+: 6%

## MALE AND FEMALE POPULATION FORECASTS

Male and female population forecasts have been separated for further context and show changes from 2021-2036. For males, the trend line to 2036 is similar however there will be less males aged 0-39, but an increase in males aged 40-49 and those aged between 65-80. Females have a similar outlook with again a similar trend line however there will be fewer females aged 0-39 over the next 15 years, but more women aged 65+ to 2036.

For both males and females, given the overall population change is marginal, the fluctuations in age groups may see a slight decrease in demand for organised sports, and a higher demand for informal or unstructured recreation.

## INDUSTRY AND WEALTH

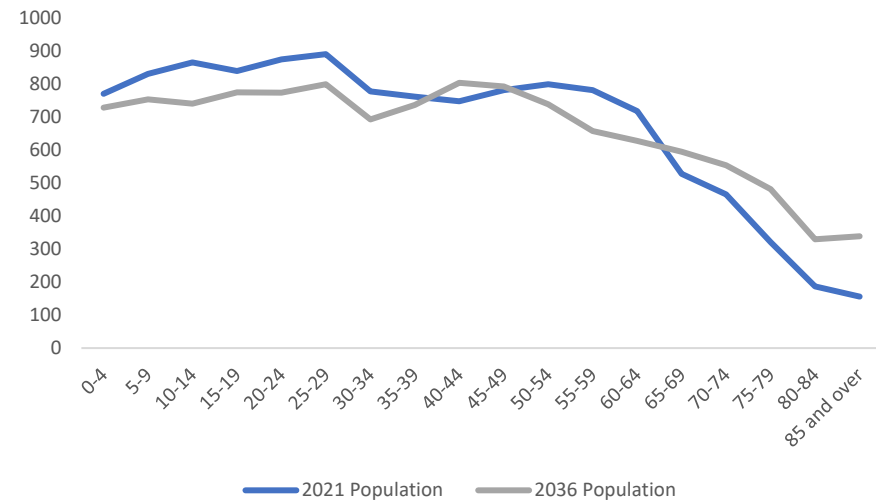
Whilst the population of Singleton has remained, and will continue to remain stable to 2041, its Gross Regional Product has almost doubled from 2017 to 2019.

Following a decline after 2012, Singleton's GRP increased over 60% from 2017 to 2018 and then an additional 10% in 2019. The municipality alone, through 16,300 jobs, generated \$12.7B dollars in output for the Hunter Region, constituting 12% of the entire region's output. Of the \$12B output, the mining sector makes the greatest contribution, at \$9B or 71% of total output. Those with access to greater disposable income are more likely to engage in sport and recreation activities more regularly.

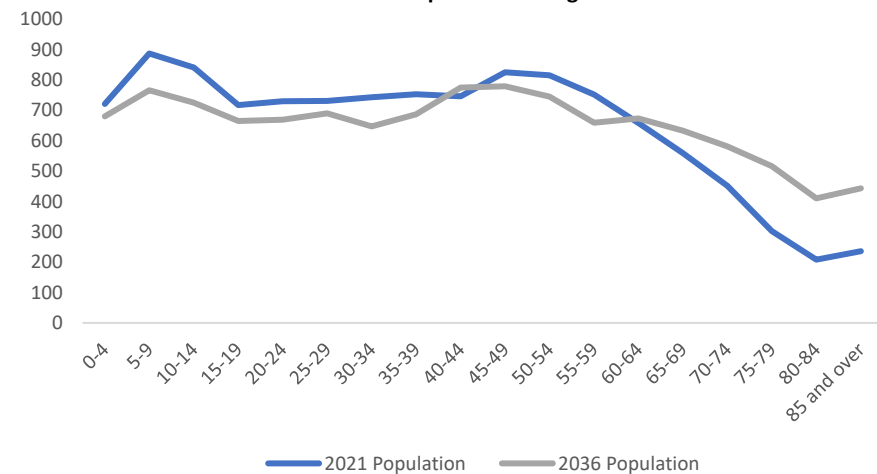
## SETTLEMENT AND RESIDENTIAL PATTERNS

There are 16,300 residents working in Singleton, with the mining sector accounting for 40% of total employment within the region. Of those employed, 70% are aged between 25-54. This younger workforce is likely to be mostly attracted to jobs in the mining sector, and will likely call Singleton home over a short to medium timeframe. Many of these people have young families which is evident through the high numbers of children aged within the 5-14 age groups. This transient workforce and the ebb and flow effect it has on demographics sees, and will continue to see, fluctuating demand for sport and its programs and activities.

Male Forecasted Population Change 2021-2036



Female Forecasted Population Change 2021-2036







## PARTICIPATION AND DEMAND



*Alroy, CA, Singleton Heights*



## OVERVIEW OF SPORTING CLUB MEMBERSHIP AND PARTICIPATION ACROSS SINGLETON

1250



TOUCH FOOTBALL

283



CRICKET

595



NETBALL

235



AUSTRALIAN RULES FOOTBALL

510



FOOTBALL (SOCCER)

170



RUGBY UNION – JUNIORS

430



RUGBY LEAGUE

125



ATHLETICS

350



TENNIS

Estimated participant numbers are only provided for the activities considered relevant to the 14 community sports grounds and recreation reserves referenced, audited and analysed within this Strategy.



Photo courtesy Singleton District Junior Cricket Association

Figures represent club data supplied for current (2021 winter) or most recently completed season (2020/21 summer). These figures represent seasons that were either directly impacted by COVID-19 in 2020 or the immediate season following and should be referenced as a guide to club representation only. Some sports at state and national levels are reporting post-Covid numbers higher than pre-Covid 2019 registrations.

Cricket participants numbers only reflect those playing in the Singleton Cricket Association senior competition. Singleton Junior Cricket have not provided accompanying junior participation numbers.

## SPORT ACTIVITY TRENDS AND PREFERENCES

### AUSPLAY (NSW)

The following information on activity preferences in NSW has been developed from Sport Australia's Ausplay data and annual statistical reporting. This information is used as a secondary to guide to identify potential state-wide influences and drivers of sporting participation and the associated trends in sport, club and activity preferences.

The tables below provide a summary of the Top 10 organised activities for children aged 5 to 14 and the Top 15 activities for adults aged 15 years and over in NSW.

The data relates to participation rates in each identified sport for the 12 months between January 2020 and December 2020. It should be noted that this calendar year was impacted partly due to COVID-19 outbreaks and restrictions. It is however acknowledged that while participation rates vary from year to year, generally the Top 10-15 activities have remained consistent over the life of the Ausplay survey.

#### TOP 10 ORGANISED PARTICIPATION IN CHILDREN (AGED 5-14 YEARS) BY ACTIVITY IN NSW (2020)

Top 10 Activities	Average	Boys	Girls
1 Swimming	37.3%	37.5%	37.0%
2 Football (Soccer)	21.4%	29.6%	13.3%
3 Gymnastics	10.9%	3.3%	18.4%
4 Dancing (recreational)	9.9%	1.1%	18.5%
5 Athletics, track and field (includes jogging and running)	6.0%	5.4%	6.7%
6 Netball	5.5%	0.1%	10.7%
7 Rugby league	5.3%	9.9%	0.8%
8 Tennis	4.4%	5.5%	3.2%
9 Basketball	4.2%	4.3%	4.2%
10 Cricket	3.9%	6.7%	1.3%

#### TOP 15 ORGANISED PARTICIPATION IN ADULTS (AGED 15 YEARS+) BY ACTIVITY IN NSW (2020)

Top 10 Activities	Average	Males	Females
1 Walking (Recreational)	45.7%	35.3%	55.9%
2 Fitness/Gym	38.0%	34.9%	41.0%
3 Swimming	19.1%	17.6%	20.7%
4 Athletics, track and field (includes jogging and running)	18.8%	20.5%	17.1%
5 Cycling	11.3%	14.5%	8.2%
6 Bush walking	9.0%	7.7%	10.2%
7 Yoga	7.4%	1.9%	12.7%
8 Football (Soccer)	7.3%	10.5%	4.2%
9 Golf	6.0%	9.5%	2.6%
10 Tennis	5.8%	6.9%	4.7%
11 Basketball	3.6%	5.3%	2.0%
12 Pilates	3.6%	0.8%	6.2%
13 Surfing	3.5%	4.9%	2.1%
14 Netball	2.5%	0.7%	4.2%
15 Touch football	2.3%	2.8%	1.9%

## AUSPLAY (NATIONAL)

The following information on activity opportunities in Singleton has been developed from Sport Australia's Ausplay data and annual statistical reporting (April 2021). National Ausplay participation rates for organised activities have been used here due to the low participation rates at the NSW level. This information has been provided to offer a comparison with the Top 10 activities for children aged 5 to 14 and the Top 15 activities for adults aged 15+ in NSW on the previous page.

The table below provides a summary of national participation rates for identified organised activities for adults aged 15 years and over and children aged 5 to 14. These activities have been identified as they are participated in and around the Singleton local government area.

### ORGANISED PARTICIPATION BY ACTIVITY (NATIONAL PARTICIPATION RATES – APRIL 2021)

Activities participated in Singleton	Average (adults 15+)	Males	Females	Average (children 5-14)	Boys	Girls
MTB Riding	0.4%	0.7%	0.1%	0.3%	0.5%	0.2%
Shooting / shooting sports	0.5%	0.9%	0.1%	0.1%	0.3%	0.0%
Squash	0.7%	1.0%	0.4%	0.1%	0.2%	0.0%
Triathlon	0.3%	0.4%	0.2%	0.4%	0.3%	0.5%
Volleyball (indoor & outdoor)	1.0%	1.1%	0.9%	0.4%	0.2%	0.5%

While the average participation rate for Volleyball is considered low at 1.0% of the population, it does have a national participation rate of 8.2% for 15 to 17 year olds, making it a popular sport for secondary school aged children. Squash and Triathlon are also most popular with people aged over 25.

## REGIONAL DEMAND OVERVIEW

Participation in sport and recreation can be measured in a variety of ways. For the purposes of the Community Sport Infrastructure Strategy, registered participants and active members of existing clubs have been used to guide the potential demand for activities and associated facilities over the next 10 years.

The identification of annual and seasonal trends have also been used to guide potential future demands and priorities for infrastructure improvement. Where possible, these trends and related potential demands have been qualified with strategic planning work of individual sporting bodies and via consultation with state and regional stakeholders.

The following sports have been included within the regional demand overview:

- Football (soccer)
- AFL
- Tennis
- Cricket
- Netball
- Athletics / running
- Rugby League
- Rugby Union
- Touch Football
- MTB Riding
- Golf
- Squash

### FOOTBALL (SOCCER)

In 2014, Hunter Valley Football had 5,953 registered participants. Between 2014 and 2019, the Association grew by almost 20% and in 2019 was providing for almost 7,050 registered participants. This was an average participation rate of 3.7% across the Hunter Valley Region (0.2% above the NSW regional participation rate).

Participation in football remains strongest in the 5-19 age groups in the region, however average participation rates by age are slightly under the NSW regional averages for these age cohorts.

Hunter Valley Football covers 6 local government areas from Cessnock and Maitland out to the Upper Hunter Shire. Participation in football is strongest the closer clubs are to Newcastle, with participation rates dropping slightly as you move further west into regional NSW. The Singleton LGA sits in the middle of the region with an estimated 680 participants residing within the Singleton area (3% of the population).

The Football NSW and Northern NSW Football SportsEye participation and demand model identifies that around 30% of local demand is being captured and converted into registered players, leaving around 2,000 potential additional participants not catered for. While 100% of latent demand can never be captured, the average conversion rate across the Hunter Valley Region is 41%. Using these local and regional averages, the potential latent demand for active football participants in Singleton could equate to an additional 220 players.

Of note across the region, is the greater number of clubs and venues used for football in adjacent areas. In Cessnock and Maitland alone there are 24 venues catering for club based football activities. Singleton provides two seasonal venues (providing 3 match pitches collectively) only and is catering for 510+ club participants. An estimated 170 players are also being lost to clubs that are based outside of the Singleton LGA.

## REGIONAL DEMAND OVERVIEW

### AUSTRALIAN RULES FOOTBALL (AFL)

The Newcastle-Hunter Valley AFL Region has experienced significant growth from 2016 to 2019, with 2020 COVID-19 year numbers dipping. To 2019, numbers grew to over 12,500 at a rate of 50% growth. Projections for the current 2021 season are likely to exceed 2019 figures across the region, in-line with national AFL registrations.

AFL NSW-ACT registration data for the past 6 seasons indicates around 16% growth in total player numbers (+30 players). The club had grown steadily since 2016 and has maintained a strong base of over 200 active players for five years.

With a single AFL Club in Singleton providing 235 participants including Auskick, Juniors (boys and girls) and Senior men and women's teams, the Singleton Roosters Football Club is providing a strong base within the region. Overall future growth is likely to be close to plateau with limited population growth available to stimulate increased demand. Access to additional training space is likely to be required as the club currently exceeds the AFL's national benchmark of one full-size ground per 175 registered competition participants.

### TENNIS

The Howe Park Tennis Club in 2020-21 had 352 members, which has seen a significant increase of around 150 members over the past three years following a change in coaching staff and an influx of social participants following COVID-19. As the main tennis competition and coaching venue in Singleton, a strong junior base of 62% of memberships will help to sustain demand in tennis into the future.

The private Country Tennis Club in Singleton also has around 140 members, but has been slowly declining over recent years. Collectively with an estimated 500 club based participants, this equates to around 2.1% of the local Singleton population.

NSW Ausplay data in 2020 identified state-wide participation rates in tennis were 4.7%, indicating that the Singleton LGA area may have some latent demand for tennis activities that are not currently being fulfilled.

Tennis NSW reported recent growth as a result of a restructured membership and affiliation process across NSW. This has translated in many clubs and venues reaffiliating with the sport. Demand for tennis and related activities are primarily venue led and coach driven, with recent trends toward more social based play through family and friends engagement.

Exact demand outside the formal registered participant base is also difficult to measure. However, Tennis NSW has worked extensively with the local government sector via its Tennis Restart program to establish baseline data across the region. This can now be built on annually to measure growth and demand in the future.

### CRICKET

Cricket NSW's Infrastructure Strategy 2020-2030 reports around 26,160 registered participants across the Greater Hunter Region, of which the Singleton Council is one of 10 local government areas. Regional participation rates in 2021 were around 6.9%, almost 2% lower than the average Regional NSW participation rate of 8.7%. At this regional participation rate, the Singleton LGA could be expected to have more than 1,600 registered participants. At around 400 local players engaged in the Singleton and District Cricket Association (seniors and juniors), the demand for cricket appears well under regional and state averages.

Greater Hunter Region participation is projected to grow in-line with a 12% population growth – at current levels of participation and a static population, Singleton is unlikely to experience the same rates of growth.

Using the regional average of 185 registered participants per pitch ratio (180 in regional NSW and 73 state-wide), Singleton provides around 57 participants per pitch. This indicates the supply is currently adequate to cater for current demand, as well as a 25% increase in future participation.

## REGIONAL DEMAND OVERVIEW

### ATHLETICS / RUNNING

The Singleton Track and Field Club has consistently had around 190-200 registered members for the past few years, dipping to 122 in 2020-21 with the club citing COVID-19 impacts as the primary reason. Historical numbers indicate some future demand that could be recaptured for formalised athletics activities, particularly following a move to Cook Park, closer to the main sports activity hub in Singleton.

Recreational running/jogging is consistently one of the most participated sport and recreation activity nationally according to Ausplay statistics. Around 60% of NSW residents regularly walk, jog or run for fitness and physical activity (this equates to almost 14,000 Singleton residents) Locally, Singleton Parkrun offers a formalised 5km weekly run for anyone interested in running and walking. Over the life of Singleton Parkrun, they have engaged 2,640 participants, with an average of 100 participants each week. The age demographic extends from ages 5 to 85 and offers an opportunity for anyone to engage in a regular fitness activity at Cook / Rose Point Parks (without the need for specialist skills, equipment or financial contribution).

Parkrun as an activity has shown significant growth nationally and 14% growth in Singleton since 2014. It could be expected that as further demand for recreational running and walking continues to grow, so too will the demand for Parkrun.

### NETBALL

Netball NSW did not respond to consultation requests. As a result, no current peak body demand or demand estimates have been provided.

### TOUCH RUGBY

Singleton Junior and Senior Touch Associations have retained strong and consistent participant numbers for the past five years – around the 1,000+ mark. Touch in Singleton has also been able to maintain a strong balance between male (55%) and female (45%) participation and cross sport promotion with other winter football codes operating within Singleton.

NSW Touch reported that Singleton Touch was in a healthy state participation wise and regularly contribute to regional and talent pathway programs. They are also of equivalent size to Touch Associations in Taree, Nelson Bay, Maitland and Forster Tuncurry.

With a strong and stable junior participation base, it could be assumed that Touch Rugby within Singleton will continue to produce stable numbers, as they have done in previous years. With the current facilities, growth in participation may only be driven via the improvement of lighting and an amenities building commensurate with being the largest sporting association in Singleton.

### RUGBY LEAGUE

NSW Rugby League data identifies strong rugby league participation numbers (greater than 400 senior and junior participants) in Singleton since 2015, with almost 14% growth between 2015 and 2021.

With a consistent level of participation over the past 5 to 6 years and growth in junior rugby league prevalent (particularly in girls participation), future demand for the sport is likely to be present. The somewhat transient nature of senior players and the impact that shift working can have, limited growth is projected in senior rugby league numbers.

Should a further 10% growth be experienced in junior rugby league over the next five year period, rugby league could see as many as 500 players combined across junior and senior clubs.



## REGIONAL DEMAND OVERVIEW

### RUGBY UNION

Collectively the Singleton Junior and Senior Rugby Unions Clubs had almost 300 registered players for the recently completed 2021 season (178 juniors and 113 seniors). These numbers were equivalent to pre-Covid-19 registrations in 2019, and an increase of 20% on 2020 player registrations. This was a trend reported by Rugby NSW and was typical across most clubs in Country NSW.

Rugby NSW also reported an estimated 318 players were registered with the peak body who reside within the Singleton LGA, indicating that the vast majority (over 90%) of players live and play locally.

Similar to most sports in Singleton, significant increases in local demand are not projected into the future and player retention and broader diversity into girls and women's rugby is the best opportunity to grow and sustain the game. In 2021, only 8.5% of all registered players were female and the overall player retention rate from 2020 to 2021 was 59%. Retention however was impacted by Covid-19 from 2020 and higher levels of retention are projected in the coming years.

### GOLF

Singleton Sports Council annual membership gathering identified an estimated 307 active financial members at the Singleton Golf Club in 2021. This equates to a membership penetration rate of around 1.6% of the local population aged over 15 years. However, these numbers do not take into account casual and social participation from non-members, which is likely to form around two-thirds of total round numbers based on NSW Ausplay data identifying a 6.0% participation rate in adults aged 15+.

In September 2021, Golf NSW reported surging membership rates over the preceding 20 months. The surge, reported as a 6.4% increase in Regional NSW has been attributed to the broader impacts of Covid-19 on other formal sporting activities. Throughout the Covid-19 period, Golf has been one of few activities that has been able to operate.

In national terms (excluding Victoria), Golf Australia has reported a 3% growth in competition rounds played by females and 4% growth by males between September 2019 and September 2020. It is unclear whether this jump in demand for golf will be maintained longer term.

### MOUNTAIN BIKE RIDING (MTB)

The 2021 Singleton Council MTB Bike Feasibility Study identified that based on available AusPlay data, the NSW participation rate in mountain biking was at 1.3%. Multiplied across the population in Singleton, it was assumed that there are likely to be approximately 312 people in Singleton that ride regularly. Data provided by the newly formed Singleton MTB Club (in May 2021) appears consistent with this number of regular riders. However, they did also report that less than 10% of regular MTB riders participate in the activity via an organised club, therefore it is difficult to estimate figures with certainty.

A community survey undertaken through the Feasibility Study received a total of 160 responses. 28% of survey respondents indicated they currently ride in Singleton multiple times a week and 22% weekly.

The Feasibility study identified that the typical MTB rider was aged between 25-44, predominately male and mainly social and recreation riders. 98% of Feasibility Study survey respondents identified they would ride more regularly if there was an improved and formalized local trail network.

While MTB riding and associated facility recommendations are not specific outcomes of this Strategy, the continued support for the emerging club and the implementation of an integrated trail network are key recommendations of the 2021 Singleton Council MTB Bike Feasibility Study.

## REGIONAL DEMAND OVERVIEW

### SQUASH

Squash Australia via its Participation Plan 2016-2020 reported a significant decline in participation from the late 1990's to 2014. Over the course of this 16 year period, overall formal national participation declined from 321,000 players to around 105,000.

A number of factors influenced this decline, with the key influences being commercial land/centres being used for more financially beneficial projects (e.g. residential development or gym/fitness centre expansion), lack of pathways and participation programs, limited coaching opportunities and the ageing nature of facilities.

In regional areas, access to courts is a key influence on participation and demand. Singleton, via the Singleton Heights Sports Centre offers 4 squash courts. There appears to be an accessible local network of squash courts across the region, which may promote broader competition and event activities, in addition to local social and casual play in Singleton.

### BASKETBALL, GYMNASTICS, VOLLEYBALL & FUTSAL

While not a specific focus for this Strategy, basketball, gymnastics, futsal and volleyball are all sports played out of the Singleton Heights Sports Centre. There are likely to be varying levels of state-wide and regional demand for these sports and activities.

Across Australia, all of these sports have significantly higher levels of participation by children, generally those aged 9 to 14. With the exception of Volleyball that peaks at the 15-17 year age group.

Historical Sports Centre reporting identifies an estimated 14% increase between 2020 and 2021 in terms of collective attendances at the Sports Centre. Much of this increase can be attributed to additional casual court hire and programming activities. An overall 33% decline in sports competition attendances was likely attributable to Covid-19 impacts and restrictions placed on formal indoor sports and the inability to conduct them at times throughout the year.

The drive and demand for these sports will come via the opportunities provided at the Singleton Heights Sports Centre and those that exist within local schools. With only one single multi-use court supplied at the venue and by the Singleton Council, it could be concluded that additional courts that support the expansion of indoor sporting opportunities through any future facility redevelopment would be worth investigating.

Indoor sports courts within school environments would also provide additional opportunities to grow and support these activities.



## COMMUNITY CONSULTATION SUMMARY

*Allan Bull Reserve, Singleton*



## COMMUNITY SURVEY

**A community survey was undertaken as part of the Singleton Community Sporting Infrastructure Strategy to gain an understanding of the community usage, and future preferences and priorities for sports grounds in Singleton.**

The survey was open for a period of 3 weeks throughout May 2021 and received 238 responses. Of these responses, 94% were completed by Singleton residents.

Key findings from the community survey include:

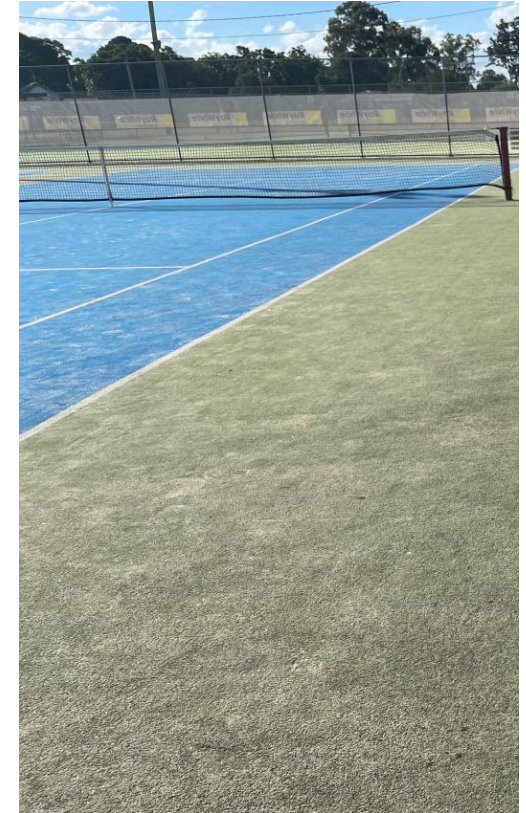
- The majority of **Singleton residents use sports grounds between 1 and 4 times per week.**
- **60%** of survey respondents **primarily visit sports grounds to attend a formal sporting activity. 19% attend for passive recreation purposes**, including walking, spectating and family play. The balance of respondents visit to undertake social sport or physical activity, as well as community events and school sport.
- **52% of people believe the primary purpose of Singleton's sports grounds are for community sport** while 36% believe sports grounds should meet a variety of purposes including for *sporting, open space and community events.*

- The **top 5 most commonly used facilities** at sports grounds across Singleton include:

- Public Toilets (64%)
- Oval/Playing Field (62%)
- Seating (39%)
- Play Equipment/Play Space (38%)
- Sporting Club Rooms and Change Rooms (35%).

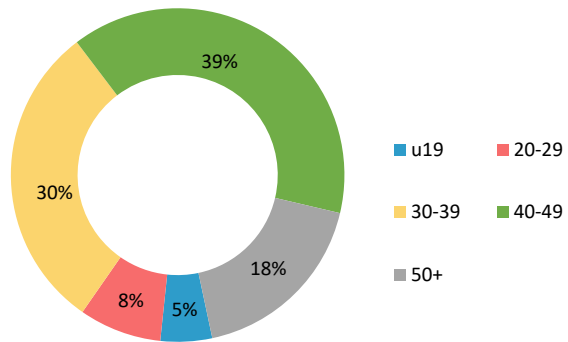
- The **top 5 first priority improvements for sports grounds** in Singleton include:

- ① Playing field Improvements
- ② Public toilets (improvements and provision)
- ③ Change room improvements
- ④ Shelter (for spectators, players and park users)
- ⑤ Car parking.

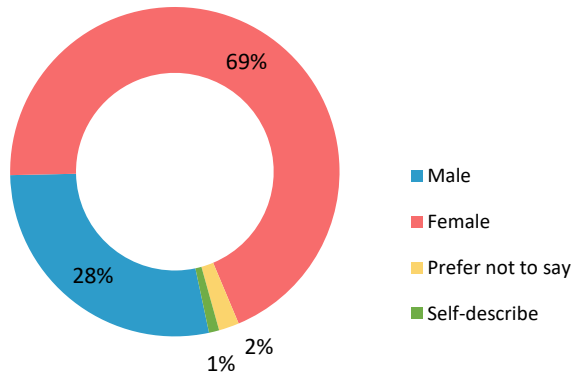


## SURVEY RESPONDENT PROFILE

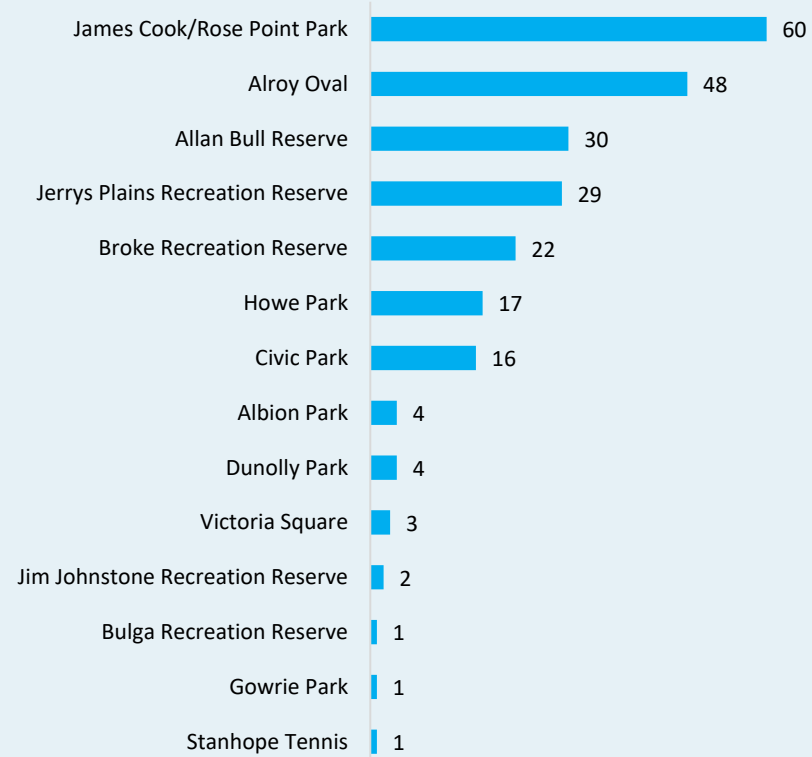
**AGE (%)**



**GENDER (%)**

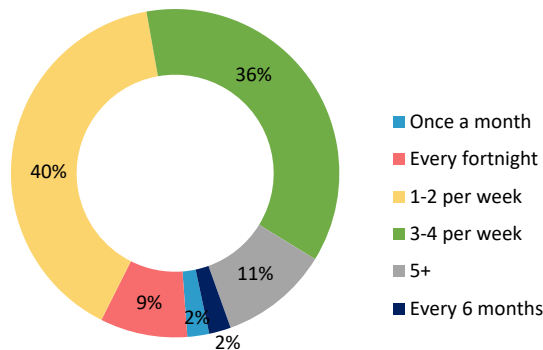


**NAME OF SPORTS GROUND SURVEY IS COMPLETED FOR**

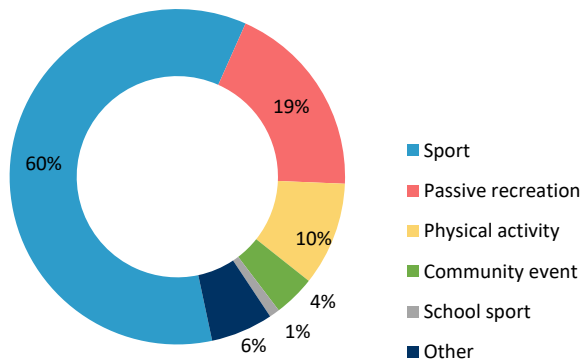


# USE & PURPOSE

FREQUENCY OF SPORTSGROUND USE



PURPOSE FOR VISITING SPORTSGROUND



WHAT DO YOU BELIEVE IS THE PRIMARY PURPOSE OF THE SPORTS GROUND?

**Community Sport**

52% of people believe community sport is the primary purpose of sports grounds

**Community Open Space**

7% of people believe the primary purpose is for community open space

**36%**

**Combination of Sport, Events and Open Space**

36% of respondents believe a combination of both sport and open space is the primary purpose of sports grounds

**Community Events**

3% of people believe the primary purpose is for community events

HOW DO YOU ACCESS THE SITE?

**Car**

**61%**

**Walk**

**28%**

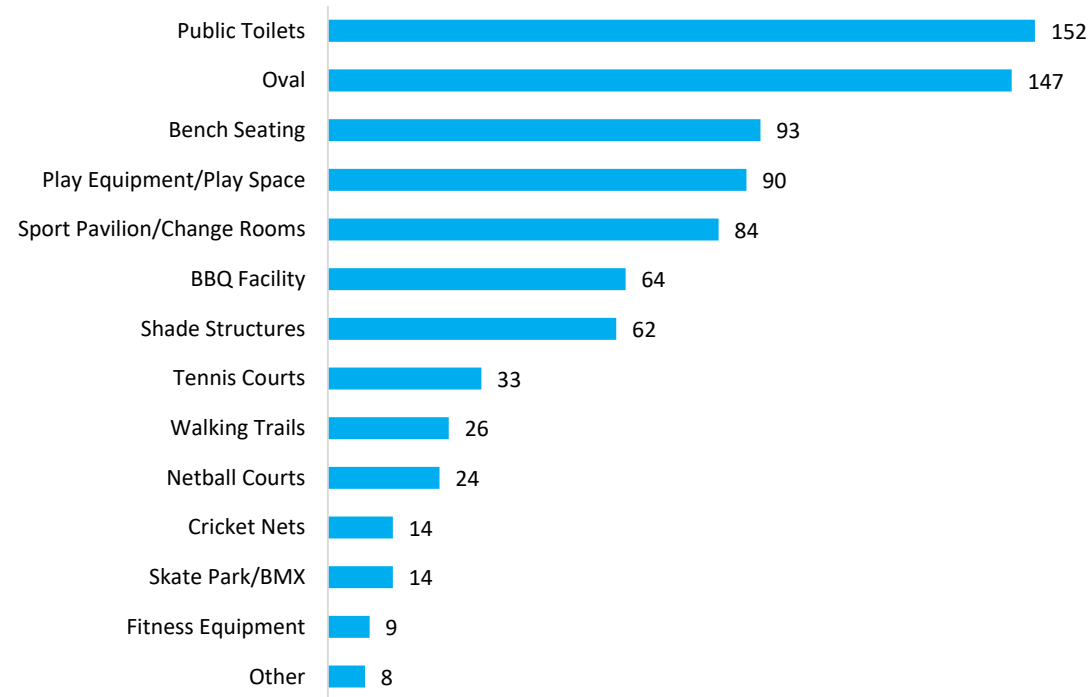
**Bike**

**10%**

**Bus**

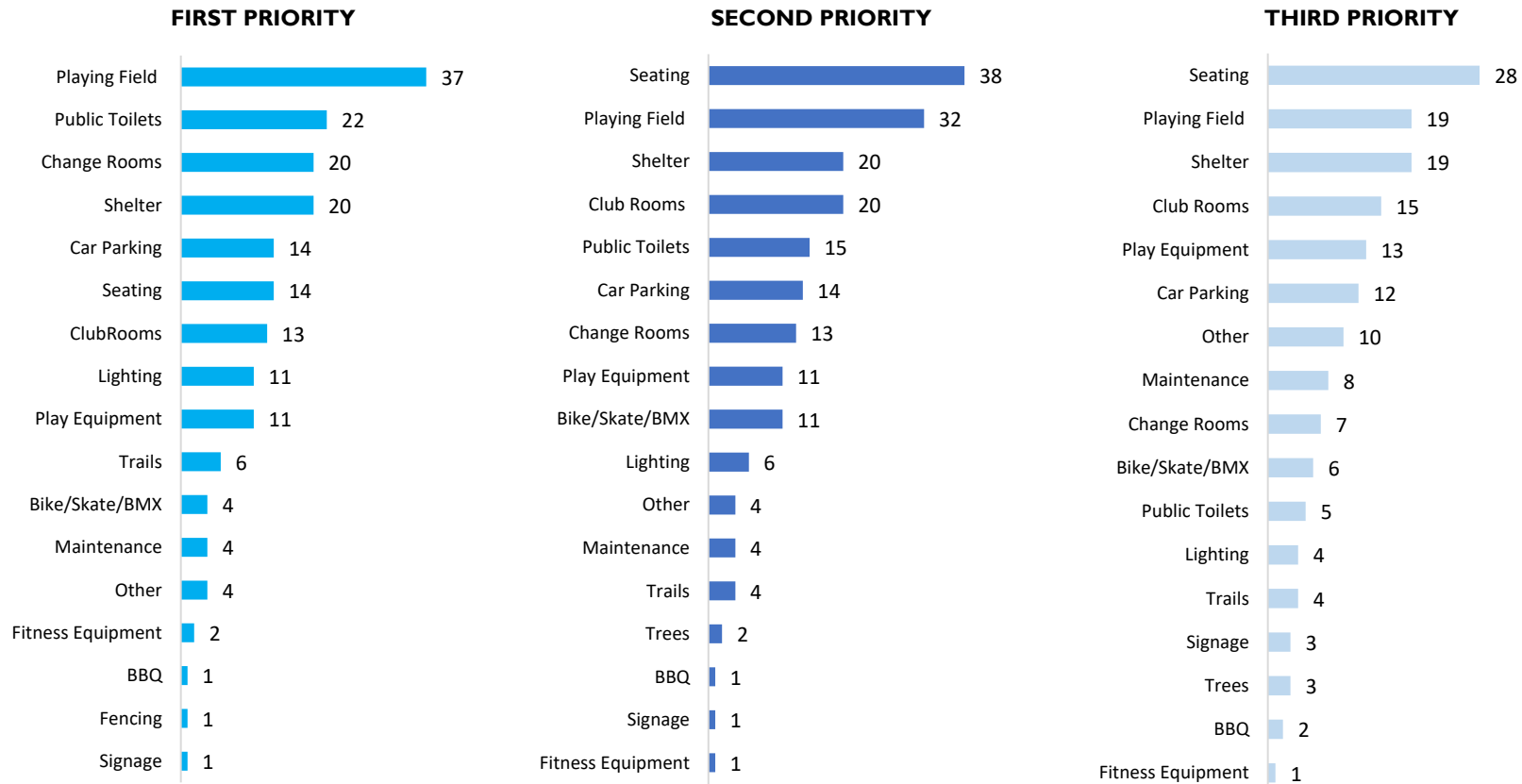
**1%**

## FACILITIES USED AT SPORTSGROUNDS





## PRIORITIES FOR SPORTSGROUND IMPROVEMENTS





## SPORTS GROUNDS, FACILITIES & SITE SUMMARIES

*Howe Park, Singleton*

# SPORTING INFRASTRUCTURE PROVISION & ASSESSMENT

1



2



3



## SPORTS GROUND SITE SUMMARIES

To understand more about the current provision, condition and usage of community sports grounds and facilities in Singleton, site visits and audits of the 14 village, local and district sports grounds were undertaken by project consultants in April 2021.

Detailed facility audits were only conducted at venues on Council owned and/or managed land. Other sites and sports facilities on non-Council owned or managed land or those under management contract or lease were not audited and do not form part of the assessment.

A summary of the findings from each site visit, as well as relevant support documentation, including master and management plans, site usage, participation and preliminary opportunities have all been considered and outlined in the following section of the report.

Each individual site summary contains:

1. An overview of the site including activities and key facility attributes.
2. A summary of the relevant planning overlays, strategic context and a further analysis of usage and participation.
3. An overview of the facility audit findings including provision and compliance with recommended sporting facility guidelines (if applicable).
4. A summary of consultation findings and strategic priorities for sport, tenants/clubs and an overview of preliminary opportunities and priorities.

\*Note: Consultation findings summarised under each site have been derived from the individual club questionnaires and the community survey. Specific findings for each site are identified, with further analysis of the community survey to be undertaken and included as an appendix to this report.



## SPORTS GROUNDS & ORDER OF SITE SUMMARIES

Site summaries appear in alphabetical order as follows:

1. Albion Park (Singleton)
2. Allan Bull Reserve (Huntermview)
3. Alroy Oval (Singleton Heights)
4. Broke Recreation Reserve (Broke)
5. Bulga Recreation Ground (Bulga)
6. Civic Park (Singleton)
7. Dunolly (Pirtek) Park (Dunolly)
8. Gowrie Park (Singleton)
9. Howe Park (Singleton)
10. James Cook / Rose Point Park (Singleton)
11. Jim Johnstone Park (Warkworth)
12. Jerrys Plains Recreation Ground (Jerrys Plains)
13. Stanhope Tennis (Stanhope)
14. Victoria Square (Singleton)



*Photo courtesy Singleton Junior Rugby Club*

# ALBION PARK

## SITE SUMMARY Local Sports Ground



Cricket

1

Club (overflow facility)

1

Junior Playing Field

1

Synthetic Pitch



Playing Fields Rated in  
'Good' Condition





## SITE OVERVIEW AND USAGE

Albion Park is 2ha recreation reserve located approximately 1.5km from the Singleton town centre. It consists of a single cricket oval (with synthetic pitch) that is suitable for junior competition. The dimensions of the field would not be practical for senior cricket, as it falls short of recommended 50m boundaries square of the wicket.

The playing field is supported by a number of informal shelters that may be used for spectators, players and/or scorers, as well as general park users. The field of play is a mixed grass species without irrigation or drainage.

There is a building onsite (identified as the old tennis clubhouse) which is utilised by local community groups, however its suitability and access for cricketers is unknown. There is no other infrastructure that would support formal participation at the site. The area to the north of the reserve, which previously housed tennis courts, has been transformed into a community garden. There is no onsite parking however there appears to be adequate on street parking for the current levels of users and participants.

**Albion Park is considered to be a local level facility.**

### PLANNING CONTEXT

Albion Park is zoned RE1 – Public Recreation zone and is situated within a flood planning area. It is located on Crown Land with Singleton Council the designated land manager. As the Crown Land manager of this reserve, Council is required to prepare a Plan of Management under the Crown Land Management Act 2016, which will include a more detailed master plan of the site.

### PARTICIPATION

Singleton District Cricket Association utilise the reserve as an overflow competition facility for juniors. As the cricket plays across multiple sites and locations it is difficult to place an exact number of users of the sports ground. Consultation identified that the cricket pitch is used irregularly and only over cricket season. At other times it mainly acts as a community recreation space.



## FACILITY AUDIT FINDINGS

During site inspections and facility audits undertaken in April 2021, Albion Park's playing surface was rated in good condition, as was the synthetic wicket.

There are no clubroom facilities at this venue, which does restrict adequate use for matches.

ALBION PARK – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Surface	Playing Field	40m radius from centre wicket (at smallest side)	40m (junior) & 50m (senior) radius from centre wicket	Yes	Good	
Surface	Cricket Pitch	25m x 2.5m	25-28m x 2.4-2.8m	Yes	Good	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified for Albion Park:

### SPORT IDENTIFIED NEEDS

Cricket Australia identifies that for venues considered as overflow or satellite facilities for training and competition, that the following key amenity provision is required:

- 1 x playing field
- Access to public toilets
- Shade and weather protection for players, spectators and officials.

### CLUB / USER IDENTIFIED NEEDS

- Access to toilet facilities during matches
- More shade and seating for players, spectators and officials
- Ground irrigation improvements

### COMMUNITY IDENTIFIED NEEDS

- Access to public toilet facilities, not just when the community building is open
- Improved passive recreational infrastructure – seating, playground

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- Provision or negotiation of access to toilet facilities
- More shade and seating for players, spectators and community

# ALLAN BULL RESERVE

## SITE SUMMARY District Sports Ground



Rugby Union

1

Club

2

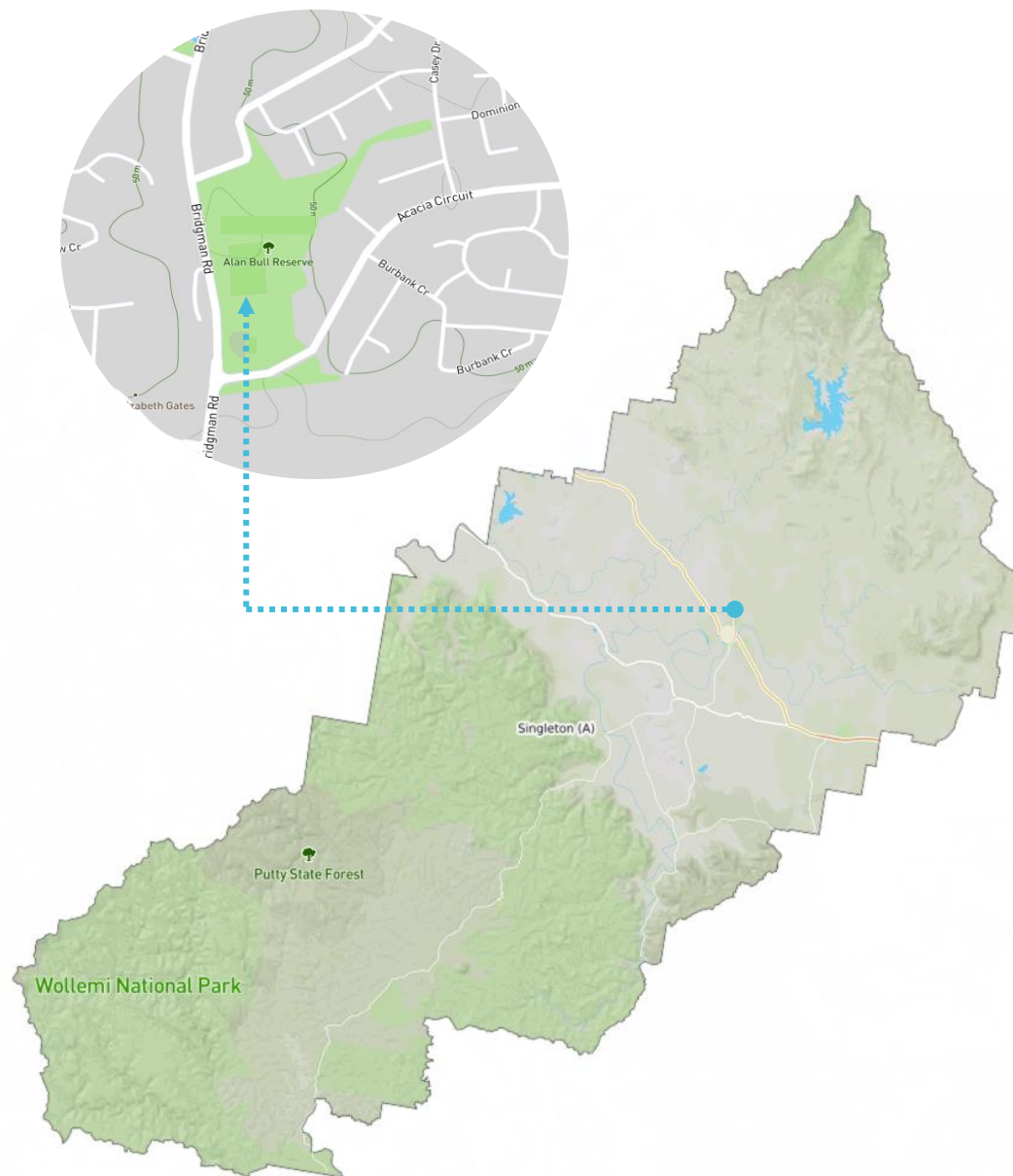
Junior Playing Fields



Playing Fields Rated in  
'Moderate' Condition



20 lux sports lighting



## SITE OVERVIEW AND USAGE

Allan Bull Reserve is located in Hunterview, 4-5km north of the Singleton town centre. It consists of two rugby union fields which are used for junior purposes only.

Both fields have good grass coverage with some provision of sports lighting, which has recently been audited and found to be approximately 20 lux (well under the recommended Australian Standards for training). The playing fields are supported by a small clubroom facility consisting of change rooms and toilets. The site has shared onsite car parking with the adjacent playground and skate park.

**Allan Bull Reserve is considered to be a district level facility.**

### PLANNING CONTEXT

Allan Bull Reserve is zone R1 – General Residential and RE1 – Public Recreation. It is located within a flood planning, riparian lands and a watercourses area.

The Singleton Open Space and Recreation Needs Study identified that the reserve is a well utilised community asset and that additional supporting infrastructure including park furniture and shelter should be developed.

### PARTICIPATION

Allan Bull Reserve is used exclusively by the Singleton Junior Rugby Union Club who have a seasonal user agreement with Council. The table adjacent highlights the Club's recent participation levels, with numbers hovering around the 200 mark for the last three years. A slight increase from 11 to 12 teams since 2019 is evident. The club provides for junior participants only.



Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	142	27	-	-	169	12
2020	188	30	-	-	218	12
2019	167	28	-	-	195	11

## FACILITY AUDIT FINDINGS

During the site inspection undertaken in April 2021, a number of facility gaps at Allan Bull Reserve were identified. Access to the clubrooms was not available at the time of visit and user club did not provide any insights into the adequacy of the building, hence this information is not included in the table adjacent.

A desktop analysis of the club facilities suggest that its age and size may present limitations in its ability to adequately accommodate the needs of the sport.

ALLAN BULL RESERVE – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Surface	Playing Fields 1 and 2	120m x 70m	120m x 70m	Yes	Good	
Lighting	Playing Field 1 Lighting	18 lux	50 lux (training)	Yes	Very Poor	
Lighting	Playing Field 2 Lighting	14 lux	50 lux (training)	Yes	Very Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified for Allan Bull Reserve:

### SPORT IDENTIFIED NEEDS

Rugby Australia identifies the following vision for its facilities to assist in driving participation:

- Safe and appropriate facilities that are inclusive for players, coaches and officials of different genders, backgrounds and ethnicities.

### CLUB / USER IDENTIFIED NEEDS

- Improved sports lighting and playing surface quality
- Seating and amenities for spectators, players and officials.

## COMMUNITY IDENTIFIED NEEDS

- Playing field improvements
- More shelter and seating
- Clubroom improvements including public toilets.









## PRELIMINARY OPPORTUNITIES + PRIORITIES

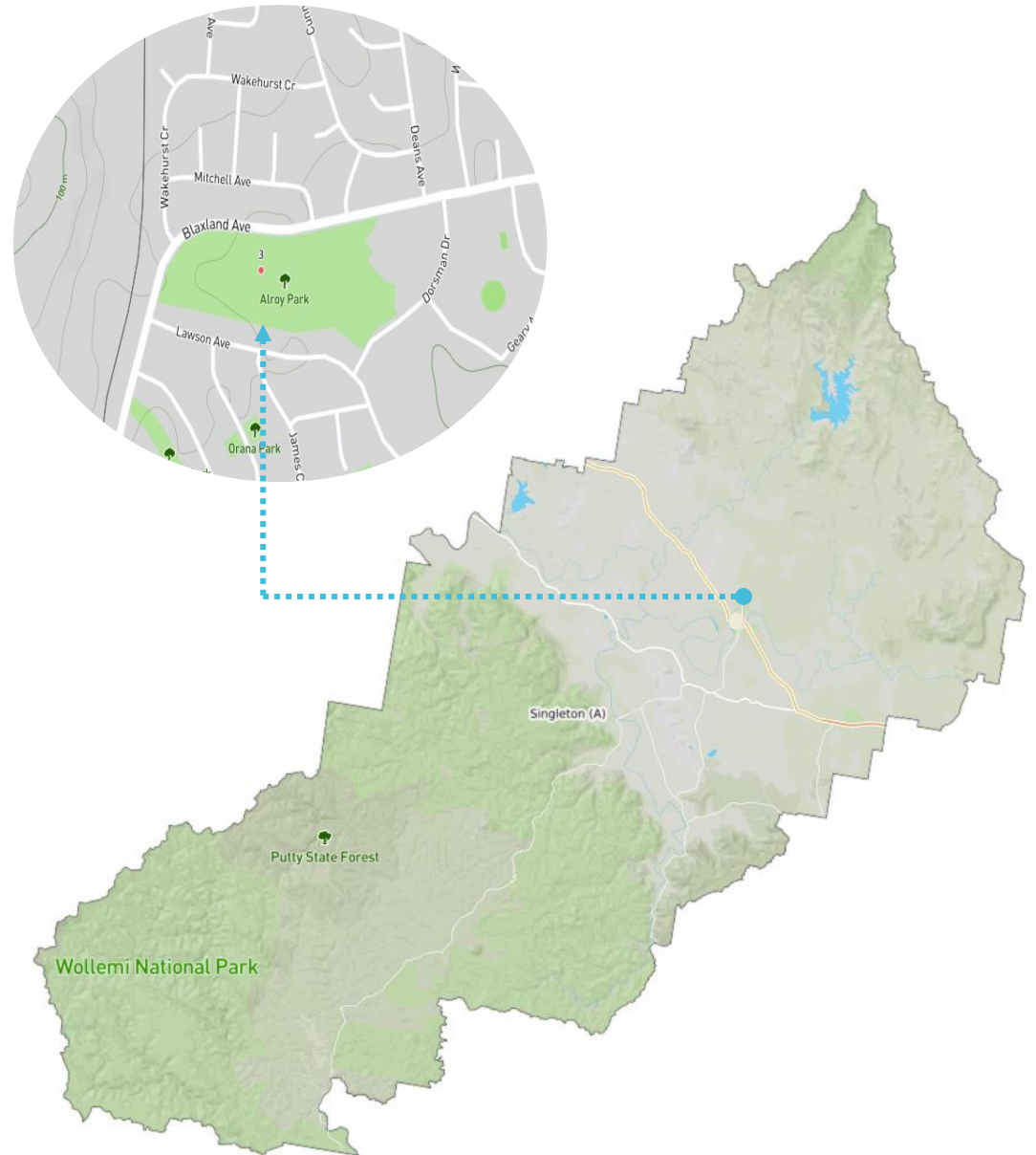
- Provision of adequate sports lighting to a minimum 50 lux training standard.
- Upgrading change facilities and amenities for players, officials and spectators that are consistent with those outlined for 'club level' venues as per the Rugby Australia National Facility Guidelines.
- Shelter options that could be accommodated within the western embankment should be considered.



# ALROY OVAL

## SITE SUMMARY District Sports Ground

-  Football (Soccer)
-  Athletics
-  2 Home Clubs
-  600 Football & Athletics Participants
-  2 Senior Playing Fields (1 floodlit)
-  2 Clubroom Facilities
-  Playing Fields Rated In 'Moderate' Condition
-  No Gender Neutral Change Rooms



## SITE OVERVIEW AND USAGE

Alroy Oval is currently home to football (soccer) and athletics. It includes a grass athletics track and multiple football playing / training pitches. There is floodlighting to half of the football fields and two separate clubroom / amenity buildings.

Alroy Oval is approximately 6ha in size and is supported by on-street car parking, open air shelter and playground. Additional sporting infrastructure includes discuss/shot put cage, long jump and triple jump pits and cricket nets (noting that formal cricket is no longer played at the site). The reserve is primarily used by the Singleton Track & Field Club and the Singleton Strikers FC (juniors and community level teams).

**Alroy Oval is considered to be a district level facility.**

## PLANNING CONTEXT

Alroy Oval is zoned RE2 – Private Recreation zone. The Alroy Oval Master Plan was developed in 2021 to guide the future investment, use and direction of the site. The master plan identifies a preferred option of a three football pitch facility including clubrooms and amenities to support the future growth of the sport. The master plan also identifies the relocation of the Singleton Track & Field Club to Rose Point Park / Cook Park (#5 Oval).

## PARTICIPATION

At the time of writing this report, Singleton Strikers FC had not returned their club questionnaire outlining their participation information. 2019 participation data however was available via the Football NSW SportsEye platform and is provided in the table adjacent. As demonstrated, there is approximately a 20% female participant base, this is consistent with state-wide averages for football.

Singleton Track & Field Club's participation is also provided however this information may also be considered within the James Cook/Rose Point Park context and summary given their impending relocation.

Singleton Strikers FC participation provided by Northern NSW Football based at Alroy Oval only.

Singleton Track & Field numbers for summer 2020/21 season were heavily impacted by Covid-19 interruptions.



### Singleton Track & Field Club

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total
2021	76	50	-	-	126
2020	105	82	5	5	197
2019	-	-	-	-	190

### Singleton Strikers (junior only)

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total
2021	472		-	-	472
2020	334	68	-	-	402
2019	304	88	-	-	392

## FACILITY AUDIT FINDINGS

An audit of Alroy Oval was conducted by Northern NSW Football in 2018-19 and updated by project consultants during site visits in April 2021.

The audit focussed on measuring the compliance of facilities against recommended guidelines. The information in the table adjacent is related to football facilities only.

Additionally, the Alroy Reserve Master Plan identified the following key facility constraints:

- Facilities are aged and in need of repair or replacement.
- No accessible toilet facilities available.
- Athletics storage inadequate.
- Significant fall on playing fields and athletics track.
- Cricket net facility unused.
- Ancillary buildings on site not well utilised.

ALROY OVAL – FACILITY AUDIT FINDINGS (FOOTBALL)						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Clubrooms	Kiosk/Canteen	<20m <sup>2</sup>	Site dependent	Yes	Good	
Clubrooms	Home Change Room	<20m <sup>2</sup>	25m <sup>2</sup>	No	Moderate	
Clubrooms	Away Change Room	<20m <sup>2</sup>	25m <sup>2</sup>	No	Moderate	
Clubrooms	Referee Change Room	<10m <sup>2</sup>	20m <sup>2</sup>	No	Very Poor	
Surface	Football Field 1	100m x 72m	100m x 68m	Yes	Moderate	
Lighting	Playing Field Lighting (Field 1)	110 lux (athletics area and football pitch 1)	50 lux (training) 100 lux (competition)	Yes	Good	
Surface	Football Field 2	95m x 60m	90m x 60m	Yes	Moderate	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified for Alroy Oval:

### SPORT IDENTIFIED NEEDS

Football NSW identifies the following priorities for its infrastructure to achieve its desired principles of “accessible, innovative, inclusive and sustainable facilities”:

- **Improve existing venue capacity** – maximise the safety, carrying capacity and activation of existing football grounds and venues.
- **Inclusive football facilities** – support diversity of game formats and participants through inclusive facilities.
- **Home of Football** – improve access to football programs, pathways and development services.
- **Planning for growth and demand** – plan to maximise participation through new and innovative venue opportunities.
- **Partnerships and investment** – develop and maintain relationships with all levels of government and industry partners.

### CLUB IDENTIFIED NEEDS

Due to the proposed relocation of Athletics to Cook Park, detailed analysis of gaps and issues of Athletics facilities and amenities has not been undertaken. It has been assumed that appropriate track and field facilities and a suitable club amenities building will be provided to facilitate athletics activities in the future at Cook Park.

Through the development of the Alroy Oval Master Plan, which included extensive club consultation, the following priorities were identified:

- Football Club’s desire to have 3 full size pitches at Alroy Oval to support increased capacity, facilitate participation and combine training for juniors through to senior levels.
- New clubroom facilities including accessible amenities in a different location to maximise use for football.
- Additional parking.
- Track & Field Club’s desire to move to Rose Point Park / Cook Park (Oval #5) preferred as the master plan identifies a permanent athletics facility in south-western end of park.
- Both Club’s support and endorsed the 2021 Alroy Oval Master Plan.

### COMMUNITY IDENTIFIED NEEDS

- Provision of more modern facilities for both sport and the community.
- Lighting improvements.
- Clubroom facility improvements including public toilets.
- Upgrade of playground, more seating, better car parking and general amenity improvement.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

Addressing facility gaps through the implementation of Master Plan recommendations, including:

- **Relocating Track & Field Club to Rose Point Park / Cook Park.**
- **Increasing number of soccer pitches and supporting amenities, including floodlighting of all pitches and improved surface quality.**
- **Change room enhancements for players and referees.**



# BROKE RECREATION GROUND

## SITE SUMMARY

Village Recreation Reserve



Open Space

1

Junior Playing Field



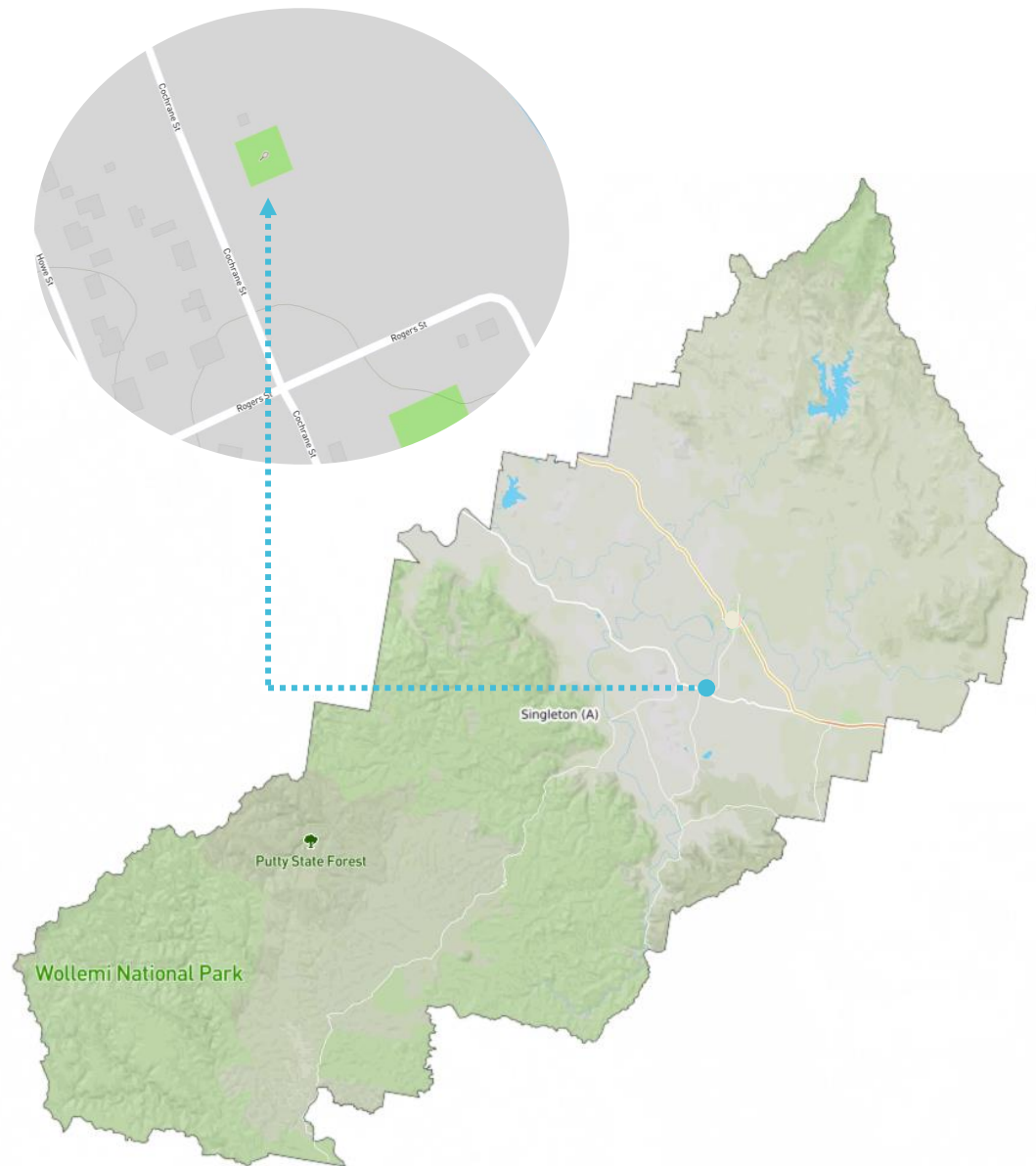
Community Tennis Court



Multi-lined Basketball Court



Community Netball Court



SINGLETON  
COUNCIL



## SITE OVERVIEW AND USAGE

Broke Recreation Ground is located 26km from Singleton and is classified as a **Village level recreation reserve**.

There is a variety of infrastructure utilised for informal recreation purposes, including small oval, tennis court and two multi-lined netball/basketball courts (one asphalt court and one acrylic). The site is supported by a small clubroom / kitchenette, open air picnic shelters, swing set and public toilet block. There are coin operated halogen floodlights on the tennis courts and eastern multi-lined court which, from recent audits, indicates that they provide approximately 30 lux (well below the minimum recreational playable standard of 250 lux).

### PLANNING CONTEXT

Broke Recreation Ground is zoned RE1 – Public Recreation. It is managed and maintained by Singleton Council. The Singleton Open Space and Recreation Needs Study (2013) identified the Broke Ground as the hub of sport and recreation within the township, and recommended that improvements, including the now completed tennis and multi-lined netball/basketball courts be delivered. It is also recognised in the Study the important contribution the facility makes as part of the the open space network in Broke.

### PARTICIPATION

Participation information at the reserve is unknown as it is used for unstructured recreation and informal community participation. However, during the onsite inspections in April 2021, there was a personal trainer running regular group fitness classes. The site is also situated adjacent to Broke Public School who would likely use it regularly to support their physical activity programs. Anecdotally the site also used by casual campers in the area.



## FACILITY AUDIT FINDINGS

Facility audits undertaken in April 2021 identified the following:

- Asphalt netball court is under-sized and is deteriorating significantly. There is tree root damage at the northern end and significant cracking and pavement issues throughout, resulting in very poor, bordering on unsafe, surface quality.
- Acrylic hard courts are floodlit and coin operated, however lighting levels are significantly below minimum Australian Standards for sports lighting.
- The oval and concrete pitch are unplayable for cricket and the condition and length of the grass detract from its use for casual play also.
- Fencing, goals, posts and nets are in usable condition but all require replacement within the next 5 years.
- All courts are suitable for casual or informal use only.

BROKE RECREATION GROUND – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Clubrooms	Informal meeting area	30m2	N/A	Yes	Very Poor	
Court	Asphalt netball court	30m x 9.5m	30.5m x 15.25m (plus run offs)	Yes	Very Poor	
Court	Acrylic multi-lined court	33m x 14.5m	30.5m x 15.25m (plus run offs)	Yes	Poor	
Court	Tennis court	34m x 18m	35m x 17m (total playing area)	Yes	Poor	
Court	Court lighting	30 lux	250 lux	Yes	Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards



Tennis court surface cracking



Netball court tree root invasion



Disused cricket pitch

## IDENTIFIED STAKEHOLDER NEEDS

As there is no organised sporting participation at Broke Recreation Ground, consultation with peak sporting bodies and clubs has not been undertaken. Preliminary opportunities and priorities however have been identified through findings from facility audits, community consultation and other strategic supporting documentation.

### COMMUNITY IDENTIFIED NEEDS

- Upgrade to court surfaces.
- More shelter, natural shade and improved BBQ facilities.
- More play equipment.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- Improvements to asphalt netball court surface.
- Upgrade of lighting on acrylic tennis courts (if demand necessitates).
- Improvements to supporting amenities including shade and shelter.
- More activation opportunities for local residents (e.g. personal training).
- Further understanding of reserve use, particularly by the primary school and casual campers.



Public toilet facilities



Picnic shelter

# BULGA RECREATION GROUND

## SITE SUMMARY Village Sports Ground



Open Space

1

Junior Playing Field



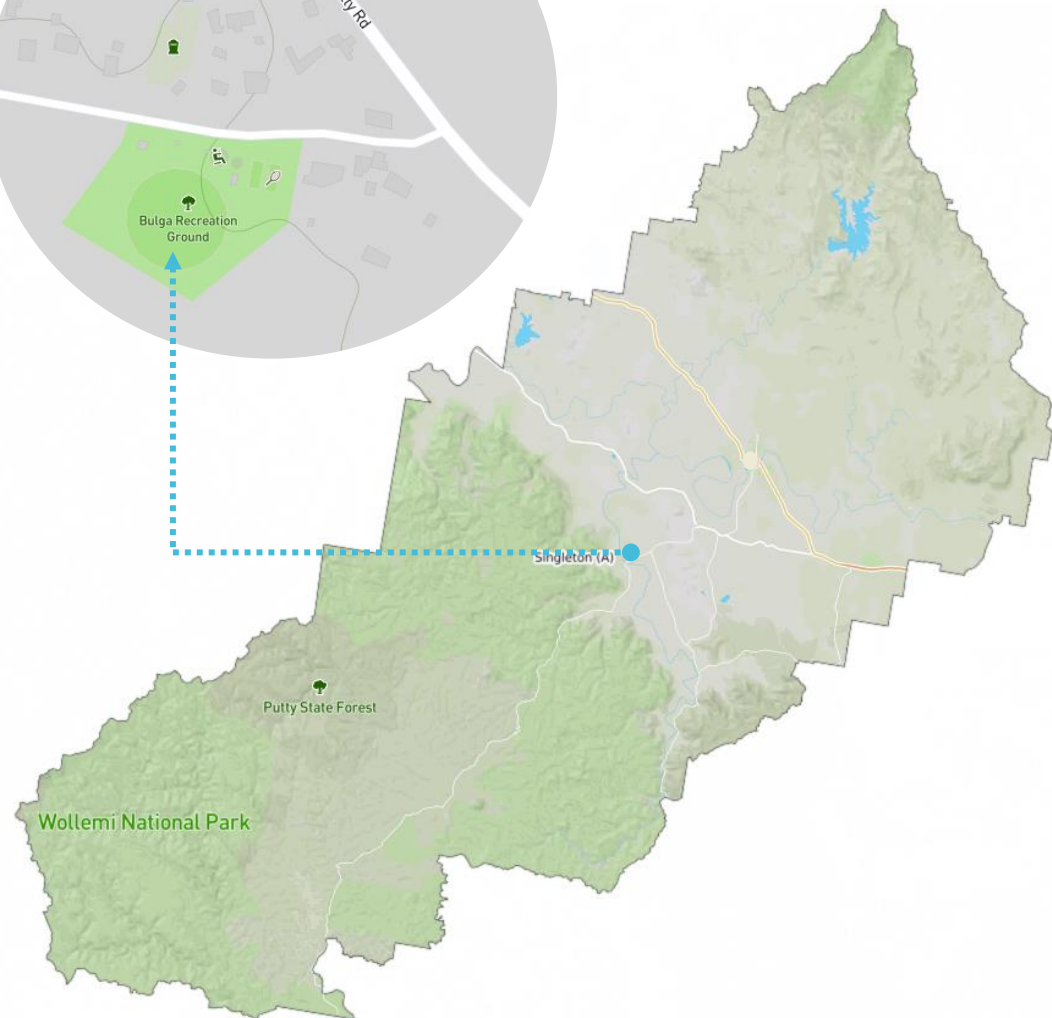
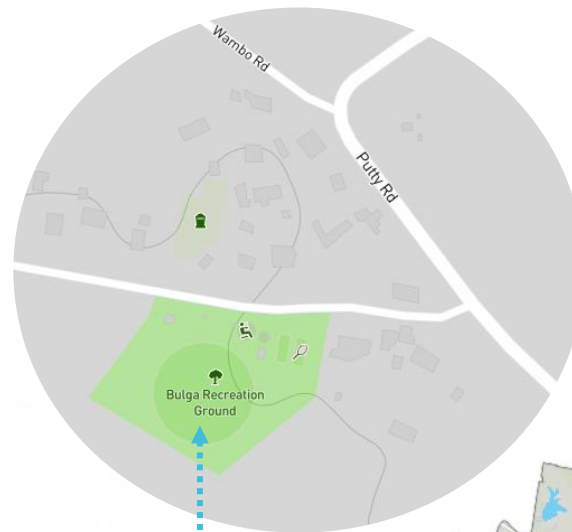
Community Tennis Courts



Camp Ground



Playground





## SITE OVERVIEW AND USAGE

Bulga Recreation Ground is located approximately 20 minutes drive from the Singleton town centre and is an informal, **village level reserve**. It is a mixed use facility catering for community recreation as well as casual camping. The park is well serviced with two acrylic tennis courts, local level playground, public toilets, BBQ facilities and amenities. There is an old cricket pavilion on site that appears to be used as a “camp kitchen” for those staying on-site.

### PLANNING CONTEXT

A NSW Government Property Search on Bulga Recreation Ground identified that the land zoning was classified as “DM – Deferred Matter”. There is no other information provided.

The Singleton Open Space and Recreation Needs Study identified a need to improve amenities for visitors at the reserve including the establishment of wetlands.

### PARTICIPATION

There is no formal or organised sport played at this facility. Participation information is unknown as the reserve is used for unstructured recreation and informal community participation.

During the onsite inspection in April 2021, it was noted that the Reserve was being lightly used by campers. According to population information in REMPLAN, the 2016 Census identified that there were 357 people residing in Bulga. It is likely that given the small population, the reserve will continue to play a role in servicing this market.





## FACILITY AUDIT FINDINGS

Facility audits undertaken in April 2021 identified the following:

- Acrylic tennis courts and associated court infrastructure was observed to be in moderate condition.
- Courts appear mostly sound structurally but some surface delamination and cracking was observed throughout the court surface.
- Tennis courts have lighting for community use. Court 1 has a significantly higher lux reading (174) than Court 2 (44) however both are below recommended standard for recreation tennis (250 lux).
- The centre cricket pitch has deteriorated to an unplayable condition and campfires were observed on the pitch area.

BULGA RECREATION GROUND – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Court	Tennis Court 1	32.5m x 16m	35m x 17m (total playing area)	Yes	Moderate	
Court	Tennis Court 2	32.5m x 16m	35m x 17m (total playing area)	Yes	Moderate	
Lighting	Tennis Court 1 Lighting	174 lux	250 lux	Yes	Moderate	
Lighting	Tennis Court 2 Lighting	44 lux	250 lux	Yes	Poor	
Surface	Cricket Pitch	25m x 2.4m	2.4-2.8m x 25-28m	Yes	Very Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified - meets preferred standards



Old cricket clubrooms



Disused cricket pitch



Tennis court surface delamination



Tennis court cracking

## IDENTIFIED STAKEHOLDER NEEDS

As there is no organised sporting participation at Bulga Recreation Ground, consultation with sport and clubs was not undertaken. Preliminary opportunities and priorities have been identified through findings from facility audits, community consultation and other strategic supporting documentation.

### COMMUNITY IDENTIFIED NEEDS

- Upgrade to facilities for campers.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- Improvements to tennis court lighting (if demand necessitates).
- Improvements/increase maintenance activities on facilities primarily used for visitors/campers.



Community playground



Picnic shelter and BBQ

# CIVIC PARK

## SITE SUMMARY District Sports Ground



Touch Football



Cricket

6

Touch Playing Fields

1

Cricket Oval



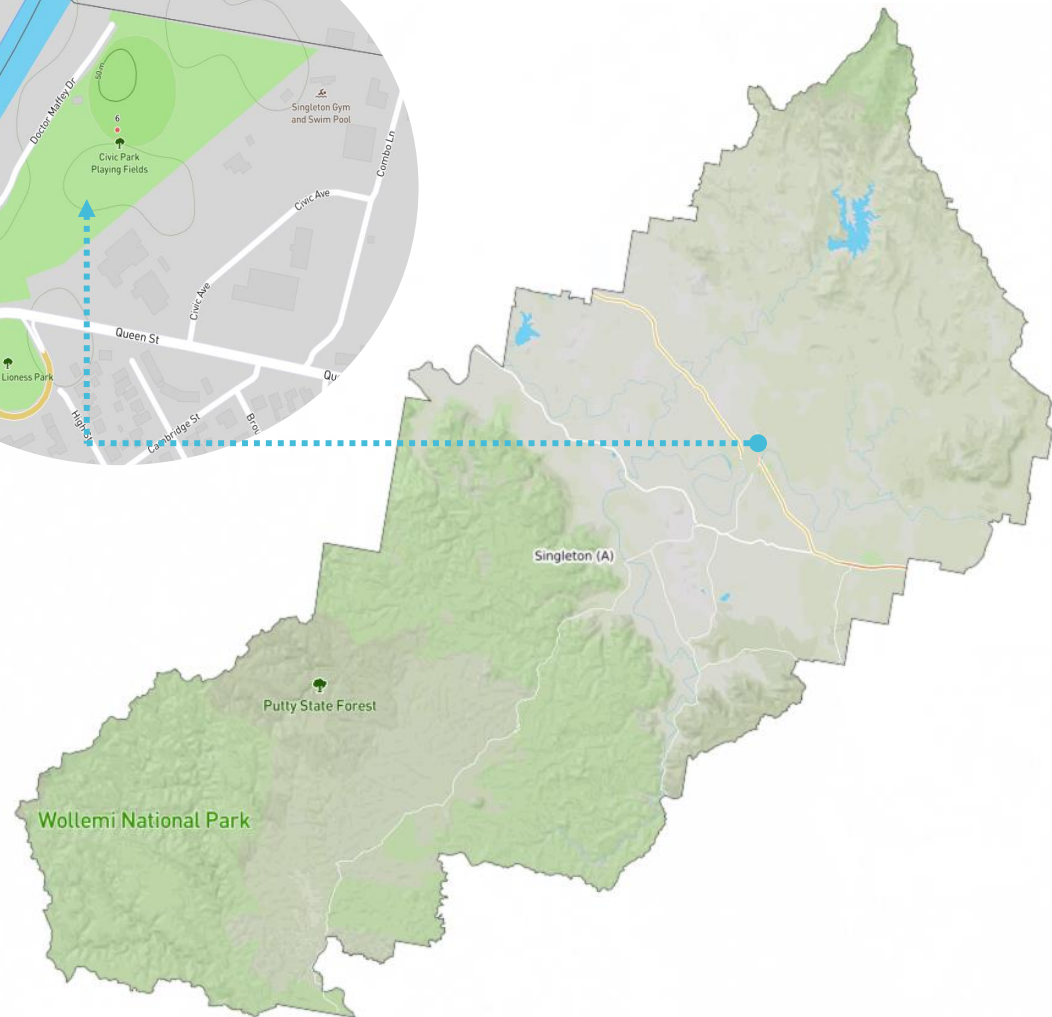
Playing Fields in 'excellent' condition



Average 60 lux lighting



No gender neutral change rooms



## SITE OVERVIEW AND USAGE

Civic Park is located 2km from the Singleton Town Centre and is home to touch football and cricket. The site consists of one cricket oval (with synthetic pitch) and six touch fields. Civic Park provides a local level playground and picnic shelter, informal car parking and a toilet block that is used by sport participants. The playing surfaces are floodlit, which have a range of lux levels from 10 to 105 lux. The lower readings are due to a number of globes not in operation.

### PLANNING CONTEXT

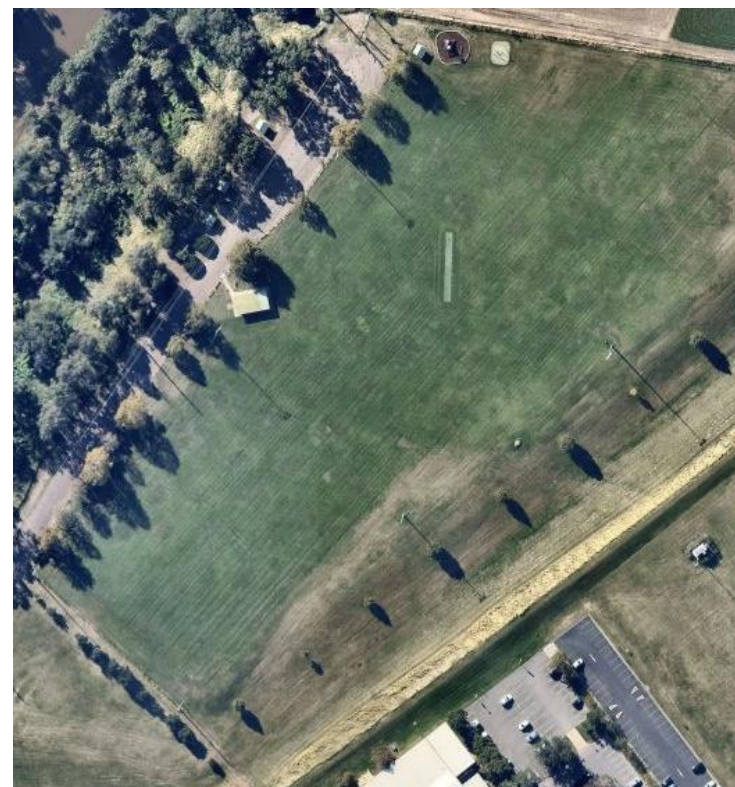
A NSW Government Property Search on Civic Park indicated that it is zoned both B5 – Business Development and RE1 – Public Recreation. The reserve is also located in a flood planning area adjacent to the Hunter River.

The Singleton Open Space and Recreation Needs Study identified a high priority for the floodlighting of the facility for touch football which is now complete, however globe maintenance is required to maintain adequate lux levels.

### PARTICIPATION

Singleton Touch is the primary tenant of the facility and has high participation numbers across junior and senior age groups and both genders. Singleton Cricket utilise the venue as an overflow venue - mostly in times when the turf wickets at their home facility is unplayable. Touch Football has a higher number of junior participants than senior, which is a healthy position for the sustainability and prosperity of the sport. Singleton Touch also facilitates training for representative squads and referees, providing a pathway for talent development.

Cricket participation information has not been included in the table adjacent, given that Civic Park is not its primary venue.



Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	457	373	127	103	1,060	106
2020	Information not available					
2019	Information not available					



## FACILITY AUDIT FINDINGS

An audit of Civic Park was undertaken in the 2020 Cricket NSW State-wide Facility Auditing program. Whilst this audit primarily focussed on the venue's alignment with preferred cricket guidelines and standards, a further audit in April 2021 by project consultants reviewed the facility in terms of its suitability for Touch Football.

Key findings of the audits indicate:

- The off-field amenities are inadequate to attract, support and retain participation.
- Existing toilet block in very poor condition.
- Playing fields and synthetic cricket wicket were observed to be in good condition.
- The presence of the cricket pitch limits the width of the smallest field.
- Unsealed car parking, shared with reserve users requires improvement.
- Lighting audits indicated touch fields 1 and 6 were well below the required Australian Standard of 50 lux for touch football training and 100 lux for competition.

CIVIC PARK – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Surface	Playing Fields (Touch)	4 Fields 70m x 50m 1 Field 70m x 45m 1 Field 70m x 40m	70m x 50m	Yes	Good	
Surface	Playing Field (Cricket)	53m radius from centre wicket	Min 50m radius from centre wicket (senior)	Yes	Good	
Surface	Cricket Pitch	25m x 2.5m	25-28m x 2.4-2.8m	Yes	Good	
Lighting	Playing Field 1 & 6 (Touch) Lighting	Field 1 – 37 lux Field 6 – 11 lux	50 lux (training) 100 lux (competition)	No	Very Poor	
Lighting	Playing Fields 2-5 (Touch) Lighting	Field 2 – 75 lux Field 3 – 57 lux Field 4 – 106 lux Field 5 – 80 lux	50 lux (training) 100 lux (competition)	Yes	Moderate	
Amenities	Toilet block	12m x 7m	N/A	No	Very Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified - meets preferred standards



## IDENTIFIED STAKEHOLDER NEEDS

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified for Civic Park:

### SPORT IDENTIFIED NEEDS

Touch Football does not have its own facility guidelines outlining the preferred facility requirements for the sport. Given the strong alignment between Touch and Rugby League however, the NRL's facility guidelines can be used as a guide to understanding likely needs. These include:

- **Main pavilion/amenities** – The clubroom building should be a community focussed facility capable of catering for the needs of players, coach, referees, officials, volunteers and spectators.
- **Field of play** – A quality surface, including drainage is required along with ancillary facilities including lighting is required.

### CLUB / USER IDENTIFIED NEEDS

- Amenities building consists of a toilet with a small storage area only, there are no change facilities to support participation and the sustainability of the club.
- Touch Field 6 is in poor condition and rarely used, opportunity to improve quality and capacity.
- Lack of spectator amenities, seating and accessible access.
- Further investigations for additional touch fields to be considered on eastern area of reserve (significant technical investigations as to the drainage and flood mitigation requirements would be required).
- Support for ground management and line marking.

### COMMUNITY IDENTIFIED NEEDS

- Improved clubroom facilities particularly change rooms and amenities.
- Improved access, play spaces, seating and shelter for active recreation users.
- Improved car parking and road surface quality.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

Addressing the following facility gaps at Civic Park will likely have the greatest impact on participation, including:

- **New clubroom/sporting pavilion facility including gender neutral change rooms and amenities for players, referees and spectators as well as kiosk/canteen.**
- **Addressing gaps in sports lighting to create uniformity and assist in building capacity of all playing fields.**
- **Enhancing the existing quality of all touch football fields will assist the club to fully maximise the use of fields at times where capacity is challenged.**
- **Improve supporting infrastructure suitable for passive recreation and broader community use (including river bank amenities).**
- **Improvements to car park, roadway and vehicle management initiatives.**

# DUNOLLY (PIRTEK) PARK

## SITE SUMMARY District Sports Ground



Rugby League

1

Home Club

88

Participants

2

Senior Playing Fields

1

Clubroom



Playing Fields Rated in  
'Good' Condition



No Gender Neutral Change Rooms



## SITE OVERVIEW AND USAGE

Dunolly Park (also known as Pirtek Park) is 4 ha recreation reserve located approximately 2km from the Singleton town centre. It consists of two rugby league fields, club and changing room facility and car parking. The clubrooms are located centrally to the two playing fields and include change facilities, kiosk/canteen and small upstairs social area. A match day bar also operates from a shipping container adjacent the clubrooms.

Rugby League is the only sport played at the venue. There is no other sporting or play infrastructure on site. The venue is located adjacent to the Singleton Caravan Park to the east, residential housing to the west and farming land to the north-east. Dunolly Park is considered to be a **district level sporting facility**.

### PLANNING CONTEXT

Dunolly Park is zoned RU1 – Primary Production (assumed to be from previous land use) and is within a flood planning area. The facility is leased exclusively to the Singleton United Rugby League Football Club (SURLFC) on a 30 year lease. The lease is current until the 5<sup>th</sup> March 2038.

### PARTICIPATION

The SURJFC utilise the venue for both games and training. They have identified 88 active members registered for the current 2021 season, which is anticipated to increase prior to the cut off for registrations on 30 June.

In 2021, the Club had 5 teams across senior and junior age groups. The split of junior and senior players is approximately 41% (junior) and 59% (senior). The split of males and females is 17% (female) and 77% (male). The Club predicts that participation will increase and project's steady growth over the next 10 years.



Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	21	15	52	0	88	5
2020	Data unavailable					
2019	Data unavailable					

## FACILITY AUDIT FINDINGS

During site inspections and facility audits undertaken in April 2021, Dunolly Park was identified as having playing fields that were in good condition.

- The hospitality area/social room within the clubrooms was considered to be in 'good' condition, however is small, not accessible and inadequate to the Club's needs.
- The kiosk/kitchen area was considered to be in 'moderate' condition, and is small but remains serviceable. Both home and away participant change rooms were considered to be in 'poor condition' with open showers and without ambulant and/or accessible toilets. The facility also includes a match day bar that operates from a shipping container.
- The clubrooms do not meet minimum standards for all gender use.
- Player benches require upgrading to benefit all users.
- The summary table adjacent provides a high level overview of the most immediate facility needs/gaps in provision.

DUNOLLY PARK – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Rating
Clubrooms	Upstairs social room area	<50m <sup>2</sup>	75m <sup>2</sup>	Yes	Good	
Clubrooms	Kitchen / Canteen	<20m <sup>2</sup>	20m <sup>2</sup>	Yes	Moderate	
Clubrooms	Home Change Room	<44m <sup>2</sup>	55m <sup>2</sup>	No	Poor	
Clubrooms	Away Change Room	<40m <sup>2</sup>	55m <sup>2</sup>	No	Poor	
Clubrooms	Referee Change Room	<10m <sup>2</sup>	15m <sup>2</sup>	No	Moderate	
Surface	Playing Field 1	128m x 76m (including run off)	124m x 76m (including run off)	Yes	Good	
Surface	Playing Field 2	128m x 76m (including run offs)	124m x 76m (including run off)	Yes	Good	
Lighting	Playing Field Lighting	Unknown	50 lux (training) 100 lux (competition)	Yes	Moderate	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

Through consultation and desktop analysis, the following priorities and needs have been identified:

### SPORT IDENTIFIED NEEDS

The NRL identifies three key categories of facility components that are critical to support competition and participation programs:

- The clubroom building should be a community focussed facility capable of catering for the needs of players, coaches, referees, officials, volunteers and spectators.
- Field of play should provide a quality surface, drainage and ancillary facilities including player benches and lighting. The current lighting lux levels at Dunolly Park are unknown.
- Additional facilities (e.g. social facilities) are desirable to support both functional requirements of the game and enhancing the player, coach and spectator experience.

### CLUB IDENTIFIED NEEDS

- Upgrades to playing field lighting required to competition standard (i.e. 100 lux minimum, 150 lux preferred).
- Development of unisex change facilities for players and officials, as well as function/social room.
- Improvements to the playing surface on both playing fields.
- Construction of new grandstand seating and player benches.
- The SURLFC have prepared and submitted a Development Application (DA) for reconstruction of their clubrooms and associated change room, social and spectator amenities.

### COMMUNITY IDENTIFIED NEEDS

- Additional spectator facilities.
- Improvements to changing facilities.
- Better kiosk/canteen facilities.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

Critical facility gaps that can enhance and support participation opportunities should be prioritised. Those which align strategically with government and sport planning should be strongly considered. For Dunolly Park, based on the facility audit findings, consultation and strategic review, these preliminary priorities include:

- **Player and referee change room upgrade/replacement**
- **Playing field lighting upgrade to competition standard**
- **Canteen/kiosk, social and spectator improvements.**



Photo courtesy Singleton Rugby Club



# GOWRIE PARK

## SITE SUMMARY Local Recreation Reserve



Active Open Space



BMX Track



## SITE OVERVIEW AND USAGE

Gowrie Park in Singleton Heights consists of an open space area with a BMX track and concrete starting hill. There is a sealed asphalt car park via a narrow entrance off Blaxland Avenue. There are no supporting amenities.

The site is fenced and backs onto residential properties. The facility is adjacent to a shared trail which connects to the local street network but remains disconnected from the Singleton town centre and the broader open space network.

### PLANNING CONTEXT

A NSW Government Property Search on Gowrie Park indicates that it is zoned RE1 – Public Recreation. The Singleton Open Space and Recreation Needs Study identified that the BMX track is in poor condition and there is no club participation or usage. The Study identifies the track as a ‘specialised sport and recreation facility’ within Singleton.

### PARTICIPATION

As the BMX track is no longer used by a formal sporting club, participation and usage is unknown. At the time of the site inspection, there appeared to have been some usage, however this would be of a limited and informal nature. The lack of supporting amenities on site would also contribute to limiting its use.



Various views across the BMX track

## FACILITY AUDIT FINDINGS

An audit of Gowrie Park was undertaken in April 2021. Key findings and observations of the facility included:

- The BMX track is in serviceable condition but does require regular intense maintenance to maintain its low level informal use.
- Access to the facility is reasonably difficult unless living within the local catchment area.
- The facility is fenced but still feels open and accessible to the community.
- The facility is bordered by the freeway and houses that back onto the reserve. This may limit the amount of passive surveillance available.
- There are no other amenities at the facility.
- The facility would offer little value in terms of its contribution to both the open space and sporting facility network.

### GOWRIE PARK – FACILITY AUDIT FINDINGS

Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Surface	BMX Track	320m Total length of track	Between 300m – 400m	Yes	Moderate	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

As there is no organised sporting participation at Gowrie Park, consultation with peak sporting bodies and clubs is not applicable. Preliminary opportunities and priorities have been identified based on the findings from facility audits, community consultation and other strategic supporting documentation.

### COMMUNITY IDENTIFIED NEEDS

- Improved maintenance of the facility, including BMX track and open space areas.

## PRELIMINARY OPPORTUNITIES + PRIORITIES

- Consider the overall value and purpose of the BMX track in its current location and undertake consultation with local users and residents to either retain and upgrade or repurpose to alternate use(s).
- Consider improving linkages to shared trail network so that reserve can be considered a destination and/or resting point along the trail.
- Consider providing additional activations at the site that support broader use of the reserve and other activities other than just BMX.

# HOWE PARK

## SITE SUMMARY District Sports Ground



Cricket



Tennis



Soccer

1

Oval/Soccer Playing Field

14

Tennis Courts

2

Junior Tennis Courts

450

Participants

Note: Howe Park is also home to the Singleton Golf Club, which shares land with the adjacent sporting facilities. However, the golf course does not form part of the study area or this Report. Refer to Page 8 for venue inclusions.





## SITE OVERVIEW AND USAGE

Howe Park is located in the centre of Singleton and is one of its premier facilities with multi-sport offerings and a variety of infrastructure. The facility consists of one main playing field, primarily used for cricket and football (soccer). Adjacent is the Howe Park Tennis Club with 14 full size tennis courts (8 grass and 6 synthetic) and two acrylic mini-courts suitable for the Tennis Hot Shots program.

Both tennis and football/cricket facilities are supported by clubroom facilities of varying condition. The site is bordered by the Singleton Golf Course to the north and east and residential housing to the south and west. Access to the venue is via a unsealed entry road (suitable for single car, one way direction) from Boundary Street. On game days, cars park around the perimeter of the oval. **Howe Park is classified as a District level facility.**

### PLANNING CONTEXT

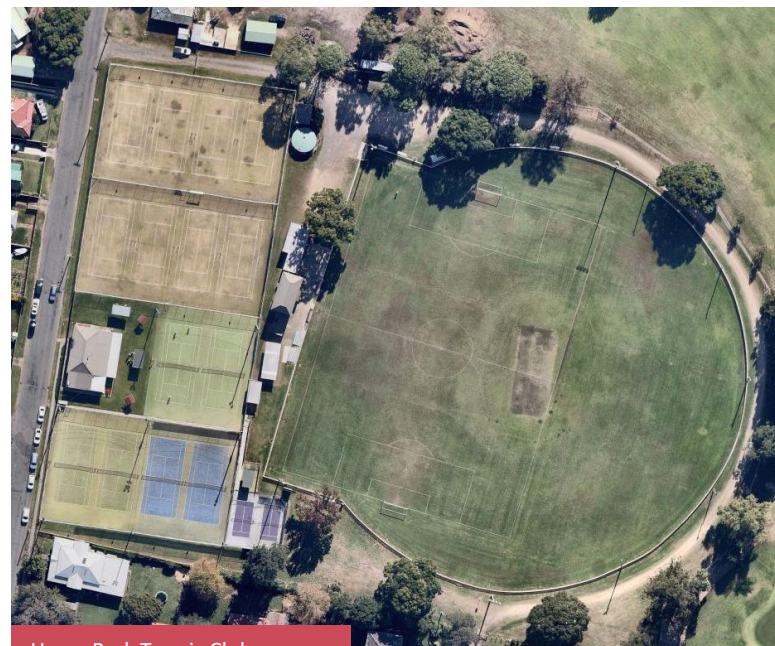
Howe Park is situated on Crown Land and is managed by Singleton Council with support from tenanting user groups. A NSW Government property search indicated that it is zoned RE2 – Private Recreation and is within a flood planning area.

The Draft Howe Park Management Plan (2020) has been developed to guide the future management of the Reserve and is a requirement under the Crown Land Management Act 2016. The Draft Plan outlined a vision for Howe Park as *'one of Singleton's premier sport and recreation assets with a wide variety of groups and high standard infrastructure to facilitate sport, social, leisure and community activities'*. The Plan also includes a high level master plan with a number of recommendations, which still requires DPIE and public endorsement.

### PARTICIPATION

Participation at Howe Park is healthy and is reflected primarily through the Howe Park Tennis Club and Singleton Strikers FC (Senior Northern League 1 teams). Whilst the facility is important in terms of its capacity to host and facilitate cricket, participation information for the Singleton & District Cricket Association has not been included in the table adjacent, given that Howe Park is one of many venues utilised for cricket.

Note: Participation for cricket is not included as venue is one on many grounds used by the Singleton Cricket Association



Howe Park Tennis Club

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total
2021	126	93	81	52	352
2020	97	75	57	34	263
2019	63	39	58	26	186

Singleton Strikers (Seniors)

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total
2021	-	-	80	-	80
2020	-	-	101	-	101
2019	-	-	118	-	118



## FACILITY AUDIT FINDINGS (FOOTBALL & CRICKET)

Site inspections and facility audits were undertaken in April 2021 and high-level findings for both cricket and football (soccer) are provided below.

Football facilities have been audited in-line with Northern NSW Football NPL competition standards. In relation to clubroom and change rooms, criteria for room sizes and wet area provision are compatible between cricket and football and have been assessed for compliance with both sports.

- Player change rooms under-sized and would not cater for football squad or a cricket team with bags and equipment.
- Home change rooms have been recently painted with floor and wall tile replacement and present in better condition than Away change rooms.
- Open showers and urinals detract from all gender use.
- Separate internal storage areas, likely to be inadequate for user needs.
- Kitchen, canteen, bar area is serviceable, but infrastructure is outdated and functionally would be problematic to manage on busy match days.
- No social facilities provided in any of the buildings.

HOWE PARK – FACILITY AUDIT FINDINGS (FOOTBALL & CRICKET)						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall rating
Clubrooms	Home Change Rooms	< 20m <sup>2</sup>	25m <sup>2</sup>	No	Moderate	
Clubrooms	Away Change Rooms	< 20m <sup>2</sup>	25m <sup>2</sup>	No	Poor	
Clubrooms	Referee / Umpire Change Rooms	10-20m <sup>2</sup>	15m <sup>2</sup> -20m <sup>2</sup>	Yes	Moderate	
Clubrooms	Canteen / Bar	60m <sup>2</sup>	25m <sup>2</sup>	Yes	Moderate	
Surface	Playing Field	<b>Football</b> 103m x 82m (inc. runoffs) <b>Cricket</b> 65m radius from centre wicket	<b>Football</b> 110m x 75m (inc. runoffs) <b>Cricket</b> 60m radius from centre wicket	Yes	Poor for Football Good for Cricket	
Lighting	Playing Field Lighting	60 lux	Football training (50 lux) & competition (100 lux)	No	Poor	

- Playing field considered in poor condition for football, with no drainage.
- Recent exposed spectator seating added, with existing grandstand inaccessible and not meeting contemporary expectations.
- Field lighting inadequate for football or cricket activities.

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## FACILITY AUDIT FINDINGS (TENNIS)

Site inspections and facility audits were undertaken in April 2021 and high-level findings for tennis courts and clubrooms are provided below.

- Clubrooms are aging and approaching the end of their functional life. Replacement is likely within the next 10-15 years.
- Newer pro-shop and kiosk provides good addition to building, with flexibility and capacity to serve externally.
- Grass courts are reaching the end of their functional life and will require reconstruction within 5 years to remain at a playable standard.
- Grass courts are not floodlit. Lighting grass courts is not recommended due to safety and seasonal usage limitations.
- All synthetic courts are non-compliant to minimum recommended club/recreational standard.
- Some court drainage issues observed along the Court 14 boundary.
- All existing court lighting exceeds minimum 250 lux standards for club/recreational use.
- Site presents neatly and is well laid out with ample space around courts and clubrooms for social activities and events.

HOWE PARK – FACILITY AUDIT FINDINGS (TENNIS)						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall rating
Clubrooms	Tennis Clubrooms	168m2	180m2	Yes	Moderate	
Clubrooms	Pro-shop/Kiosk	36m2	25m2	Yes	Good	
Surface	Tennis Courts (Grass Courts 1-4 & 5-8)	Enclosure (x2) 34m x 56.5m	Enclosure 34.75m x 61m	Yes	Poor	
Surface	Tennis Courts ( 9-10)	Enclosure 35m x 30m	Enclosure 34.75m x 33m	Yes	Good	
Surface	Tennis Courts ( 11-14)	Enclosure 34m x 56m	Enclosure 34.75m x 61m	Yes	Moderate	
Surface	Tennis Courts (Acrylic Mini Courts)	16.5m x 16.5m	N/A	Yes	Good	
Lighting	Court Lighting (9-10)	270-290 lux	250 lux (min)	Yes	Moderate	
Lighting	Court Lighting (11-14)	340-460 lux	250 lux (min)	Yes	Moderate	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS (FOOTBALL / CRICKET)

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified:

### SPORT IDENTIFIED NEEDS

**Northern NSW Football and Hunter Valley Football** identifies Howe Park as a Tier 2 Community Football Venue. The predominant user of football amenities at the site is the Singleton Strikers who play in the Northern League 1 competition. The key match requirements for this level of football includes:

- Pitch size of 100-105m x 60-68m (plus 3m runoffs)
- Pitch lighting exceeding 100 lux for night matches
- Player change rooms (minimum of 2, preference for 4) of 25m<sup>2</sup> minimum plus additional wet area including 3-4 cubicle showers and toilets
- Match officials change rooms and associated wet areas including 2 cubicle showers and toilets (minimum 30m<sup>2</sup>)
- First-aid room (minimum 10m<sup>2</sup>)
- Public toilets including male, female and accessible
- Spectator seating for an average of 500 people.

**Cricket Australia** identifies that a range of playing field attributes and supporting amenities are required to facilitate community cricket. The facility at Howe Park has been identified in Cricket Australia's facility hierarchy as a 'Community Club' venue.

Based on the facility audit, Howe Park meets on-field requirements to facilitate cricket matches, but similar to football, its off-field amenities fail to meet Cricket Australia guidelines. There are also no training facilities on-site.

### CLUB IDENTIFIED NEEDS

At the time of writing this report Singleton Strikers FC had not provided specific requirements or needs for improvements to Howe Park. However, it was indicated through consultation that meeting the minimum facility requirements of Northern NSW Football / Hunter Valley Football is the priority.

The Singleton Cricket Association provided limited information on specific needs for Howe Park into the future. However planned ground and lighting upgrades would seek to deliver a better quality facility, as would a clubroom replacement.

### COMMUNITY IDENTIFIED NEEDS

- General improvement to facilities including change rooms and toilets.
- Additional seating around the perimeter of the main playing field.
- Improved traffic management and car parking.
- More spectator shelter and shade

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- **Upgrade playing field surface to meet shared football / cricket needs.**
- **Replace playing field lighting with 100+ lux LED lighting to accommodate night football matches (and training)**
- **Replace existing multiple buildings with new, compliant amenities that better accommodate football, cricket, public and spectator use.**
- **Implement other site recommendations identified in the Howe Park Plan of Management once adopted, which will address a number of other needs identified from the community survey.**

## IDENTIFIED STAKEHOLDER NEEDS (TENNIS)

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified:

### SPORT IDENTIFIED NEEDS

Tennis Australia notes the following facility guidelines for district level tennis facilities (being 12+ court venues) include:

- A minimum of 8 courts
- 50% of courts to be floodlit to a minimum club competition standard of 350 lux.
- A set of 2 dedicated Tennis Hot Shot courts for introductory programs.
- Male and female change room facilities including showers.
- Café/kiosk and social facilities
- Administration offices.
- Onsite parking
- Outdoor shaded areas.

As the main provider of club and competition tennis in Singleton, the Howe Park Tennis Club typically operates as a large central for venue with a main catchment area of the Singleton LGA.

### CLUB IDENTIFIED NEEDS

The Howe Park Tennis Club has aspirations to develop 8 ITF level hardcourts in order to attract tournaments and events. The Tennis NSW Regional Tennis Centre Strategy identifies the need for more ITF level venues across NSW, however venues positioned in Newcastle and Central Coast LGAs are identified as the preference for the Northumberland Tennis Region. The Singleton LGA did not meet any key criteria for a centre of this level.

Other local venue needs identified include:

- Updating the clubrooms with a more contemporary and compliant building with adequate toilets, showers and change rooms.
- Upgrade court lighting to LED to reduce operating costs and environmental impacts.
- Shared water resources and potential curator / greenskeeper with the Golf Club to share resources.
- Base and surface replacement for Courts 11-12 and surface replacement of courts 9-10 and 13-14 over time.

### COMMUNITY IDENTIFIED NEEDS

- General improvement to facilities including change rooms and toilets.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- **Grass court improvement / replacement plan.**
- **Develop lighting plan to replace lights with LED lighting, when existing lighting falls below minimum standards.**
- **Staged replacement of synthetic grass courts.**
- **Implement other site recommendations identified in the Howe Park Plan of Management once adopted, which will address a number of other needs identified from the community survey.**

# JAMES COOK / ROSE POINT PARK

## SITE SUMMARY District Sports Ground

-  Netball
-  AFL
-  Cricket
-  Rugby League
- 5** Playing Fields
- 12** Netball Courts
-  Playground
-  Park Run
- 800+** Participants





## SITE OVERVIEW AND USAGE

James Cook/Rose Point Park is centrally located in Singleton and is a **District level facility**. It is Singleton Council's largest and highest profile sporting venue. The site currently provides facilities for netball, AFL, cricket and rugby league and is also a designated Parkrun venue. The site will be the future home of the Singleton Track & Field Club who intend to relocate from Alroy Oval.

The precinct offers multi-use sporting opportunities across five ovals/playing fields and 12 netball courts. Four separate sporting pavilions are also provided for rugby league, AFL, cricket and netball. There are six synthetic cricket practice wickets and one turf practice facility (across three locations). Four of five ovals have turf centre wickets. Additional broader community benefits are also provided through the regional play space.

### PLANNING CONTEXT

James Cook/Rose Point Park has an existing landscape master plan that was prepared in 2004. This Plan indicates a number of multi-use development opportunities that will bolster participation outcomes at the precinct. A number of these recommendations have been realised – including improved car parking and netball courts 7 to 12.

A NSW Government property search on James Cook/Rose Point Park shows that the facility is zoned RE1 – Public Recreation and RU1 – Primary Production and is within a flood planning area, riparian lands and watercourses zone. The site last experienced flooding in early 2021.

### PARTICIPATION

James Cook/Rose Point Park is home to several sporting clubs with healthy participation numbers. These include Singleton & District Cricket Association, Singleton Roosters AFL, Singleton Netball Association and Singleton Junior Rugby League. Most of these clubs demonstrate strong junior and female participation rates which are reflected in the table adjacent. Parkrun also attracts an average of around a 100 participants per week.

#### Singleton Junior Rugby League

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	270	75	-	-	345	28
2020	249	86	-	-	335	17
2019	-	-	-	-	325	-

#### Singleton Roosters AFL Club

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	43	23	94	39	199	9
2020	65	2	103	33	203	8
2019	60	9	83	31	183	8

#### Singleton Cricket Association

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	18	1	260	4	283	-
2020	14	1	254	3	272	-
2019	17	-	263	2	282	-

#### Singleton Netball Association

Year	Junior Male	Junior Female	Senior Male	Senior Female	Total	No. of Teams
2021	-	-	-	-	-	-
2020	-	-	-	-	-	-
2019	30	355	60	150	595	-

Note: 2020 Netball participation information unavailable due to COVID-19. 2021 Netball participation figures not yet finalised.





## FACILITY AUDIT FINDINGS (JUNIOR RUGBY LEAGUE)

Key observations from site inspections and facility audits undertaken in April 2021, include:

- Floodlighting on both fields does not light all playing areas and surrounds – only two towers provided to Playing Field 1 and 2.
- No social facilities provided within the main clubrooms.
- Storage areas are exceeding capacity and additional storage is likely to be required.
- Change rooms are of adequate size, but do not provide individual showers and are not considered gender inclusive.
- Playing fields were observed to be in reasonable condition, considering the flooding in the preceding weeks.
- Rugby Playing Field 3 is line marked slightly up the embankment, indicating some spatial constraints.
- Limited dedicated spectator amenities available.
- Large and fully stocked kiosk and merchandise area, provides strong focus point for team management and match / training day sales.

JAMES COOK/ROSE POINT PARK – FACILITY AUDIT FINDINGS						
JUNIOR RUGBY LEAGUE (COOK PARK FIELDS 1 & 2)						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall rating
Clubrooms	Home Change Rooms	30m2	30m2	No	Moderate	
Clubrooms	Away Change Rooms	30m2	30m2	No	Moderate	
Clubrooms	Referee Change Rooms	6m2	15m2	No	Moderate	
Clubrooms	Kitchen / Kiosk	50m2	20m2	Yes	Good	
Clubrooms	Storage	50m2	10m2	Yes	Poor	
Playing Fields	Rugby Field 1 (Cook Park Field #2)	100m x 68m	100m x 68m (Plus in goal area)	Yes	Good	
Lighting	Rugby Field 1 (Cook Park Field #2) Floodlighting	Less than 20 lux	50 lux (training) 100 lux (matches)	Yes	Poor	
Playing Fields	Rugby Fields 2-4 (Cook Park Field #1)	Field 2 100m x 68m  Fields 3&4 68m x 30m (x2)	100m x 68m (Plus in goal area)  68m x 30m	Yes	Good	
Lighting	Rugby Field 2 (Cook Park Field #1) Floodlighting	Less than 20 lux	50 lux (training) 100 lux (matches)	Yes	Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## FACILITY AUDIT FINDINGS (AFL)

Key observations from site inspections and facility audits undertaken in April 2021, include:

- Using the National AFL facility database and associated ratings, the venue for local AFL use scored 59% compliance against minimum requirements.
- Floodlighting fails to meet minimum training standards of 50 lux.
- Small storage area is exceeding capacity and additional storage is required.
- Change rooms are significantly under minimum size, have open showers, do not provide the minimum number of toilets and are not considered appropriate for all gender use.
- Change rooms would not adequately facilitate back-to-back games, particularly if matches were of different genders.
- Umpires change room does not cater adequately for all umpires or all gender use.
- Playing field was observed to be in reasonable condition (albeit very damp), considering the flooding in the preceding weeks.
- Limited dedicated spectator amenities available.

JAMES COOK/ROSE POINT PARK – FACILITY AUDIT FINDINGS						
AUSTRALIAN RULES FOOTBALL (AFL) (COOK PARK FIELD 4)						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall rating
Clubrooms	Home Change Rooms	< 45m <sup>2</sup>	45-55m <sup>2</sup>	No	Good	
Clubrooms	Away Change Rooms	< 45m <sup>2</sup>	45-55m <sup>2</sup>	No	Good	
Clubrooms	Umpire Change Rooms	< 20m <sup>2</sup>	20-25m <sup>2</sup>	No	Moderate	
Clubrooms	Kitchen / Kiosk	< 20m <sup>2</sup>	20m <sup>2</sup>	Yes	Good	
Clubrooms	Storage	6m <sup>2</sup>	20m <sup>2</sup>	Yes	Moderate	
Playing Fields	AFL Field (Cook Park Field #3)	157m x 130m	160m x 135m	Yes	Moderate	
Lighting	AFL Field (Cook Park Field #3) Floodlighting	23 lux	50 lux (training) 100 lux (matches) 150 (preference)	No	Poor	

- No timekeepers box or first-aid room provided.
- Player and coaching benches required temporary covering on match days.
- Well presented social area, bar and canteen provided, with a reconfigured merchandise room created recently.

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## FACILITY AUDIT FINDINGS (CRICKET)

Key observations from site inspections and facility audits undertaken in April 2021, include:

- Limited dedicated clubroom facility and toilets across the five grounds. Access to other pavilion spaces including rugby, AFL and netball would be required to adequately cater for all grounds.
- The only location in Singleton with practice facilities, with the exception of Alroy Oval (where cricket is no longer played).
- Multiple practice facility locations creates inefficiencies in maintenance and renewal.
- Practice net facilities rated poor to moderate, but were inspected post flooding and during off-season where maintenance will be less intense.
- All playing fields are of adequate size for senior cricket with ample surrounding areas with good to excellent playing surfaces.
- Turf squares have 2-3 pitches on each, which may restrict some flexibility in preparation and use.
- No cricket ground has suitable lighting to facilitate cricket matches.
- Limited dedicated and shaded spectator viewing areas across all grounds.
- Synthetic pitch on Cook Park #5 meets minimum pitch length dimensions, but is slightly under the preferred 2.4m wide.

JAMES COOK/ROSE POINT PARK – FACILITY AUDIT FINDINGS						
CRICKET (COOK PARK FIELDS 1-5)						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall rating
Clubrooms	Toilets	80m2	25m2	Unknown	Unknown	Unknown
Clubrooms	Storage		30m2	Unknown	Unknown	Unknown
Playing Fields	Cook Park #1 Oval (Turf)	60m (2 pitches)	60m boundary (minimum) measured from the middle of the centre wicket	Yes	Excellent	
Playing Fields	Cook Park #2 Oval (Turf)	60m (3 pitches)		Yes	Good	
Playing Fields	Cook Park #3 Oval (Turf)	65m (3 pitches)		Yes	Good	
Playing Fields	Cook Park #4 Oval (Turf)	70m (2 pitches)		Yes	Excellent	
Playing Fields	Cook Park #5 Oval (Synthetic)	60m (synthetic)		Yes	Moderate	
Practice	Practice Wickets 1 (inc. Turf)	2 Synthetic & Turf Nets	Various	Yes	Poor	
Practice	Practice Wickets 2 (inc. Turf)	2 Synthetic Nets	Various	Yes	Moderate	
Practice	Practice Wickets 3 (inc. Turf)	2 Synthetic Nets	Various	Yes	Very Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards



## FACILITY AUDIT FINDINGS (NETBALL)

Key observations from site inspections and facility audits undertaken in April 2021, include:

- Lighting on courts 1-6 is compromised due to the varied pole heights. Even though court lighting is exceeding minimum lux and uniformity averages, there are dark spots in some areas.
- Lighting on courts 7, 11, 12 fail to meet minimum 100 lux standards, with courts 8, 9, 10 only just complying.
- Some long-term court base issues on courts 4, 5, 6 that will require base rectification.
- Limited *covered* spectator viewing areas and seating provided to main court area.
- Limited path access to courts from the clubrooms, car parks and footpath network. Crossing over grass and damp areas drags mud and dirt onto courts.
- Clubrooms present neatly and well maintained and generally meet the needs of the Association.
- No umpire change rooms, but accessible toilets performing that function.
- Issues observed of vehicles driving on court area, some recent flooding, ongoing septic tank problems and building security.

JAMES COOK/ROSE POINT PARK – FACILITY AUDIT FINDINGS						
NETBALL						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall rating
Clubrooms	Social	80m2	100m2	Yes	Good	
Clubrooms	Female Toilets	16m2	12m2	Yes	Good	
Clubrooms	Male Toilets	12m2	12m2	No	Moderate	
Clubrooms	Kitchen / Kiosk	40m2	30m2	Yes	Good	
Clubrooms	Storage	40m2	40m2	Yes	Good	
Clubrooms	Admin / Office	12m	20m2	Yes	Good	
Courts	Courts 1-6	Enclosure 103m x 40m	Enclosure 103m x 40m		Moderate	
Courts	Courts 7-12	Enclosure 103m x 40m	Enclosure 103m x 40m	Yes	Good	
Lighting	Courts 1-6	234-385 lux	100 lux (training) 200 lux (matches)	Yes	Moderate	
Lighting	Courts 7-12	78-113 lux	100 lux (training) 200 lux (matches)	Yes	Moderate	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

Through consultation and desktop analysis, the following stakeholder priorities and needs have been identified:

### SPORT IDENTIFIED NEEDS

The **NRL facility guidelines** identify three key categories of facility components that are critical to support competition and participation programs:

- Clubrooms should be a community focussed facility capable of catering for the needs of players, coaches, referees, officials, volunteers and spectators.
- A quality surface, including drainage is required along with ancillary facilities including player benches and lighting.
- Additional facilities to support both functional requirements of the game and enhancing the player, coach and spectator experience are important.

**Cricket Australia identifies** that a range of playing field attributes and supporting amenities are required to facilitate community cricket. The facility at Cook Park, as a five oval venue with multiple turf and synthetic wickets, has been identified in Cricket Australia's facility hierarchy as a Regional level facility.

A Regional level facility is seen as a venue that integrates community cricket pathways and provides connection between foundation and talent programs. These facilities also service home clubs, the broader cricket catchment and can facilitate cricket events.

The missing elements for a cricket venue of this scale is access to a dedicated clubroom with social facilities and change room and toilet amenities that caters for all grounds and all genders.

The **AFL's Preferred Facility Guidelines** outline that to grow capacity of local level facilities and, in turn, participation the provision of the following infrastructure items are critical:

- Quality playing fields including sub-surface drainage, irrigation and drought resistant grasses. Supporting on-field amenities including interchange benches, coaches boxes and scoreboards along with regular maintenance regimes.
- Lighting of a minimum of 50 lux for training and 100 lux for competition (with a preference for 150 lux).
- Main clubroom facilities including social rooms, kitchens/kiosks, administration rooms, storage and public toilets are all considered crucial to support the viability of clubs and the game.
- Change rooms that are clean, modern and offer a welcoming and private environment suitable for all genders. This includes cubicle showers and lockable toilet cubicles.

The Singleton Roosters AFL facilities are failing to meet some basic level provision requirements. While structurally many of the required amenities are in place (including player and umpire change rooms), they fail to meet minimum size requirements and all gender use and lighting levels do not meet minimum requirements.

**Netball Australia** considers its facilities as playing a vital role in contributing to the vibrancy of sport and the community. The provision of high quality facilities to meet the needs and demands of netball are seen as critical. Quality venues will drive growth and sustain participation as well as support the viability of associations, leagues and clubs.

Key infrastructure items include:

Club facilities including unisex change facilities for players and umpires, public toilets, competition/administration office, first aid room, kiosk/canteen, social area and storage.

High quality compliant courts that offer a consistent playing surface and necessary run off requirements and floodlighting to a minimum 100 lux.

Similar to AFL, cricket and rugby league facilities at Cook / Rose Point Park, the vast majority of netball requirements are being met. However, some elements including court lighting and spectator amenities need to be resolved to improve the overall functionality of the venue.

## IDENTIFIED STAKEHOLDER NEEDS

### CLUB IDENTIFIED NEEDS

The needs of clubs have been determined via club questionnaires, community surveys, site audits and independent face-to-face and phone conversations with club representatives.

#### SINGLETON JUNIOR RUGBY LEAGUE

- Improve floodlighting to facilitate longer training hours and keeping participation at one venue (i.e. avoid having to rent Dunolly (Pirtek) Park for additional matches.
- Covered spectator accommodation.
- Additional equipment storage with capacity for drive in / drive out trailer storage.
- Change room refurbishment to create all gender use.

#### SINGLETON ROOSTERS AFC

- Clubroom improvements for greater accessibility for people with disabilities. Opportunity to also incorporate additional storage needs and spectator seating.
- Change room size/provision is inadequate, particularly with the increase in women and girls teams. Clashes are experienced when there are back to back games with change rooms preventing use by teams.
- Additional, more formalised car parking.
- Upgrades to floodlighting (LED preferable) to meet competition levels (100 lux) with switching down to 50 lux for training.

#### SINGLETON DISTRICT CRICKET ASSOCIATION

- Requirement to improve drainage on ovals, including turf wickets to improve playability and maintenance.
- Greater provision of public toilets, particularly for females.
- More shade and shelter for participants, officials and spectators across the grounds.
- Consolidation and improvement of cricket practice nets.

#### SINGLETON NETBALL ASSOCIATION

- Current facility provision has the capacity to host additional participation with some minor improvements required.
- Access to courts, particularly those on lower levels, is difficult during winter and accessibility needs improvement.
- Improved covered spectator viewing accommodation.
- Address odour issues in toilets.
- Address the vandalism and external security lighting around the clubrooms.

#### SINGLETON PARK RUN

- Access to additional storage area.
- Regular maintenance of running course.
- Additional signage to indicate that Parkrun utilises the reserve regularly.

## IDENTIFIED STAKEHOLDER NEEDS

### PRELIMINARY OPPORTUNITIES + PRIORITIES

Enhancing the already high standard of infrastructure at James Cook/Rose Point Park will provide further opportunities for participation, support the sustainability of clubs, and ensure that facilities are meeting recommended standards of a District/Regional facility.

Preliminary opportunities and priorities include:

- **Update the site master plan to include a holistic approach to infrastructure provision and use, asset location, vehicle management and car parking and long-term strategic implementation.**
- **Improved floodlighting to a minimum training standard, with preference to match standard for Rugby League and AFL.**
- **Improved playing surface quality and drainage across the site.**
- **Enhanced clubroom facilities including flexible, multi-purpose change rooms that can accommodate concurrent teams and genders.**
- **Greater spectator/passive use amenity including shade, toilets and paths/access routes.**

# JIM JOHNSTONE PARK

## SITE SUMMARY

Village Recreation Reserve



Active Open Space

1

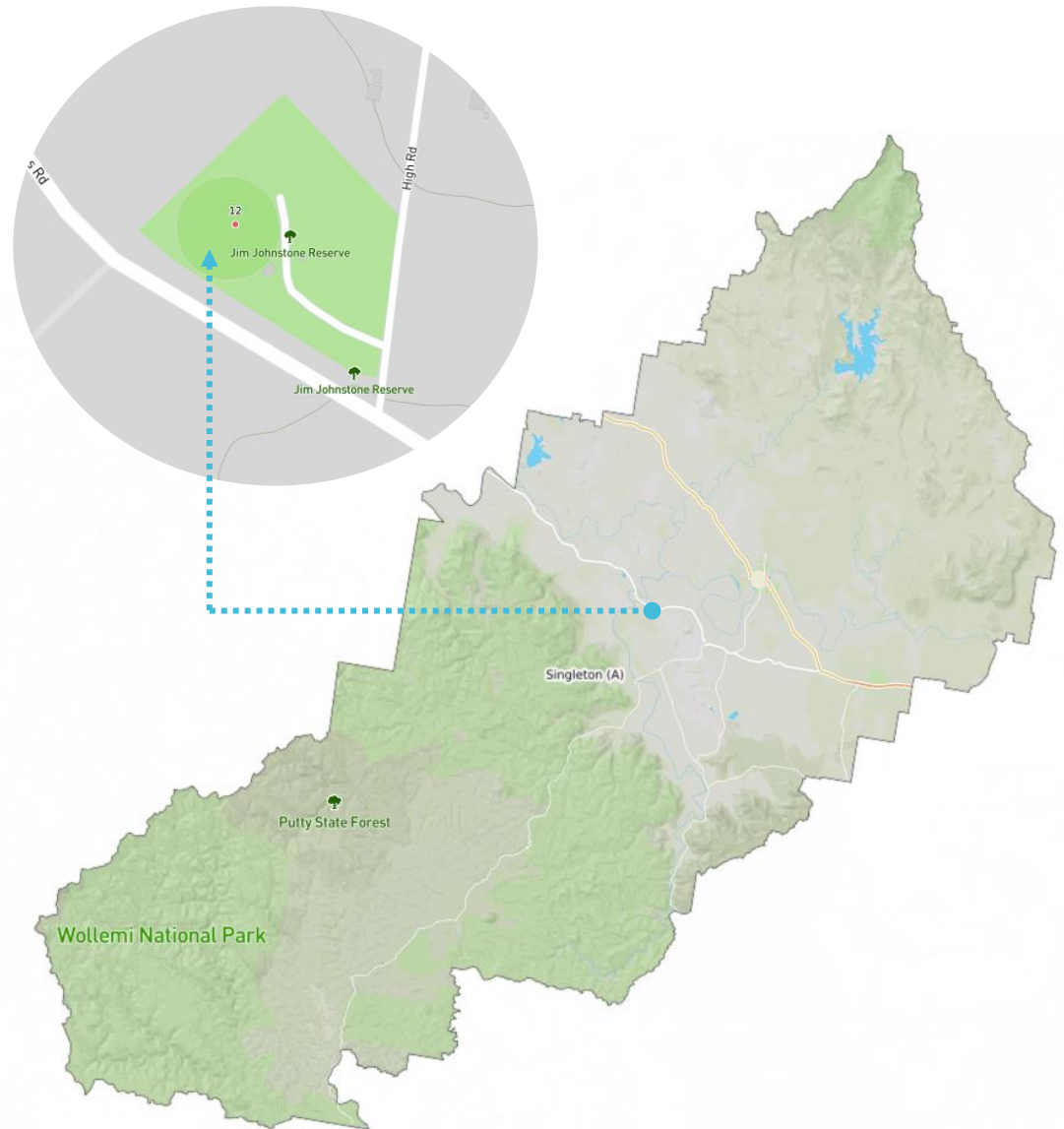
Playing Field



Public Toilet Block



Playground





## SITE OVERVIEW AND USAGE

Jim Johnstone Park is an open space reserve with one playing field which is primarily used for informal recreation and camping. The Reserve is situated 20 km from the Singleton town centre and is supported by a public toilet block with male/female/accessible facilities and a local playground. The Reserve sits within bushland setting, with access via gravel driveway from main road and an open air shelter/pavilion area offers picnic amenities.

Jim Johnstone Park is classified as a **village recreation reserve**.

### PLANNING CONTEXT

A NSW Government Property Search on Jim Johnstone Park indicates that it is zoned RU1 – Primary Production and is subject to the Singleton Local Environment Plan. There are no recommendations for Jim Johnstone Park within the Singleton Open Space and Recreation Needs Study.

### PARTICIPATION

Aside from use as a local rest stop and break area for local mining staff and for informal recreation activities, the only other anecdotal participation information was provided through the community survey in which a respondent noted that the facility *was utilised* as an overflow ground when turf wickets are unavailable. As at April 2021, the cricket pitch is considered unusable for any level of competitive cricket.

According to REMPLAN, the area of Warkworth had a population of 45 on Census Night in 2016. This represents 0.2% of the total population in Singleton. It is likely that the Reserve would see limited other passive use by the community.



Picnic shelter



Community playground



Disused cricket pitch

## FACILITY AUDIT FINDINGS

An audit of Jim Johnstone Park was undertaken in April 2021. Observations included:

- The oval surface considered to be in very poor condition due to vehicle traffic.
- Cricket pitch is not usable beyond informal recreational use.
- Open shelter with picnic tables for park users in poor condition with general maintenance and cleanliness an issue.
- Playground offers limited play value.
- Gravel / dirt vehicle roadways and car parking areas are likely to be subject to flooding and drainage issues.

JIM JOHNSTONE PARK – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Rating
Surface	Cricket Oval	50m radius from centre wicket	50m radius from centre wicket (seniors)	Yes	Very Poor	
Amenities	Toilet Block	5m x 5m	N/A	Yes	Very Good	
Amenities	Picnic Shelter	13m x 7m	N/A	Yes	Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

As there is no organised sporting participation at Jim Johnstone Park, consultation with peak sporting bodies and clubs is not applicable. Preliminary opportunities and priorities have been identified based on the findings from facility audits, community consultation and other strategic supporting documentation.

## COMMUNITY IDENTIFIED NEEDS

- Desire to reinstate the cricket pitch as a suitable cricket venue in times when turf wickets are unavailable and as a recreational activity.







## PRELIMINARY OPPORTUNITIES + PRIORITIES

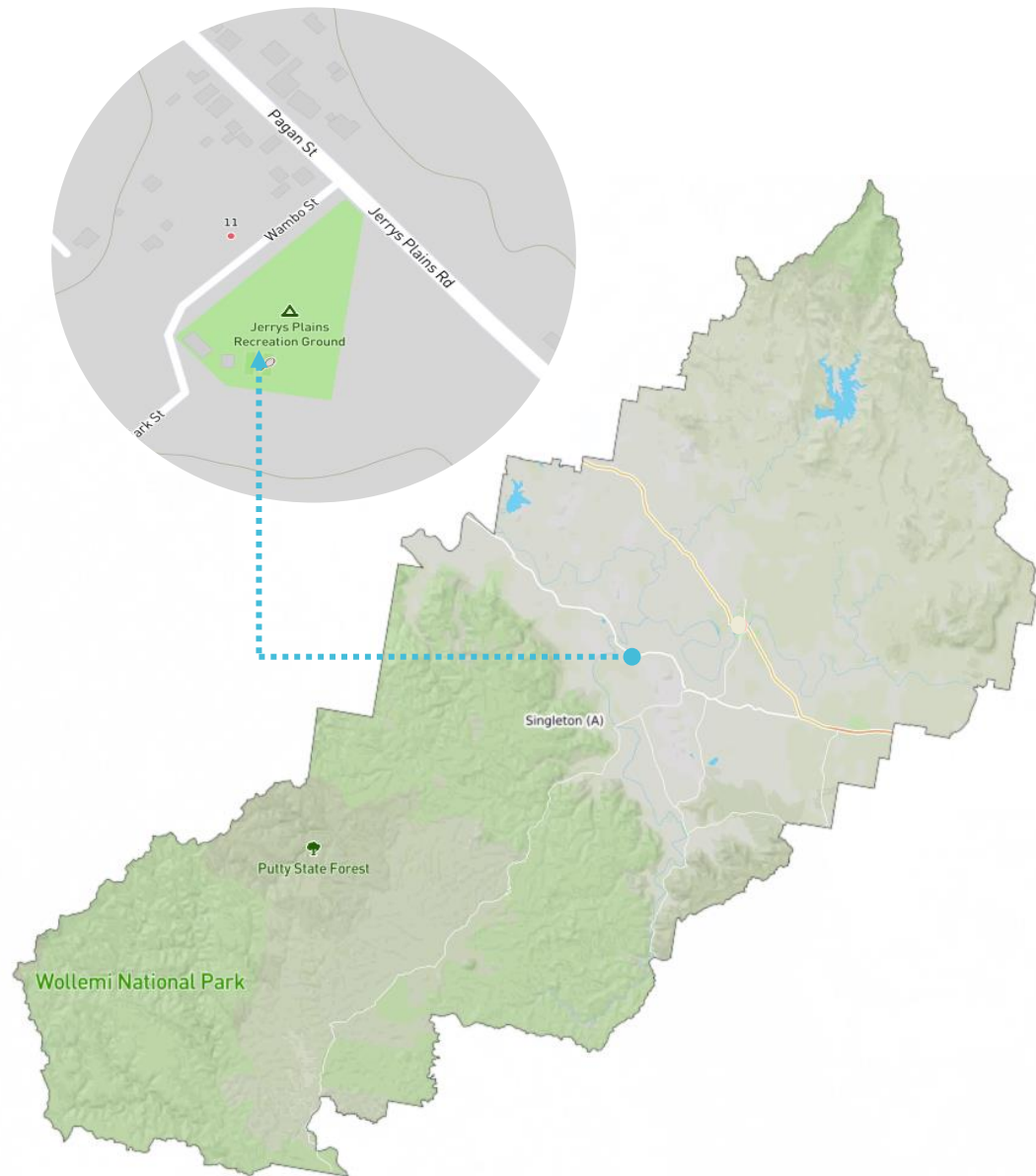
- **Improve maintenance regimes and upkeep of existing infrastructure to meet the needs of visitors and/or those using the facility as a rest spot.**
- **Obtain more data around usage of facility as an overflow sporting venue. Consider surface and centre wicket upgrades if demand is demonstrated.**
- **The Reserve offers limited value as a sporting asset, but offers open space or recreational play value to local residents and the local working population.**

# JERRYS PLAINS RECREATION GROUND

## SITE SUMMARY

Village Recreation Reserve

-  Open Space
-  Community Tennis Court
-  Community Multi-purpose Court
-  Camping
-  Playground
-  Public toilet block





## SITE OVERVIEW AND USAGE

Jerrys Plains Recreation Ground is a well provisioned, community facility that is a popular location for casual camping. The venue has two acrylic hard courts – one for tennis and one for basketball/small sided soccer. Both are floodlit. In addition there is a local level playground and single cricket net, along with an open space area for camping / car parking. A small community pavilion consisting of a kitchenette and meeting area and amenities for campers including accessible toilets, picnic tables and BBQ facilities are also onsite. Jerrys Plains Recreation Ground is classified as a **village recreation reserve**.

### PLANNING CONTEXT

A NSW Government Property Search on Jerry's Plains Recreation Ground indicates that it is zoned RU1 – Primary Production and is subject to the Singleton Local Environment Plan.

The Singleton Open Space and Recreation Needs Study identified through community consultation that a community/school oval is a desired need to support school and local sport participation, as well as events and celebrations. The Study also notes that reserves such as Jerrys Plains are a hub for the community and provide for local formal and informal opportunities as well as facilities for visitors.

### PARTICIPATION

Aside from use by campers and informal recreation, no other data or insights are available regarding use of this facility. Through community consultation, there was strong community sentiment regarding the reserve and many ideas for improvement that would increase visitation and informal participation.

According to REMPLAN, the area of Jerrys Plains had a population of 230 on Census Night in 2016. This represents approximately 1% of the total population in Singleton. It is likely that the use of the reserve sees a balance of campers/tourists and locals.



Community tennis court & clubrooms



Community multi-purpose court

## FACILITY AUDIT FINDINGS

An audit of Jerrys Plains Recreation Ground was undertaken in April 2021. Observations of the facility included:

- Acrylic courts are fit for purpose and mostly in moderate condition. Some cracking of the base and dirt build up on court surface is present.
- Lighting levels are insufficient and well below Australian Standards.
- The pavilion presents neatly and serves a local purpose for court users and casual campers accessing toilet and picnic amenities.
- A single concrete cricket practice facility is provided which is of an informal nature, designed for casual use.

Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Court	Tennis Court	35m x 18m	35m x 17m (total playing area)	Yes	Moderate	
Court	Multi-purpose Court	35m x 15m	N/A – multi purpose facility	Yes	Moderate	
Court	Lighting	18 lux – 35 lux	250 lux	Yes	Very Poor	
Surface	Cricket Practice Net	11m x 2m	20m x 3.6m	Yes	Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

As there is no organised sporting participation at Jerrys Plains Recreation Ground, consultation with sport and clubs is not applicable. Preliminary opportunities and priorities however have been identified through findings from facility audits, community consultation and other strategic supporting documentation.

### COMMUNITY IDENTIFIED NEEDS

- A strong desire for greater maintenance and upkeep of the facility.
- More recreation opportunities for older children (e.g. 9-14 years).
- More shelters and natural shade, including consideration for shade over the playground.
- Upgrade of open space area.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- Enhance overall maintenance activity of facility, particularly court cleaning.
- Create more play and informal recreation opportunities to enhance offerings for local participation.
- Enhance facilities to improve visitor experience.



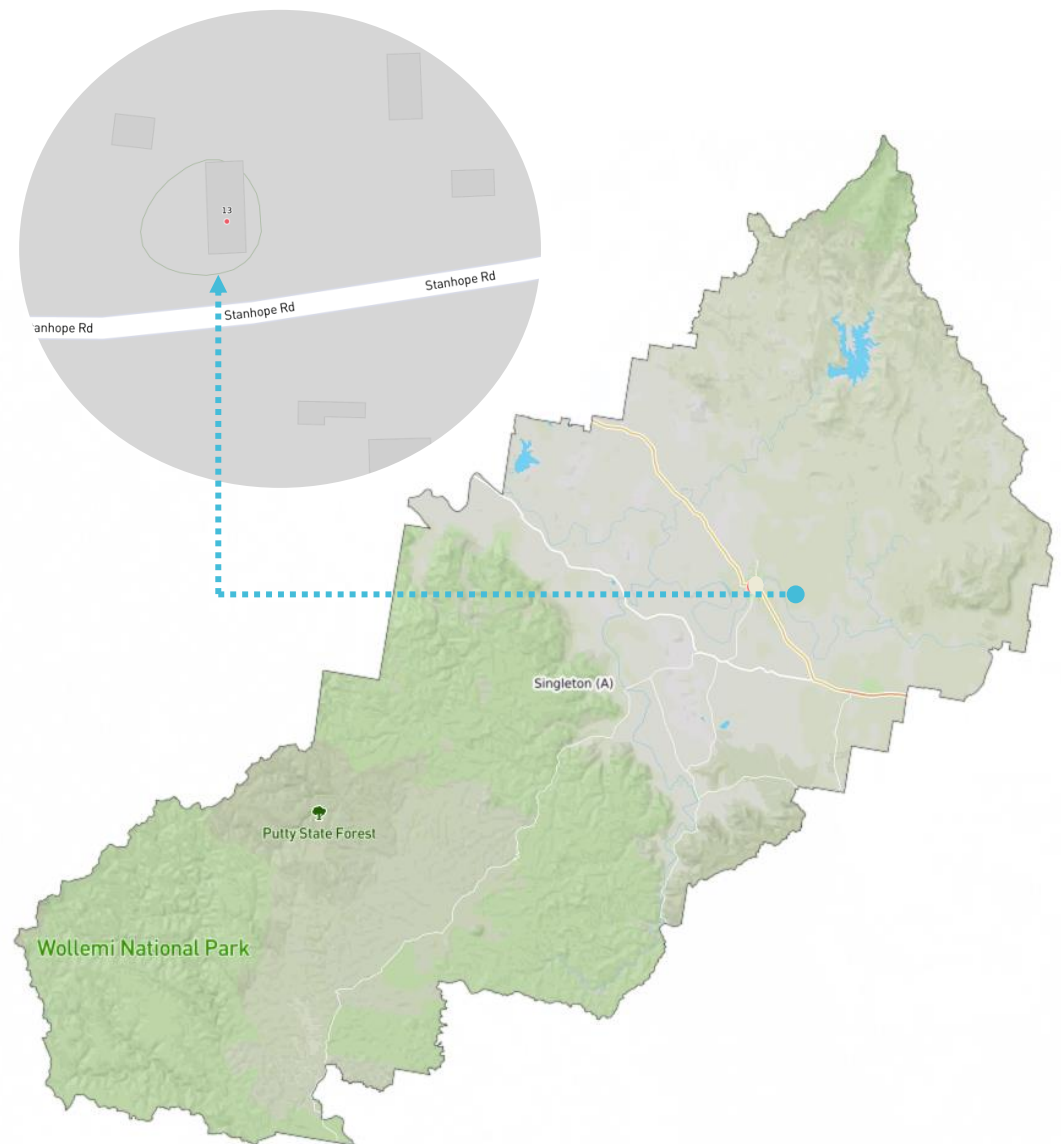
# STANHOPE TENNIS

## SITE SUMMARY

Village Recreation Reserve



Community Tennis/Multi-sport Court



## SITE OVERVIEW AND USAGE

Stanhope Tennis is a single tennis court facility (floodlit – coin operated), with recessed fence suitable for small sided soccer games. It is located in the rural township of Stanhope. The Reserve is supported by a small seating area with BBQ and playground. The facility is situated on the same land parcel as the NSW Rural Fire Service. A small weatherboard community facility includes a small kitchen and meeting space.

**Stanhope Tennis is classified as a village recreation reserve.**

### PLANNING CONTEXT

A NSW Government Property Search on the Stanhope Tennis facility indicates that it is zoned RU1 – Primary Production and is subject to the Singleton Local Environment Plan.

The Singleton Open Space and Recreation Needs Study identified the facility as a “Tier 3” venue in the ‘open space provision tiers’ and notes that it would serve the Stanhope population adequately.

### PARTICIPATION

No information on formal usage was available for this facility.

Access to the tennis courts and public toilets is available via the NSW RFS on request. The playground is accessible via an unlocked gate.



Community tennis court



Court surface cracking

## FACILITY AUDIT FINDINGS

An audit of Stanhope Tennis was undertaken in April 2021. Observations included:

- Acrylic court has significant cracking throughout the runoff areas and signs of pavement failure near the enclosure edges.
- Some repaired cracking on playing surface, likely to fail again over time.
- Acrylic surface has dirt build up that requires high pressure cleaning.
- Coin operated floodlighting exceeds recommended standards for recreational tennis.
- Soccer and basketball infrastructure built into fencing. Tennis court did not have a net at the time of inspection.
- Community building presented neatly and combined with outdoor area and playground offers basic community facilities.

STANHOPE TENNIS – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Court	Tennis Court	33m x 15m	35m x 17m (total playing area)	Yes	Moderate	
Court	Floodlights	370 lux	250 lux	Yes	Excellent	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

### IDENTIFIED STAKEHOLDER NEEDS

As there is no organised sporting participation at the Stanhope Tennis facility, consultation with peak sporting bodies is not applicable. Preliminary opportunities and priorities however have been identified based on the facility audits, community consultation and other strategic supporting documentation.

#### COMMUNITY IDENTIFIED NEEDS

- No priorities identified via community survey.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- Gain a greater understanding of facility usage and access to guide priority improvements.
- Pressure clean court surface and patch surface cracking.
- Given high provision of floodlighting, there is opportunity for the facility to be well utilised year round, particularly in winter months.

# VICTORIA SQUARE

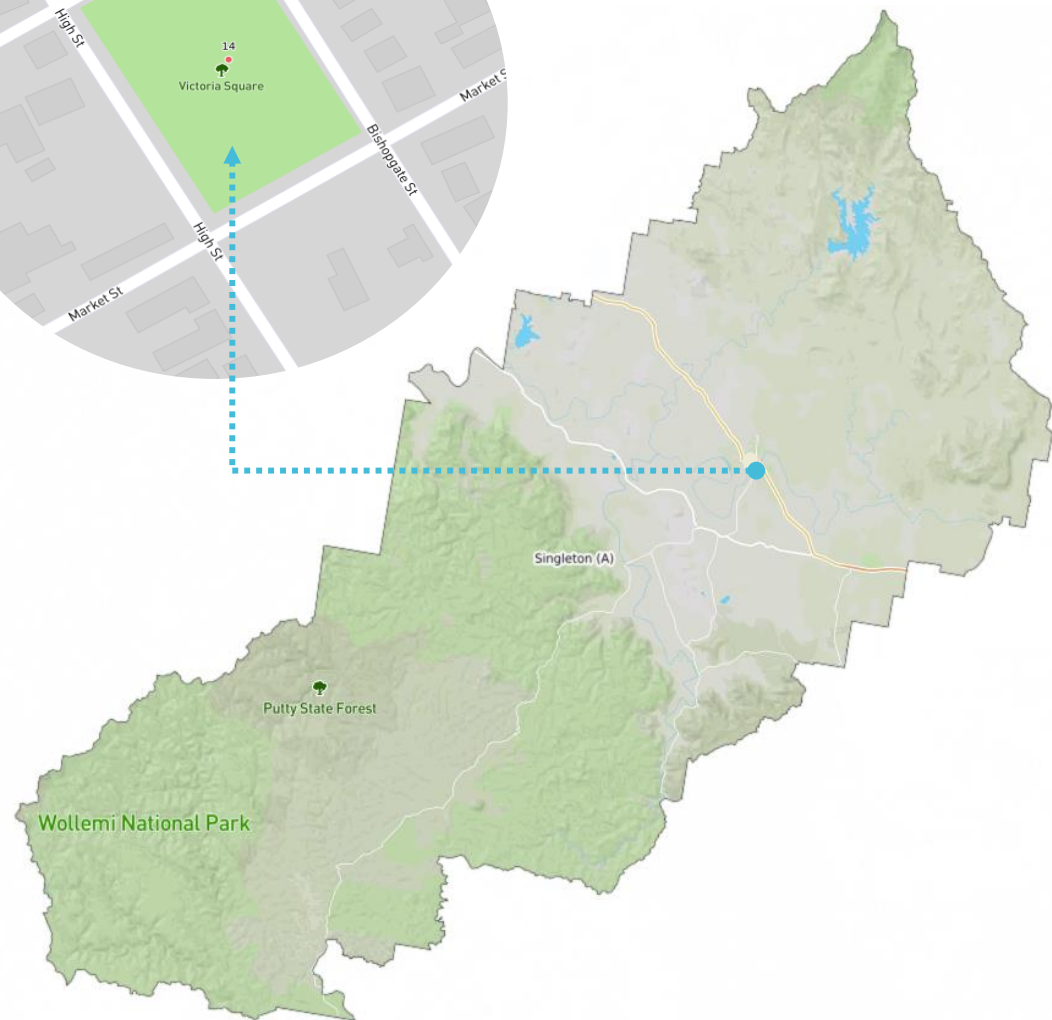
## SITE SUMMARY Local Sports Ground



Active Open Space

1

Playing Field



**SINGLETON**  
COUNCIL



## SITE OVERVIEW AND USAGE

Victoria Square is centrally located in Singleton and consists of a small playing field with a centre cricket wicket suitable for junior use. It also provides a public toilet block (currently locked and unusable). The Reserve is bordered by natural shade trees and is located opposite the Police Citizens Youth Club (PCYC).

**Victoria Square is classified as a local level facility.**

### PLANNING CONTEXT

A NSW Government Property Search on Victoria Square indicates that it is zoned R1 – General Residential and is subject to the Singleton Local Environment Plan. It is located within a flood planning area.

The Singleton Open Space and Recreation Needs Study identified that a suitable park, such as Victoria Square, could be further enhanced to provide the Singleton community with a higher quality and more diverse experience. The Study also identified that Victoria Square is under-utilised but is an important informal, informal kick-about space for local residents.

### PARTICIPATION

Victoria Square experiences informal participation and casual use by the Police Citizens Youth Club (PCYC). The PCYC run a significant number of programs and consistently attract around 1,000 members (60% female, 40% male), with signs of growth in the past few years. Programs are generally conducted indoors at the adjacent centre, however overflow and holiday program activities are also conducted outdoors at Victoria Square.

The Singleton District Cricket Association has used the facility for juniors in previous years, however are not using the venue at this point in time.



Public toilet facilities



Community field



## FACILITY AUDIT FINDINGS

An audit of Victoria Square was undertaken in April 2021. Observations of the facility included:

- Playing surface area would be suitable for junior sport due to its dimensions (37m boundary radius).
- Playing surface is in moderate condition, but doesn't appear to be maintained to sporting surface standard.
- Public toilet block situated in the south-west corner is outdated and locked.
- The centre cricket pitch is concrete (no synthetic surface) and boundary is 37m, meaning it only serves an informal and recreational purpose (ie. not competition standard).
- There is no floodlighting or other supporting amenities provided.

VICTORIA SQUARE – FACILITY AUDIT FINDINGS						
Area	Area components	Size (sqm) / Performance	Preferred minimum standard	Suitable for all gender use	Condition rating	Overall Rating
Playing Field	Oval	100m x 67m (football) 37m radius from centre of wicket (cricket)	90m x 50m for football (soccer) 40m boundary radius for junior cricket	Yes	Moderate	
Playing Field	Cricket Wicket	25m x 1.8m	25m x 2.4m	Yes	Poor	
Amenities	Toilet Block	5m x 5m	N/A	Yes	Poor	

- Critical gap in facility provision/condition identified
- Moderate gap in facility provision identified
- No facility gap identified. Meets preferred standards

## IDENTIFIED STAKEHOLDER NEEDS

Consultation with the PCYC occurred through the club engagement process and their identified needs and limitation are listed below.

### SPORT IDENTIFIED NEEDS

Whilst cricket has not been played at Victoria Square for a period of time, minor infrastructure improvements would see the facility playable again.

These include:

- Heightened levels of service/maintenance on playing field area including regular mowing.
- Covering of the centre wicket with a synthetic surface to meet preferred recommendations of the modern game.
- Widening the wicket to meet preferred standards as it currently falls short. This would also help facilitate junior participation where minimum width is recommended.

### CLUB IDENTIFIED NEEDS

- Approximate increase of 50 new members per year at the PCYC may encourage greater use of facilities.
- Due to current membership increases, PCYC indoor facilities are experiencing some capacity pressure, particularly outside of school hours.
- An additional overflow space is welcomed, but the current provision at Victoria Square has limited appeal and function.

### COMMUNITY IDENTIFIED NEEDS

- Upgrade toilets.
- Provide play facility.
- Improve quality of playing field/open space area.

### PRELIMINARY OPPORTUNITIES + PRIORITIES

- **Ascertain role and function of Victoria Square, including whether its primary focus is an informal recreation or organised sporting facility.**
- **If organised sport/use of the cricket facilities is expected to see demand, address the centre wicket and playing surface to assist future participation. Upgrades to public toilets and basic spectator amenity is also recommended.**
- **If informal recreation is the focus of the site, consider recommendations proposed in the Open Space and Recreation Needs Study. Provide more multi-use opportunities for the community including a variety of play components, improved toilet facilities and more seating and supporting amenities. Some formalise hard-court provision along the High Street frontage could also be considered.**



## OBSERVATIONS AND OPPORTUNITIES SUMMARY

*Dunolly (Pirtek) Park, Dunolly*



# OBSERVATIONS AND OPPORTUNITIES OF SPORT AND RELATED INFRASTRUCTURE IN SINGLETON

Through a review of strategic information, facility audits, investment opportunities and stakeholder consultation, a range of preliminary observations and opportunities have been identified and will help to guide and inform the Draft Strategy and associated recommendations. Observations and opportunities have been categorised into Facilities, Participation and Use, and Planning, Investment and Partnerships themes.

## FACILITIES

- There are varying levels of maintenance and facility upkeep, particularly between Village sites and active sporting facilities. A review of the existing facility hierarchy and associated levels of service should be considered to create a more consistent approach across the network of sport and recreation infrastructure.
- The off-field amenities at many active sporting reserves (ie. District level sites) are not meeting the needs of clubs/user groups or the recommended sporting provision guidelines. Most notably, core facility attributes, including gender neutral change rooms and amenities, referee/umpire change facilities and social rooms/kiosks/canteens are generally limited in provision and do not meet the expectations of their respective sports.
- On-field, the condition of playing surfaces at active sporting reserves is generally good and meets the needs of sport. In some instances, opportunities to further equip facilities to respond to the impacts of drought and flood events could be explored.
- At local level facilities, primarily those used for junior or overflow use, the availability of basic amenities, such as toilets and spectator shelter/shade, is limited. Opportunities to increase basic provision will support greater participation and use by informal sport and address a community desire for greater access to toilet facilities at sporting reserves.
- At most sports grounds there is a gap in the provision of sports lighting to meet minimum standards for training and/or competition. Adequate lighting will help to retain and attract participants as well as improve the programming and capacity of facilities. It will also address a clear need established through consultation that lighting is a top priority for both clubs and the community. At some Village sites, sports lighting is available for community use which has varying capability. Further understanding of usage and demand will assist in prioritising future investment.
- Village sites, as well as Albion Park, Victoria Square and Gowrie Park seem undefined in purpose. Community consultation indicates that there is a desire for the embellishment of these reserves to offer more informal recreational opportunities and greater enjoyment of passive spaces. Active and competitive sporting opportunities is not the key driver for use at these sites.
- Other Village sites, including Bulga, Jim Johnstone and Jerrys Plains facilities, service both recreational needs for townships as well as the camping/tourist/visitor sector. Provision levels that satisfy both roles need to be considered through future Council policy.
- Future infrastructure at District level sporting reserves should aim to meet the preferred guidelines outlined by peak sporting bodies (where applicable) and in-line with relevant facility hierarchy. Providing facilities that are above or outside of recommended guidelines may result in the need for greater levels of servicing by both Council and clubs, as well as potential asset underutilisation.
- Through the Community Survey, 64% of respondents indicated that the most frequently used infrastructure item at sports grounds is *public toilets* followed by use of *oval/sportsground* (62%).

## OVERARCHING GAPS IN COUNCIL OWNED AND MANAGED FACILITY PROVISION

The following were identified as the critical overarching gaps in sporting infrastructure provision across the Singleton Council area. These gaps will form the foundation of future strategy development and will be the focus for related capital planning development recommendations.



### Field of play lighting

Field of play lighting levels are inconsistent across many sites, with limited LED lighting systems in place. In some instances, minimum levels to support training are inadequate and few sites provide lighting for match conditions. The current level of lighting provision limits the capacity of grounds / courts and impacts the sustainability and operating costs of lighting.



### Fit-for-purpose infrastructure

Existing pavilions and clubrooms are not fit for purpose, they provide limited social amenities and do not cater for all gender use. Existing buildings limit the capacity of clubs to conduct their activities, generate revenue and provide quality experiences for users and spectators. Venues such as Civic Park provide no access to clubrooms. The ability to attract and retain participants will be restricted over time if improvements are not made.



### Single purpose use

Dedicated sporting facilities (predominately playing fields) and sites currently provide for single purpose use, with some limitations to seasonal or multi-use sharing. This increases the annual operating costs of sites where costs cannot be shared by multiple users. Where playing field capacity is challenged at peak times, greater opportunities for shared use could be explored prior to the development of additional playing fields.



### Spectator accommodation

Few sports grounds provide adequate spectator viewing amenities (particularly covered viewing). This is often linked to the limited provision of clubroom and social facilities. This impacts the experience of parents, families and spectators, particularly at major sites that attract hundreds of people to weekly activities.



### Maintenance and service levels

Maintenance levels, particularly at Village Recreation Reserves, are not keeping pace with service levels required to provide safe and functional facilities. Where levels of service are not being delivered, premature degradation of sport and recreation amenities are being experienced (e.g. court cracking, fencing deterioration, cricket net issues) and will require renewal within more regular intervals than expected. Site use and activation levels can also be impacted at sites where the quality and condition of infrastructure is lacking.



## PARTICIPATION & USE

- There are many single purpose sporting facilities in Singleton, with some shared playing fields between sports. To assist in leveraging investment, as well as increased asset utilisation and participation, consideration towards greater programming of facilities could be investigated, where capacity constraints are identified.
- Local sporting clubs primarily service the Singleton Council area market, many with healthy participation figures including large clubs with significant (250+) memberships.
- Participation numbers in organised sport have been reported as generally stable. Any change is likely to continue in-line with population projections, which see limited overall change in the number of persons living in Singleton to 2036.
- A number of clubs indicated that there has been a decrease in participation due to the impacts of COVID-19. Monitoring of participation, including improved data collection and reporting methods, and support for clubs to re-engage participants should be considered a priority.
- Age cohorts within the Singleton population will see marginal fluctuations between 2021 and 2036. This includes small decreases across several younger age groups who are generally the target market for organised sport (5 to 39 year olds). These changes are likely to drive and influence activity preferences.
- This trend however does not appear to be an unusual circumstance in Singleton, due to the transient nature of the workforce, particularly for those in the mining and defence sectors. Many clubs through consultation indicated that demand for their activities and programs tend to change depending on employment status of participants (and parents of children) and also due to the pursuit of higher educational opportunities outside the immediate area. These trends pose some risk to the ongoing sustainability of sports clubs.
- Initial observations and assessment of sporting clubs is “there appears to be enough playing fields and courts” for the majority of the week, with some capacity issues at peak times. These capacity issues however are likely to be able to be addressed through increasing the capability of fields and varied approaches to programming and activity scheduling.
- A number of the smaller clubs in Singleton have limited junior and female participation which is considered critical to club sustainability. In contrast, the larger clubs offer greater diversity across genders and age groups. Reasons being may include activity type, competition structures, catchment population, facility provision or club governance and culture.
- Community consultation indicates that 71% people visit sporting facilities in Singleton between 1-4 times per week with 60% attending to participate in a formal sporting activity and 19% for passive recreation purposes.



Photo courtesy Singleton Track & Field Club

## PLANNING, INVESTMENT & PARTNERSHIPS

- There is existing strategic planning in place for a select number of sites, such as master plans (e.g. Alroy Oval), which help set the future direction for these venues. Outside of these facilities, a lack of planning may inhibit the structured prioritisation of investment.
- The provision of facilities that are multi-use, gender neutral, accessible and offer opportunities for participation across the residential population's lifespan should be the future goal for facilities in Singleton. This will align more closely with the priorities of investment partners including State and Federal Government. Multi-purpose facility outcomes will ensure sites are flexible in their provision and better placed to meet a greater range and changes in demand into the future.
- There is a general sense of cooperation between sports and sporting codes, with opportunities to encourage greater dialogue and improved working relationships. Council may be able to play a role in assisting these discussions.
- A number of large scale building projects have been identified for future investment (e.g. new clubrooms and match day amenities at Pirtek Park). A prioritisation framework and the identification of a pipeline of infrastructure projects will be a key deliverable of the Strategy.
- Project readiness, including the preparation of concept plans and quantity surveys (ie. project cost plans), has been identified by Council as a requirement of clubs seeking large amounts of investment and/or to be considered as part of a grant funding application. Through consultation, it was identified that some clubs don't have a clear understanding of how to undertake this process and that further support by Council may be required.
- A number of sporting clubs indicated via consultation that they had prepared or were preparing strategic plans to their club direction and resource requirements. Continued assistance and completion of these plans for all clubs should be a focus moving forward.
- A number of NSW state sporting bodies (often supported by national bodies) have prepared State Facility Strategies (or similar) and/or related facility guidelines that identify key priorities for investment. Known State Facility Strategies with regional level directions have been completed by Football NSW / Northern NSW Football, AFL NSW-ACT, Cricket NSW.
- There are opportunities for significant investment via a number of partners and programs. Aligning strategic site planning and funding applications with those of partners and stakeholders will improve opportunities for success.
- A number of Singleton sporting clubs indicated that they have potential to provide financial contributions towards funding of infrastructure projects and grant applications. Investment into infrastructure sinking funds by clubs (where applicable) should continue to be encouraged.
- Investment opportunities which involve partnerships with State and Federal Government will require a demonstration of inclusivity and diversity across age groups and genders. Clubs that cannot demonstrate these outcomes will likely require further support to generate outcomes in these areas.
- Continuing and strengthening relationships between Council, Singleton's Sports Council, clubs, peak sporting bodies and other stakeholders including local, state and federal partners to collectively identify future funding opportunities and undertake further planning of Singleton's sporting facilities should occur.





# ENGAGEMENT OUTCOMES AND SUBMISSIONS REPORT

## Singleton Community Sports Infrastructure Strategy

January 2021

## 1. INTRODUCTION

Whilst sport is an integral part of the Singleton community, there is currently no single overarching strategy that creates a unified vision for investment in sports infrastructure within the Singleton LGA. An action to address this issue is contained within the Sports Council Action Plan, that was developed in consultation with the Sports Council in 2018.

The draft Singleton Community Sports Infrastructure Strategy has been prepared by Inside Edge Sport and Leisure Planning in consultation with Council officers, sports clubs, state sporting organisations and the broader community. It considers the current and future demand for sport and related facilities within the Singleton LGA, adopted strategic plans and the ongoing sustainability of facility development and maintenance to guide future facility planning, investment and project prioritisation. It ultimately provides a 10-year capital plan for each of the 14 community sportsgrounds and active recreation reserves that are the focus of the Strategy.

At its meeting of 1 November 2021 Council endorsed the exhibition of the draft Singleton Community Sports Infrastructure Strategy. An engagement plan was developed for the exhibition period from 17<sup>th</sup> November until 17<sup>th</sup> December 2021

The purpose of the engagement was to publicly exhibit the draft Singleton Community Sports Infrastructure Strategy. Feedback on the draft plan was sought through a formal process with responses to be considered by Council in the review of the final plan.

A total of 4 written submissions were received during the consultation period. This report provides an overview of the engagement methods used to inform and seek feedback on the draft plan, the outcomes of the engagement process including a summary of the submission responses and engagement recommendations.

This report does not include any issues raised in one-on-one conversations with individuals. In the event that any issues were raised in conversations with Council Officers during the exhibition period, individuals were directed to prepare a formal submission, either in writing or online, for Council's consideration.

## 2. METHOD

The draft Singleton Community Sports Infrastructure Strategy was exhibited period from 17th November until 17th December 2021.

A range of online and offline engagement methods were used to inform and consult with the community, including public displays and online engagement using social media. Further details of all engagement methods are detailed below.

### SINGLETON EDIT COVER STORY

The Spring/Summer issue of the Singleton Edit was distributed to every household in the LGA in late November/Early December with the draft Singleton Community Sports Infrastructure Strategy as its cover story.





The article promoted the launch of the public exhibition period and directed readers to Council's website to view the draft strategy.



Image 1: Article in the Singleton Edit

## MEDIA

Information regarding the exhibition of the draft Singleton Community Sports Infrastructure Strategy was provided through the following media channels;

- General Manager's radio interview (3 November 2021)
- General Manager's column – Singleton Argus (5 November 2021)
- General Manager's column – Hunter River Times (10 November 2021)

The community was encouraged to read the strategy and forward their thoughts to the General Manager via email or post.

## SPORTS COUNCIL EMAIL

On 24<sup>th</sup> November 2022, the members of the Sports Council were emailed advising them of the exhibition of the draft Singleton Community Sports Infrastructure Strategy and encouraging them to view the document on Council's website and provide feedback.

## ADVERTISING ON THE VMS BOARD

Notification of the public exhibition of the draft Singleton Community Sports Infrastructure Strategy was placed on Council's VMS board at Townhead Park from 24 November until 10 December 2021.

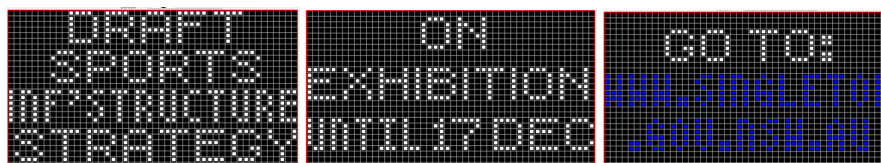


Image 2: Text on Council's VMS Board



## SOCIAL MEDIA

Council's Facebook Page was utilised during the consultation period to promote the exhibition of the draft Singleton Community Sports Infrastructure Strategy. Two posts were published on the page between Nov 17 and Dec 6.

Facebook posts provided a summary of the strategy, a link to the document on Council's webpage and instructions on how to provide feedback. One post also promoted the Singleton Edit. The Spring/Summer issue of the Singleton Edit was distributed to every household in the LGA in late November/Early December with the draft Singleton Community Sports Infrastructure Strategy as its cover story. The posts received a combined 35 engagements and 2,000 post impressions with a reach of over 1909 people.

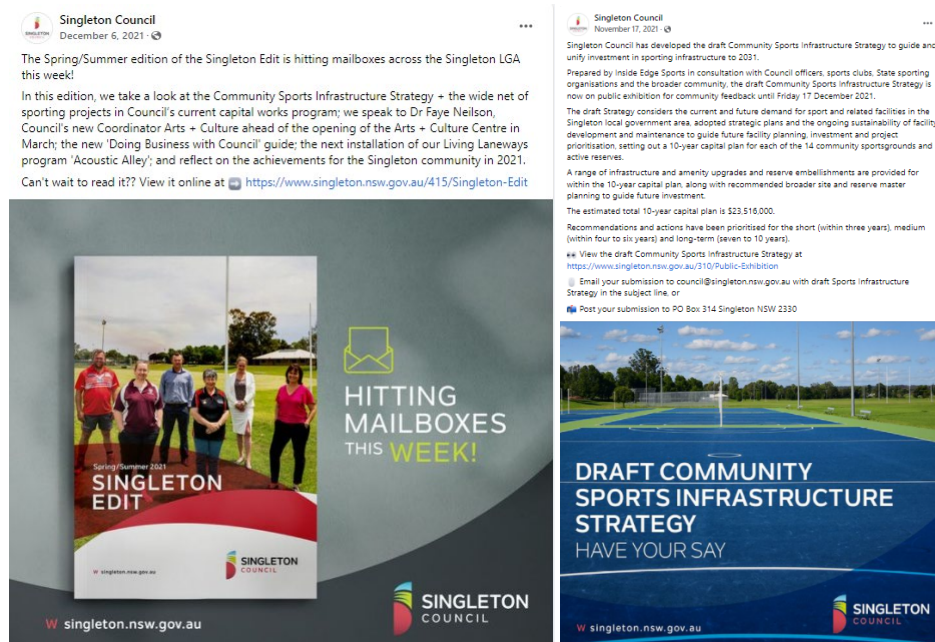


Image 3: Facebook Posts

## COMMUNITY DROP IN

Community drop-in sessions were not held due to current Public Health Advice pertaining to Covid-19.

## 3. SUBMISSIONS

A formal submission process was utilised to seek community feedback on the publicly exhibited draft Singleton Community Sports Infrastructure Strategy from 17<sup>th</sup> November until 17<sup>th</sup> December 2021. Feedback was able to be provided in writing.

A total of 4 written submissions were received.

## RESPONSE TO FEEDBACK RECEIVED



Council's response to issues raised through feedback received is provided in Table 1 below.

Table 1: Response to Feedback Received

ITEM	SUMMARY OF ISSUE	SUBMISSION REFERENCE	RESPONSE
1	Concern that the Singleton Golf Club was not included in the surveys conducted or consulted at any stage of the process and is not included in the final report	21/95378	The consultants spoke with two representatives from the Golf Club who indicated that they were happy to assist. A survey was subsequently emailed to them both on the 27 <sup>th</sup> September. They committed to providing a response to the survey but it was not submitted. No further information was provided.
2	Need for council infrastructure works in the form of improved drainage across the Howe Park Reserve so that heavy rains can flow across the reserve and not bank up as the downstream flow of the drainage channel is restricted and cannot handle the larger volumes of water as shown with the recent rains.	21/95378	Noted. Feedback will be considered in future works programs.
3	Page 94 makes a reference in the document to Howe Park with no reference at all to the Golf Club being part of the reserve	21/95378	P94 has been updated with the following note included "Note: Howe Park is also home to the Singleton Golf Club, which shares land with the adjacent sporting facilities. However, the golf course does not form part of the study area or this Report. Refer to Page 8 for venue inclusions."
4	Page 99 refers to the possible utilisation of the Golf Club greenkeeper in the maintenance of the tennis courts. We are informed by the club greenkeeper that he was approached by the survey team about this possibility. We are concerned that an employee of the Golf club was approached without permission or consultation with his employer. The Club are not totally against this proposal but would have considered consultation appropriate before it is issued in a public document.	21/95378	The consultants did not approach the greenkeeper or speak with him in regards to this proposal. The idea was suggested by the tennis club and included in the document as a suggestion.
5	Page 127 refers to council support of the 14 locations and their users for grant applications. We trust this	21/95378	Page 43 has been updated to reflect this point and that while the 14 identified locations are



	support will also be ongoing for all other sporting organisations at a similar level.		“Council’s” priorities, all groups and clubs represented by the Sports Council would be supported to apply for grant funding (this is already referenced on page 18 and page 10 identifies Sports Council members and its role to support member groups).
6	Page 8 – Item 21 Singleton Mountain Bike Track at Rolling Stock Reserve, Maison Dieu should read Travelling Stock Reserve.	21/100836	Noted and updated.
7	Page 31 and 32 - The 10 year capital plan for district sports on pages 31 and 32 does not include any estimated capital cost figures for mountain bike facilities. The Singleton Mountain Bike Trail Feasibility Study adopted by Council in November 2021 recommended a staged approach and included estimates of costs. The Feasibility Study is mentioned on page 54 of the Sports Infrastructure Strategy but does not include the estimated costs. These estimates should be included in the strategy on pages 31 and 32	21/100836	While MTB riding and associated facility recommendations are not specific outcomes of this Strategy, the continued support for the emerging club and the implementation of an integrated trail network are key recommendations of the 2021 Singleton Council MTB Bike Feasibility Study.
8	Upon reading the draft sports infrastructure strategy, the only sports that aren't included in detail is swimming or Triathlon who use the facilities at the Singleton Gym and Swim. Being a member of the Gym and Swim for over 20 years and being on the committee of Singleton Amateur Swimming Club in the past, I think it is really important to include the sports that use the Singleton Gym and Swim and also to include the number of memberships and the number of general public who use the facility.	21/100099	<p>Reference is made to swimming and triathlon and the use of the Gym and Swim within the strategy.</p> <p>The Gym and Swim (and Heights Sports Centre) were not included in the strategy as both venues are covered by a commercial management agreement which has requirements for facility planning and possible contributions to works (which are commercial in nature and therefore need to be managed that way). While clubs are a very strong focus, there are significant and complex issues at these sites in terms of asset management and operations</p>



9	It is also really important that a facility audit is done on the Singleton Gym and Swim.	21/100099	<p>A mechanical audit and long term plan should be in place, but that sits outside this strategy (and should be undertaken in conjunction with the operator)</p> <p>The Gym and Swim mechanical audit is currently programmed for the 22/23 financial year.</p>
	<p>Some of the facilities that I can see that need to be upgraded or improved are:</p> <p>Upgrade the existing amenities/centre toilet &amp; shower block and especially the men's area, where there is only a communal shower.</p> <p>Replace the Pool pumps or repair existing so the Leisure Pool is back up and running.</p> <p>Improve the Leisure pool area to include more slides and fun areas for the kids in Singleton.</p> <p>Provide solar heating to the 50m pool to extend the swimming/triathlon period or just for the general public or learn to swim programs.</p> <p>Provide better seating around both the 25m &amp; 50m pool.</p> <p>Provide a new shade structure over the grandstand.</p>	21/100099	Noted. Feedback will be considered in future works programs.
10	Swimming is an extremely important life skill to have in Australia and both Swimming and Triathlon are one of the most highly publicised sports when the Commonwealth or Olympic Games are on. It would be extremely beneficial for both sporting groups and the community to have Swimming and Triathlon and the facilities that are used at the Singleton Gym and Swim to be included in more detail in the Sports Infrastructure Strategy.	21/100099	See response to #9 above.
11	<p>Singleton plays in the NSW Northern League 1 which is the second tier of the football competition in the Newcastle / Hunter Valley Region; the first tier being the NSW Northern Premier League.</p> <p>Whilst I concur with the required capital works upgrades to the (Howe Park) clubrooms /amenities / toilets /</p>	21/99130	<p>The strategy has been updated to include the front-end planning for the pavilion in the shorted term.</p> <p>It is felt that delivery of a new amenities within 4-6 years was both reasonable and achievable.</p>





<p>changerooms as detailed on page 32 of the Strategy, I do consider that these capital works should be completed sooner than the timeframes proposed. Page 96 of the Strategy highlights that the gap in the standard of built facilities at Howe Park is critical but the timeframe to address the situation is a medium term of 4-6 years. Surely if the gap is critical then the timeframe to rectify the issue should be short term. Given the current condition of these facilities without significant maintenance in the possible intervening 6 years until capital works are completed, the facilities may very well be significantly substandard. Howe Park is designated within the Strategy as a District Facility meaning that it caters for a wider audience than just the Singleton LGA and therefore should reflect the importance that the Singleton Council and its community place on sporting facilities for not just its residents but also for the residents of the wider Region.</p> <p>As I mentioned earlier, Singleton Strikers play in a competition which attracts officials, referees, players and spectators from the Newcastle / Hunter Valley Region. It should, as a District Facility, be a showcase for Singleton to the rest of the Hunter Valley. At the moment it lags well behind the facilities of most of Singleton's competitors within the League 1 competition. Indeed, I wonder what impression the substandard facilities make on the visitors to Singleton and the lack of pride the Singleton Strikers must have when hosting home games. Although I do not attend cricket games at Howe Park I would suspect the same situation applies.</p> <p>As mentioned in the Strategy, there are 510 participants in football / soccer. It should be a goal to have as many of these juniors as possible continue playing sport at a senior level. Good facilities is one aspect of ensuring juniors transfer to the senior teams.</p>		
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	<p>The Strikers senior team also currently has players who reside outside the Singleton LGA and in the future there may be players who do reside outside the Singleton LGA making a decision on which club / team to play for in a particular competition based in part on the standard of facilities available.</p> <p>If the Strikers wish to attract players and spectators and have pride in hosting teams and visitors from outside the Singleton LGA then I respectfully consider that the timeframe for the required capital upgrades at Howe park should be short term. This will probably require changes to the overall capital works programme to accommodate, although grants and funding from sources such as Resources for Regions should be vigorously pursued.</p>		
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## APPENDIX A: SUBMISSIONS



Jason,

We have reviewed the draft Sports Infrastructure Strategy and commend Council on the compilation of such an all encompassing document for the future of Council sporting grounds. The Singleton Golf Club have been an active member and supporter of the Sports Council. We are concerned however that the Singleton Golf Club was not included in the surveys conducted or consulted at any stage of the process and is not included in the final report. There appears to be inconsistencies between this Sports Infrastructure Strategy and the Draft Howe Park Plan of Management which very much includes the Golf Course.

As the document states, in the note on page 15, part of the golf club is on leased land and therefore is not included in this sports strategy. This land is both council owned or council managed Crown Lands being part of Howe Park. There is on these lands needs for council infrastructure works in the form of improved drainage across the Howe Park Reserve so that heavy rains can flow across the reserve and not bank up as the downstream flow of the drainage channel is restricted and cannot handle the larger volumes of water as shown with the recent rains. The council lands leased are also subject to inundation during heavy rains. This has become a significant issue since the closure of Market and Kent Sts in 2012 when the St Nicholas complex was constructed changing the drainage flow from this area which now floods across Boundary St onto golf club private land and onto the council community land which the club lease. This year alone the golf course has lost 12 days of full playing ability with as many more reduced capability as carts were unable to be utilised.

Page 94 makes a reference in the document to Howe Park with no reference at all to the Golf Club being part of the reserve.

Page 99 refers to the possible utilisation of the Golf Club greenkeeper in the maintenance of the tennis courts. We are informed by the club greenkeeper that he was approached by the survey team about this possibility. We are concerned that an employee of the Golf club was approached without permission or consultation with his employer. The Club are not totally against this proposal but would have considered consultation appropriate before it is issued in a public document.

Page 127 refers to council support of the 14 locations and their users for grant applications. We trust this support will also be ongoing for all other sporting organisations at a similar level.

Thank you for the opportunity to comment.

Des George  
President  
Singleton Golf Club Cooperative Ltd

SUBMISSION 21/95378





17 December 2021

General Manager  
Singleton Council  
[council@singleton.nsw.gov.au](mailto:council@singleton.nsw.gov.au)

**Subject: Submission on the draft Singleton Sports Infrastructure Strategy**

Thank you for the opportunity to make a submission on the draft Singleton Sports Infrastructure Strategy. Singleton Mountain Bike Club makes the following two suggestions to improve the draft strategy :-

- Page 8 – Item 21 Singleton Mountain Bike Track at **Rolling** Stock Reserve, Maison Dieu should read **Travelling** Stock Reserve.
- Page 31 and 32 - The 10 year capital for plan for district sports on pages 31 and 32 does not include any estimated capital cost figures for mountain bike facilities. The Singleton Mountain Bike Trail Feasibility Study adopted by Council in November 2021 recommended a staged approach and included estimates of costs. The Feasibility Study is mentioned on page 54 of the Sports Infrastructure Strategy but does not include the estimated costs. These estimates should be included in the strategy on pages 31 and 32 as detailed below.

Stage	Site	Timeframe	Estimated Cost
Stage 1	Pioneer Rd MTB Track	1-2 years	\$415,000
Stage 2	Bridgman Rd MTB Track	2-5 years	\$515,000

SMTB Club thanks Singleton Council for preparing the Singleton Sports Infrastructure Strategy and providing the Club an opportunity to make comment.

Yours faithfully

Alan Fletcher - Secretary – Singleton Mountain Bike Club Inc

Singleton Mountain Bike Club Inc  
C/- 4 Morris Road, Wattle Ponds, NSW, 2330  
[singletonmtb@outlook.com.au](mailto:singletonmtb@outlook.com.au)  
ABN 92 771 130 984

**SUBMISSION 21/100836**





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Good Afternoon,

Upon reading the draft sports infrastructure strategy, the only sports that aren't included in detail is swimming or Triathlon who use the facilities at the Singleton Gym and Swim.

Being a member of the Gym and Swim for over 20 years and being on the committee of Singleton Amateur Swimming Club in the past, I think it is really important to include the sports that use the Singleton Gym and Swim and also to include the number of memberships and the number of general public who use the facility.

It is also really important that a facility audit is done on the Singleton Gym and Swim.

Some of the facilities that I can see that need to be upgraded or improved are:

1. Upgrade the existing amenities/centre toilet & shower block and especially the men's area, where there is only a communal shower.
2. Replace the Pool pumps or repair existing so the Leisure Pool is back up and running.
3. Improve the Leisure pool area to include more slides and fun areas for the kids in Singleton.
4. Provide solar heating to the 50m pool to extend the swimming/triathlon period or just for the general public or learn to swim programs.
5. Provide better seating around both the 25m & 50m pool.
6. Provide a new shade structure over the grandstand.

Swimming is an extremely important life skill to have in Australia and both Swimming and Triathlon are one of the most highly publicised sports when the Commonwealth or Olympic Games are on. It would be extremely beneficial for both sporting groups and the community to have Swimming and Triathlon and the facilities that are used at the Singleton Gym and Swim to be included in more detail in the Sports Infrastructure Strategy.

Kind Regards,

Debra Fleming

**SUBMISSION 21/100099**



13

I refer to the Draft Singleton Community Sports Infrastructure Strategy and make the following submission in reference to the capital works programme scheduled for Howe Park.

Although I am not affiliated / associated in any formal capacity with the Singleton Strikers Football /Soccer Club I have regularly attended their games as an interested spectator at Howe Park and have attended their away games at Cessnock, Cooks Hill, Wallsend, West Wallsend and Toronto for just on 3 years

As you may be aware Singleton plays in the NSW Northern League 1 which is the second tier of the football competition in the Newcastle / Hunter Valley Region; the first tier being the NSW Northern Premier League. Singleton won the 2020 League 1 Grand Final after finishing 2nd on the points table at the end of the regular season - only 2 points behind the Minor Premiers New Lambton. When the 2021 competition was abandoned due to Covid 19 Singleton were well placed on the points table to defend their 2020 premiership. The Strikers also field teams in All Age competitions within the Newcastle / Hunter Valley Region.

Whilst I concur with the required capital works upgrades to the clubrooms /amenities / toilets / changerooms as detailed on page 32 of the Strategy, I do consider that these capital works should be completed sooner than the timeframes proposed. Page 96 of the Strategy highlights that the gap in the standard of built facilities at Howe Park is critical but the timeframe to address the situation is a medium term of 4-6 years. Surely if the gap is critical then the timeframe to rectify the issue should be short term. Given the current condition of these facilities without significant maintenance in the possible intervening 6 years until capital works are completed, the facilities may very well be significantly substandard. Howe Park is designated within the Strategy as a District Facility meaning that it caters for a wider audience than just the Singleton LGA and therefore should reflect the importance that the Singleton Council and its community place on sporting facilities for not just its residents but also for the residents of the wider Region.

As I mentioned earlier, Singleton Strikers play in a competition which attracts officials, referees, players and spectators from the Newcastle / Hunter Valley Region. It should, as a District Facility, be a showcase for Singleton to the rest of the Hunter Valley. At the moment it lags well behind the facilities of most of Singleton's competitors within the League 1 competition. Indeed, I wonder what impression the substandard facilities make on the visitors to Singleton and the lack of pride the Singleton Strikers must have when hosting home games.

Although I do not attend cricket games at Howe Park I would suspect the same situation applies.

As mentioned in the Strategy, there are 510 participants in football / soccer. It should be a goal to have as many of these juniors as possible continue playing sport at a senior level. Good facilities is one aspect of ensuring juniors transfer to the senior teams. The Strikers senior team also currently has players who reside outside the Singleton LGA and in the future there may be players who do reside outside the Singleton LGA making a decision on which club / team to play for in a particular competition based in part on the standard of facilities available.

If the Strikers wish to attract players and spectators and have pride in hosting teams and visitors from outside the Singleton LGA then I respectfully consider that the timeframe for the required capital upgrades at Howe park should be short term. This will probably require changes to the overall capital works programme to accommodate, although grants and funding from sources such as Resources for Regions should be vigorously pursued.

I thank you for the opportunity to make this submission and your consideration thereof.

David Dwyer

SUBMISSION 21/99130





# WATER SUPPLY SERVICES

## Policy | Water and Sewer

To outline Council's commitment to supplying consistently high quality, safe drinking water to its customers

<b>Policy No:</b>	POL/26030	<b>Version:</b>	3
<b>Service Unit:</b>	Water & Sewer		
<b>Responsible Officer:</b>	Manager Water & Sewer		
<b>Responsible Director:</b>	Director Infrastructure & Planning		
<b>Authorisation Date:</b>		<b>Review Date:</b>	
<b>Minute No:</b>			

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## 1 Background

### 1.1 Title of the Policy and Commencement Date

The Water Supply Services Policy takes effect from the date of adoption by the elected Council. Refer to Policy Register information provided on the cover page.

### 1.2 Purpose of the Policy

The purpose of this policy is to outline Singleton Council's (Council's) commitment to a consistent and high-quality water supply service, delivering safe potable water to our consumers while protecting Council's infrastructure. The policy forms the basis for the operation of Council's water supply services including treatment, storage, distribution and continuous improvement.

The policy provides general information and does not take precedence over design and construction specifications, Australian Standards, development conditions, or any other superior legislation or regulations.

This policy is not intended to provide detail on specific procedures. These procedures, where not currently existing, will be developed progressively to meet the requirements of the codes of practice and guidelines listed below.

- Plumbing Code of Australia (2016)
- Australian Drinking Water Guidelines (2011)
- NSW Code of Practice for Fluoridation of Public Water Supplies (2018)
- Guidelines for Drinking Water Management Systems (2013)
- NSW Guidelines for Best Practice Management of Water Supply and Sewerage 2014 and
- Related Documents (Clause 7.1) of this policy.

## 2 Objective

### 2.1 Objectives and Coverage of the Policy

Council is committed to economically managing its water treatment and water supply assets to provide safe, high quality drinking water, which consistently meets the NSW Department of Health, the Australian Drinking Water Guidelines (2011), other regulatory requirements and consumer expectation.

The main objectives of this policy are to outline:

- Council's relevant regulatory powers and limits of responsibilities
- Council's approach to dealing with aspects of its water supply business



- General advice for residents on the water supply services provided by Council and
- Sources of further information applicable to Council's water supply business.

The Water Supply Services Policy is made under the *Local Government Act 1993* and *Water Management Act 2000*.

### 3 Application

#### 3.1 Application of this Policy

This policy applies to Council activities as well as the activities of Council's customers and ratepayers with relation to the water supply within the Council's Water Supply areas. The Water Supply Services Policy is supported by Council's protocols, procedures and guidelines.

### 4 Definitions

For the purposes of this policy:

Term	Meaning
ADWG	Australian Drinking Water Guideline – A framework for the management of drinking water quality, 12 elements in total.
AS/NZS 3500.1	Australian/New Zealand Standard 3500, Plumbing and Drainage Part 1: Water Services
Average Demand	Day The total water demand per year for a given area or category of development divided by 365.
Backflow	The unintended reversal of flow in a water pipeline whereby water that has already passed beyond the meter assembly into the customer's pipeline system returns to Council's water supply
Backflow Prevention Device	A device to prevent the reverse flow of water from a potentially contaminated source, into the drinking water supply system protecting it from contamination or pollution.
Boil Water Alert	Under Section 22 of the <i>Public Health Act 2010</i> , the Chief Health Officer has the power to issue advice, for the benefit of the public, concerning the safety of drinking water and any possible risks to health. This advice may include a boil water alert. The supplier of drinking water concerned must issue the advice to the public in such form and manner directed by the Chief Health Officer. The power to provide this advice is delegated to Public Health Unit (PHU) Directors.



Term	Meaning
Catchments	Area of land that collects rainfall and contributes to surface water, streams, rivers, dams, lakes, wetlands and groundwater reserves.
Consumption Pattern	The use of water by a household over time.
Cross Connection	Any connection or arrangements between the drinking water supply system connected to the water main or any fixture that may enable non-drinking water or other contamination to enter the drinking water supply system.
Double Check Valve Assembly (DCVA)	An approved backflow prevention assembly composed of two (2) single, independently acting check valves loaded to the closed position by springs or weights, supplemented by tightly closing shutoff valves located at each end of the assembly and by properly located test cocks suitable for testing the water tightness of each check valve.
Developer Charge	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new development, under section 64 of the <i>Local Government Act 1993</i> . Refer to Section 5.5.3.
Developer Servicing Plan - DSP	A document setting out the calculation of developer charges within the Council's local government area. It includes the developer charge, assumptions used to calculate the charges, and planning information related to water and sewer infrastructure. It is in accordance with DPI Water's Developer charges Guidelines for Water Supply, Sewerage and Stormwater 2016.
Developer Servicing Strategy	Strategy prepared to determine optimal configuration and staging of water and sewer infrastructure for a particular development and taking into account neighbouring developments that may reasonably connect.
Distribution System	A network of pipes leading from a treatment plant to customers' plumbing systems.
Drinking water	Water intended primarily for human consumption (but excluding bottled water, for the purposes of this policy).
Drinking Water Management System (DWMS)	The systematic and documented evaluation of activities, documents, procedures and other supporting information that outlines Council's system for the safe supply of drinking water.
Easement	An area of land, or part of a lot reserved by law for a specific purpose such as the containment of water assets.
Equivalent Tenements – ET's	An Equivalent Tenement (ET) is a standard measure used to assess the impact a particular development or land type will have on Council's water and sewerage



Term	Meaning
	systems, in terms of average water consumption or average sewage discharge, relative to a standard residential property.
Maintenance	Includes repairs and replacement, and, where relevant testing and inspections.
Multiple barrier	The use of more than one preventative measure as a barrier against hazard.
Non-Potable Water	Water that is unsafe for human consumption, it does not have the safety qualities of drinking water, but can still be used for other purposes, depending on its quality.
Non-Rateable Water Customer	Land exempt from all rates, other than water supply special rates as outlined in section 556 of the <i>Local Government Act 1993</i> .
Potable Water	Water intended primarily for human consumption (but excluding bottled water, for the purposes of this policy).
Property	An individual, dwelling, or premises used for any purpose; or Land, whether built on or not (excluding public land); or a lot in a strata plan that is registered under the <i>Strata Schemes (Freehold Development) Act 1973</i> or the <i>Strata Schemes (Leaseholder Development) Act 1986</i> that is connected to, or for which a connection is available, to council's water supply system or sewerage system.
Property Owner	A person who holds ownership title to the property and/or as defined by the <i>Local Government Act 1993</i> .
Quality System	Organisation structure, procedures, processes and resources needed to implement quality management (AS/NZS ISO 8402:1994)
Risk	The effect of uncertainty on objectives (Note: an effect is a deviation from the expected and can be positive and/or negative)
Risk Management	The coordinated activities to direct and control an organisation with regard to risk.
Stakeholders	Any person, company or relevant authority that can affect or be affected by Council's actions, objectives and policies.
Service Pipe	Service pipes deliver water from the water main to a property and are used to facilitate the connection of that property to Council's Water Supply Network.
Trunk Main	Trunk mains deliver bulk water from one part of the system to another, often aided by pumping. As such, trunk mains are larger in diameter than reticulation mains, are not networked and have fluctuating pressures.





## **5 Principles/Body**

### **5.1 Water Supply**

#### **5.1.1 Supply of Drinking Water (Potable)**

Council manages and supplies customers with drinking water in the Singleton Local Government Area. Council's drinking water supply meets and/or exceeds the Australian Drinking Water Guidelines 2011 and further details on the supply can be obtained in Council's Drinking Water Management System.

Council does not supply water service to Branxton; Hunter Water Corporation supplies potable water to Branxton.

The levels of service customers can expect from Council are detailed in its Water and Sewer Customer Service Plan.

#### **5.1.1.1 Water Supply**

Council provides water supply services to the following standards: non-potable, town water and rural supply, with the exception of Jerrys Plains Supply.

##### **Non-potable Water Supply**

Properties connected to the non-potable water supply receive untreated water sourced from Glennies Creek Dam. Refer to 0 Non-Potable Water Supply (Irrigation and Stock Supply).

##### **Town Water Supply**

Properties connected to the town water supply receive potable water at a guaranteed level of service and meets the NSW Fire Brigade requirements for firefighting in accordance with AS2419.

##### **Rural Water Supply**

Properties connected to the rural water supply receive the same level of quality as the town supply, but the rural water supply does not meet firefighting requirements and water pressure may vary and continuity of supply cannot always be guaranteed. Refer to 0 - Rural Water Supply.

##### **Jerrys Plains Supply**

Jerrys Plains supply customers receive a treated potable water supply under the same quality and pressure standards as the town supply customers, but do not have fire hydrants installed in the water reticulation network. Property owners are encouraged to install and maintain approved private booster pump arrangements and onsite water storage for firefighting purposes.



### Mount Thorley Raw Water Supply

Council manages the bulk supply of untreated water to Bulga Coal, Mount Thorley/Warkworth and Mushroom Composters under the terms and levels of service nominated in the joint venture agreement.

Council, coordinates the scheme with water sourced from the Hunter River, supplied by releases from both Glenbawn and Glennies Creek Dams. Water allocations for the scheme are approved WaterNSW and held separately to Council's water allocation from Glennies Creek Dam.

### Non-Potable Water Supply (Irrigation and Stock Supply)

Council provides for connection to the Glennies Creek Trunk Water Main, for property owners between Glennies Creek Dam and Council's Obanvale Water Treatment Plant, including Judan Road. This supply is an **untreated, non-potable** water solely for the purpose of an **irrigation and stock supply**.

It is not subject to minimum available pressure standards and is a non-continuous supply. This water is unsuitable for drinking, washing or cooking, as harmful algae may be present from time to time. Council makes no guarantees on any non-potable water supplies.

### Rural Water Supply

Rural water supply customers receive a treated potable water supply under the same quality standards as the town supply customer but are outside the NSW Fire Brigade area and/or do not have fire hydrants installed in the reticulation network.

Water pressure may vary and continuity of supply cannot always be guaranteed, property owners are encouraged to install and maintain approved private booster pump arrangements and on-site water storage to ensure a consistent water supply and provide water for firefighting purposes.

Other conditions of supply will generally be in accordance with those for Council's declared Town Water Supply Areas.

Rural water supply areas include some areas on the fringe of designated supply areas, located within 225 metres of a water main and able to feasibly connect to a water main and where the water meter would be easily accessible for meter reading.

## 5.1.2 Special Supply Customers

### Singleton Army Camp

Council currently supplies bulk treated water to the Army Camp under similar terms as supplied to the Singleton supply area.

### Mount Thorley Joint Venture Scheme

Council manages the supply of both treated and untreated water to several mines under the terms and levels of service nominated in the joint venture agreement.



Provision of treated water to all other Mount Thorley customers is to the same standard and levels of service as those in the Singleton supply area.

#### 5.1.3 Water Supply Schemes

Council currently operates two treated water supply schemes, being:

##### Singleton Water Supply Scheme

Supplies reticulating treated water from Obanvale Water Treatment Plant to Singleton Township, Singleton Heights, Huntview, The Retreat, Maison Dieu, Mount Thorley, Broke and the Singleton Military Area and through Whittingham to the Abattoir.

##### Jerrys Plains Water Supply Scheme

Jerrys Plains Water Supply is treated by AGL Macquarie, on behalf of Council and reticulated by Council, servicing the village of Jerrys Plains.

#### 5.1.4 Drinking Water Pressure

Council will supply drinking (potable) water to Town Water areas at a pressure between 12 and 90 metres head of water, approximately 120kPa to 800kPa, in the distribution system, conveying a minimum of 6 litres per minute per residential connection, under average day demand.

#### 5.1.5 Drinking Water Quality

Council is committed to managing its water services effectively to provide high quality drinking water to Town Water areas that protects public health, consistently meets the Australian Drinking Water Guidelines, and consumer and other regulatory requirements.

To achieve this commitment, and in partnership with the relevant health authorities and other stakeholders, Council will:

**Manage water quality from catchment to tap:** Council's regulated Water Access Licenses (WAL) with WaterNSW ensures water quality at all points along the delivery chain from the source to the customers' service.

**Adopt a risk-based approach:** in which potential threats to water quality are identified, minimised and managed in accordance with the requirements of the Australian Drinking Water Guidelines (ADWG).

**Integrate the needs and expectations of stakeholders:** consumers, customers, stakeholders, regulators and employees into our water supply planning and decision-making process.

**Establish effective monitoring programs:** systematically monitor the quality of drinking water and ensure effective reporting mechanisms to provide relevant and timely information that promotes confidence in the water supply and its management to consumers.



Develop contingency and incident response plans: that will be regularly reviewed and updated.

**Participate in and support research and development activities:** ensuring continuous improvement and maintain awareness of current research and development activities to ensure Council is up to date with current industry standards.

**Contribute to setting industry regulations and guidelines:** be an active participant in the development of industry regulations and guidelines relevant to health and the broader water cycle.

**Adopt best practice water quality management:** align our water quality systems and processes with the ADWG framework for proactive and multi-barrier approaches to best practice water quality management.

**Continually improve our management practices:** by assessing performance against industry standards, corporate commitments and stakeholder expectations.

**Continually improve the capability of our staff:** by encouraging and supporting participation in training and professional development and ensure all employees are aware of and actively seek to achieve the aims of this policy.

**Maintain a long term and sustainable water supply:** which recognises global and regional priorities in the management of water.

Council will implement and maintain a Drinking Water Quality Management System consistent with the Australian Drinking Water Guidelines Framework for Management of Drinking Water Quality to effectively manage risks to drinking water quality.

All managers and employees involved in the supply of drinking water are responsible for understanding, implementing, maintaining and continuously improving the drinking water quality management system.

Water supplied to Jerrys Plains is treated by AGL Macquarie and distributed by Council. Treatment of water supplied by the Jerrys Plains Water Supply Scheme is managed under AGL Macquarie's Drinking Water Quality Management System. Water quality in the distribution system is managed under Council's Drinking Water Quality Management System.

#### 5.1.6 Fluoridation of Drinking Water Supply

Where the raw water supply source has insufficient naturally occurring levels of fluoride concentration, Council will fluoridate its water supply. Fluoridation of Council's water supply was adopted at the special council meeting 24 August 1972 (minute number 355/72).

Council adheres to the *Fluoridation of Public Water Supplies Act 1957* Code of Practice for Fluoridation of Public Water Supplies – April 2018 and the conditions outlined in the formal instrument of approval from NSW Health.

**Note that the Jerrys Plains Supply is not fluoridated.**



### 5.1.7 Water Standpipes

Inappropriate use of water standpipes within the network can cause significant damage and customer impacts, so use is restricted to only Council staff are generally permitted to access water this way (refer also to Section 5.1.8). Council has two permanent standpipes. These are located at the Council Works Depot - 39 Maison Dieu Road, Gowrie and Waterworks Lane.

These are the only Council-approved standpipes and are fitted with a meter for measuring the amount of water extracted from the treated water supply.

Water outages and/or low pressure due to unplanned network issues or scheduled maintenance, affecting the water supply in these two locations, will include the supply to the standpipe.

Water Carting businesses are required to take steps to ensure that drinking water is not contaminated and public health is not put at risk. Water Carters are required to comply with the POL/10066 Water Carters Policy outlines to ensure that they provide safe drinking water and comply with the requirements of the *Public Health Act 2010* and other relevant legislation.

Council's POL/10066 Water Carters Policy outlines the responsibilities of those who access Council's water standpipes.

### 5.1.8 Fire Hydrant and Other Fittings in the System

Council installs and maintains hydrants in its town water reticulation network at convenient distances and places for the ready supply of water to extinguish fires and for operational purposes. Fire hydrants are installed in and close to the Central Business District, most areas zoned urban residential, Mount Thorley, Broke and the Retreat. Fire hydrants are not installed in Jerrys Plains.

The town water reticulation network is designed to provide fire hydrants with minimum flow rates as determined by the Clause 142 of the *Local Government (General) Regulations, 2005* and in accordance with the Australian Standard AS 2419.

Council endeavours to meet the minimum flow rate requirements; however, infrastructure constraints and aging water supply infrastructure may limit network performance in some areas. Council maintains a program of works for the upgrade and replacement of aging assets to ensure the water reticulation network meet these requirements and include provisions for growth.

The only persons approved to access or operate fire hydrants are members of the NSW and Rural Fire Brigades and Council's water network supply staff.

### 5.1.9 Water Loss Management

Council is committed to minimising water loss in the water supply system. Water loss is the amount of water that Council supplies into the system that is not accounted for in the sum of individual customer meter readings. Water losses could include:

- leaks in the water system





- unmetered water use, for example for firefighting or mains flushing
- unauthorised water use, for example theft and illegal connections or
- errors in the water system meters.

#### 5.1.9.1 Leak Reduction Program

Council regularly checks reservoir zones in the water supply system to determine if major leaks are occurring. Council uses its computerised Supervisory Control and Data Acquisition (SCADA) system to monitor flows and reservoir levels in the water supply system. This information is used to target site investigations and leakage surveys where required.

Council encourages residents to report any leaks in its water system to facilitate the timely repair and reduce water loss and asset damage.

#### 5.1.9.2 Pressure Reduction Program

Council reduces excessive pressure in the system by appropriate reservoir zonings and by installing pressure reducing valves at strategic locations if required. This reduces the quantity of water lost through leaks and extends the life of water mains.

#### 5.1.9.3 Water Main Renewals

Council maintains an annual water main renewals program for replacement of water mains that are in an aged or poor condition, or require renewal for other strategic purposes.

#### 5.1.9.4 Meter Replacement Program

Council has a meter replacement program to replace meters that are ageing or no longer reading accurately. Replacement of meters under this program occurs after analysis of Council's entire fleet of meters and is not based on customer requests.

Council will replace the meter at no cost to the property owner under this program and will endeavour to notify residents at the time of replacement and advise that a new meter has been installed.

#### 5.1.9.5 Water Theft

Water theft is any attempt to obtain water with the intent to avoid paying for water used. This includes wilfully damaging, removing, fraudulently altering the index of a meter or preventing a meter from registering the quantity of water supplied. Tampering with a water meter, drawing water from the water network without a water meter or connecting hoses directly to a fire hydrant is an offence under Chapter 16, Part 3 of the *Local Government Act 1993* and poses serious health and safety hazards not just to offenders but to the rest of the community.

Any connection to Council's water supply systems, not authorised by or made by Council is considered an illegal connection, including:



- A device connected directly to a fire hydrant for the purpose of drawing water
- A meter by-pass device (additional plumbing to bypass the water meter)
- Any direct connection to the water main
- Tampering with or modifying a meter (backflow device removed) or metering device altered in any way or evidence the meter has been removed or disassembled or
- A meter deliberately damaged or not reported to Council as damaged.

Council will investigate all reported or suspected instances of water theft or the manipulation of water meters. If Council determines either water theft or manipulation of a water meter is probable, a lockable stop valve and/or lockable meter shrouds will be installed at the cost of the property owner, in the first instance. The property owner will be invoiced as per Council's adopted fees and charges at the date of the offence.

For subsequent water theft offences, including manipulation of a water meter, Council will install an orifice plate and pursue the prosecution of identified parties. The property owner will be invoiced as per Council's adopted fees and charges at the date of the offence for removal of the orifice plate equivalent to a 20mm water connection.

## 5.2 Concessions and Rebates

### 5.2.1 Concealed Water Leak

Council on 15 February 2016, minute 12/16, adopted the original POL/6014 Averaging Water Accounts Policy, providing a means to average water accounts when meter reading indicates a concealed leak. The principles of POL/6014 have been incorporated into this policy.

Council provides potable water to the boundary of a property; customers receiving a metered water supply from Council are responsible for managing the water supply on their property. This means all water that has passed through a meter service connection becomes the responsibility of the property owner including the maintenance and repairs of all water services on the property.

A concealed water leak is water leaking from plumbing on private property that is hidden from view, generally underground and is not able to be located by visual inspection. There are often no signs whatsoever of water leaking. Water that can be seen coming from the ground or under a driveway is not a concealed leak. The fact that a plumber may have difficulty establishing the exact site of the leak does not mean the leak is concealed. Water leaks in paddocks, yards and gardens are generally detectable by finding lush grass or boggy ground and hence not concealed. The fact that a particular customer has not discovered the leak because they have not detected it does not indicate that it is a concealed leak.

Council has no obligation to provide financial assistance to customers affected by concealed water leaks on their property. However, as an act of good faith and in the interest of good public relations, Council will make available assistance to customers by providing some relief for significantly higher water usage charges in a particular billing period, subject to the requirements of this section of the policy being met.



Council does not intend to provide full compensation to customers for water usage charges because of a concealed water leak on their property and will not write off any interest charged on overdue water usage accounts.

#### 5.2.1.1 Limits of Assistance

The limit to which Council will provide assistance will be:

- A maximum concessional allowance of up to 200 kilolitres
- A maximum of one concessional allowance per water assessment for the current owner(s)
- The allowance being calculated using data from the same period in the previous year or will be averaged on past water consumption
- Properties served by a common meter, i.e. strata blocks, will attract the once off concessional allowance of up to 200 kilolitres and
- If the concealed leak has caused the usage to exceed the 450 kilolitre step up, all future accounts in that financial year will be charged at the higher kilolitre rate.

#### 5.2.1.2 Eligibility for Assistance

For a concealed water leak claim to be eligible for assistance, a claim must:

- Involve a significant leakage on the property. A leakage is determined to be significant if the water usage on the water usage account issued immediately prior to the repairs being completed is more than \$400 and/or 2 times greater than the same period in the previous five (5) year's daily average consumption.
- Involve a leakage in pipelines, which are undetected. Undetected leakage is defined as occurring within pipeline breaks or connections in the ground, under slabs or within walls etc. and is clearly not visible to the owner.
- Be completed within 20 working days of the water usage account being issued and include:
- the completion of the Water Consumption Adjustment Application, including a statutory declaration indicating that the abnormally high water usage resulted from an undetected water leak and acknowledgement that subsequent claims under this policy will not be accepted.
  - supporting documentation that the water leak was repaired immediately in the form of a paid statement or paid invoice from a licensed plumber indicating the cause and location of the water leak and that it has been repaired. In the case where a plumber was not employed, a statutory declaration by the owner with the equivalent details and receipts for any materials used.
- Where water usage charges are less than \$400 and/or 2 times greater than the same period in the previous five (5) year's daily average consumption and financial



hardship is being experienced; customers may seek relief under Council's Hardship Policy.

#### 5.2.1.3 Exclusion for Assistance

Claims will not be considered for assistance which:

- **Are** the result of a second occurrence at the same property and by the same owner(s) regardless of whether it is a related event or separate concealed leak
- Involve loss of water from faulty fixtures or fittings such as appliances (e.g. dishwashers **or plumbed fridges**), pumps, hot water systems, pressure relief valve, float valves, solar panels, taps, cisterns and other water fittings
- Involve loss of water from sprinklers or irrigation systems, swimming pools, spas, ponds, water troughs, other outdoor water features or their related fittings or pipework supplying them, inappropriate connection of water tanks plumbed to the potable water supply, including loss by overflow and/or hoses, hose pipes, external taps and fittings
- Involve a leak caused directly by way of accidental or wilful damage or human error
- Involve a leak due to neglect or obvious defect in the private water service and
- Do not contain the documentation or meet the terms of an eligible or complying claim.

All concealed water leak claims for assistance and payment, will be assessed by the Senior Revenue Officer and determined by the Manager – Water and Sewer, in accordance with approved delegation limits. The Financial Controller will be responsible for the implementation and management of concealed water leak claims within this policy.

#### 5.2.2 Averaging Water Usage Accounts

Council on 15 February 2016, minute 05/16, adopted the original POL/6015 Averaging Water Accounts Policy; providing a means to average water accounts when meter reading indicates a potential faulty meter such as a damaged water meter or a under/over reading meter. The principles of POL/6015 have been incorporated into this policy.

Water meters are important Council assets as they record the volume of water used by customers, allowing Council to account for all potable water that has been used, accurately charge customers for their usage, as well as assisting in the detection of water leaks within properties.

**Most water** meters are read by Council employees, or a contractor acting on Council's behalf every four months with water usage accounts being issued shortly after the meter reading is taken. The reading taken from the meter is the basis for determining the water usage or consumption charges at the property.

Circumstances arise outside of Council's control where water meters are damaged, stopped or unable to be read. The averaging of accounts is required for water usage



that would have been consumed. Instances of averaged water usage accounts are detailed below.

#### 5.2.2.1 Inaccessible Meters

Council will install meters in areas that can be easily accessed for meter reading and to protect the meter from damage wherever possible.

If a meter cannot be accessed because of locked gates, pets posing a risk or an obstruction exists restricting access to the meter and access to the water meter cannot be obtained by contacting the property owner, Council will estimate the consumption of the property. This estimate will be based on the same period of the previous year, or if impractical (e.g. the property was vacant at that time) will be based on the consumption pattern.

If a meter remains inaccessible Council will make arrangements so actual meter readings can be obtained. Refer Section 5.4.1.8 Access to the Water Meter 5.2.2.1.

#### 5.2.2.2 Defective Water Meters

Circumstances **may** arise where customers query the amount of their water usage charges and are concerned the meter is not recording correctly. If it is considered that Council's water meter is not accurately recording water passing through it, the customer must self-check the water meter first. If considered defective, the customer may make application and pay the required fees, as defined in Council's adopted fees and charges for meter testing to be undertaken.

Council will then install a second water meter in line with the original meter **where feasible**. Both meters will be read over a three-week period to determine if the accuracy of the meter is within the acceptable tolerance. If this test shows that the meter is inaccurate and is outside the four percent (4%) tolerance of the actual quantity of water passing through it, the meter will be deemed to be defective. **Where a second meter isn't feasible, alternate measures may be undertaken and a quotation will be prepared. The cost for any modifications required to facilitate the test shall initially be borne by the customer.**

If a meter is deemed defective, Council will:

- Repair or replace the meter
- Refund any charges paid for the test and
- Estimate the latest account based on the same period the previous year, or if impractical (e.g. the property was vacant at that time or change of owner/resident has occurred) will be based on the consumption pattern.

If the meter is found to be recording within the four percent (4%) tolerance, the water usage account will not be averaged, and the meter-testing fee **and associated costs (where applicable)** will not be refunded.

Further information on self-checking water usage and water meter tolerance can be found in Council's Water and Sewer Customer Service Plan available on Council's website.





#### 5.2.2.3 Stolen, Stopped or Damaged Meters

If a meter reading cannot be obtained as the meter has stopped registering, is damaged or has been stolen, the estimate will be based on the consumption for the same period in the previous year or readings obtained within the first two weeks of the new meter installation or meter repair.

If a meter has stopped registering (the dials are not moving, but water is passing through the meter), the customer is required to contact Council to advise of the stopped meter. Council will arrange for the repair or installation of a new meter, at no cost to the owner.

If a meter has been stolen from the property, the customer is required to report the theft to the Police, engage a licensed plumber to place a temporary spacer where the meter was installed and contact Council to advise of the stolen meter. Council will arrange for a new meter to be installed, at no cost to the owner.

A damaged meter refers to a meter that has been damaged maliciously, unintentionally or by natural elements. If a meter has been damaged, the customer is required to contact Council to advise of the damage. Council will arrange for the repair or installation of a new meter. If the meter is found to be maliciously damaged; fees and charges will apply to the installation or repair of the meter, as defined in Council's adopted fees and charges.

#### 5.2.2.4 Tampering and Water Theft

It is an offence under Chapter 16, Part 3 of the *Local Government Act 1993* to tamper with a water meter or to divert water in a manner that water usage is not recorded on the meter.

Where Council's water meter has been illegally removed from the water service, tampered with, vandalised or stopped by a person other than a Council Officer; an average is to be processed. This average is based on the consumption for the same period in the previous year, or if impractical (e.g. the property was vacant at that time or change of owner/resident has occurred) will be based on the consumption pattern. Council will investigate the incident and pursue prosecution of the offending person.

Council takes water theft and the manipulation of water meters seriously and penalties apply in accordance with the relevant legislation and Council resolution. Refer to Section 5.1.9.5 Water Theft.

All averaged water usage accounts and any associated investigation will be determined by the Senior Revenue Officer, in line with this policy and delegation limits. The Financial Controller will be responsible for the implementation and management of averaging water usage accounts within this policy.

#### 5.2.3 Plumbing Reimbursement Claim

If a water supply issue is located in your area of responsibility, the property owner is required to pay the plumbing expenses. **However**, if the plumber identifies and rectifies water supply issues and confirms it is located in Council's area of responsibility, Council may cover reasonable costs for the rectification works.



Council will not cover the following:

- a plumber or customer who did not report the issue to Council in a timely manner and obtain a customer reference management (CRM) number
- any work carried out by a plumber relating to work on your private water pipes
- any excavation or CCTV work in determining the location of the leak (unless requested by Council) or
- engagement of a licensed plumber to place a temporary spacer where a meter has been stolen
- installation and maintenance of backflow prevention devices and
- installation and maintenance of fire services.

A "Plumbing Reimbursement Claim" must be submitted together with a line itemised tax invoice and receipt for payment in full within 60 days of the work being performed and forwarded to Singleton Council. The following conditions apply to all Plumbing Reimbursement Claims:

1. Invoice date must not predate completion of work
2. Claims must be submitted within 60 days of the work being performed
3. All Claims must include a line itemised copy of the tax invoice and proof of payment
4. All rejected claims must be resubmitted within 10 days of rejection being received for your application to be reassessed
5. Plumbers conducting the work must be appropriately licensed
6. Plumbers cannot be reimbursed by Council when additional plumbing work is conducted for the customer at the time of attendance for the issue
7. Claims are not valid for plumbers conducting work at their own property
8. Claims will not be paid without customer details and signatures provided
9. The issue must be found to be in Council's area of responsibility
10. Council reserves the right to provide a full, part or no reimbursement depending on the work carried out
11. No reimbursements will be provided for any call backs to the property
12. The property must be connected to the Council's water supply system
13. On verification of eligibility by Council, the reimbursement will be paid as a cheque **directly to the customer; Council will not pay plumbers bills directly.**

Council reserves the right to inspect the work carried out at the property or liaise with the plumber after receiving an application, to determine eligibility for reimbursement.

Council may reject claims if it believes costs and works are excessive and justification cannot be provided.



**5.2.3.1 Plumbing Reimbursement Claim Reasonable Costs**

Council considers attending a site and diagnosing the issue location (if located in Council's area of responsibility) would take approximately one hour. We will limit reimbursement for when the issue is within Council's responsibility to \$250 (including GST) unless in exceptional circumstances, considered case by case.

**5.2.4 Community Service Organisations**

Council on 1 September 2010, minute 246/08, adopted the original Community Service Obligations Water Service Charges Policy. The principles of the original policy have been incorporated into this policy.

Council wishes to assist and encourage the provision of non-rateable water customer based services in its Local Government Area. This section sets out the criteria for non-rateable water customers to qualify as Community Service Organisation and the degrees of subsidies for these charges.

**5.2.4.1 Classification as a Community Service Organisation**

Applications for Classification as a Community Service Organisation (CSO) must be made in writing to Council. Applications must include sufficient documentation to support the claim and be signed by the governing body, CEO or owner of the property. Council will reserve the right to seek further details, where required to allow for classification.

Applications will be assessed by the Manager – Water and Sewer in consultation with other Council staff with community welfare responsibilities, where required.

Eligible applicants will be classified into an appropriate CSO Level (Refer to 5.2.4.2) based on the nature of the property and service, the degree of funding and the type of community organisation.

The General Manager has authority under this policy to approve CSO classifications 1, 2 and 3. Council remains the determining body for approval of CSO classification 4.

**5.2.4.2 Community Service Organisation Categories**

The following criteria must be satisfied by applicants for recognition as a Community Service Organisation.

**Level 1**

1. Provides service to the local Singleton community
2. Provides community benefit
3. A non-profit service
4. Is operated and run solely by volunteers



5. Requires subsidy for operation; or exists only through local sponsorship and community funding; or not heavily funded by other spheres of Government and
6. All public have full access to the facility at all times.

Examples of organisations in this level include, but are not limited to: Registered Charities, Churches and Church Halls.

#### Level 2

1. Provides service to the local Singleton community
2. Provides community benefit
3. Some paid employees
4. Some monies generated through fund raising; or have minimal income generating capacity
5. Owned by Community or Government and
6. All public have access to the facility (outside of organised events).

Examples of organisations in this level include, but are not limited to: Hospitals, Emergency Services Stations, Ambulance, Fire, Police, and Council Parks and Public Reserves.

#### Level 3

1. Provides service to the local Singleton community
2. Provides Community benefit
3. A commercial or business type enterprise
4. Paid employees; or some monies generated through fundraising
5. Owned by Community or Government and
6. Facility is open for limited general public access (outside of organised events).

Examples of organisations in this level include, but are not limited to: Nursing homes, Schools and Childcare centres.

#### Level 4

Other community service organisation not able to be categorised into CSO Level 1, 2 or 3 may be considered under CSO Level 4.

The examples given in each Level above are for broad classification purposes only. Applicants must satisfy the criteria in order to be classified into a particular level.



### Combined Facilities within a Land Use

Some organisations have combined facilities within a Land Use, for example, Church/School. The criteria for classification in these cases would need to be based on the primary purpose of the property. The General Manager has delegated authority to make the determination of level based on the above criteria, in cases where dual land uses exist.

#### 5.2.4.3 Degree of Subsidies

Community Service Organisations are categorised into four levels based on the nature and level of service provided to the community. The recognition of a CSO in respect of water services results in the following subsidy from Council Charges where applicable.

- Level 1 be entitled to a reduction of 75% for annual water base charge.
- Level 2 be entitled to a reduction of 50% for annual water base charge.
- Level 3 be entitled to a reduction of 25% for annual water base charge.
- Level 4 be entitled to a percentage reduction as determined by Council.

#### 5.2.4.4 Annual Confirmation Organisation meets Community Service Obligations Criteria

Organisations classified as CSO customers will be reviewed and assessed annually. The recipient of the subsidy must confirm in writing how the criteria for the level of subsidy received is met. This includes confirmation of the type of community organisation and benefit provided, the degree of funding received from other sources and where appropriate confirmation of registration as a not-for-profit organisation.

This must be completed prior to 30 June annually.

#### 5.2.4.5 Breaches and Sanctions

Organisations found to have made inadequate or misleading statements in order to obtain a CSO classification under this policy will have this classification revoked immediately. Recovery of any unpaid charges will be obtained using relevant provisions of the *Local Government Act 1993*.

#### 5.2.5 Home Dialysis Life Support Customers

Dialysis machines use large volumes of water and rely on an uninterrupted supply. As a result, customers may incur water accounts higher than normal because of the additional water usage.

Council recognises that water is a vital aspect of kidney dialysis and will limit water usage charges to a maximum of 345 litres per day where it is confirmed that a resident of the property is using a dialysis machine.





Council on 28 October 1996, minute 246/08, adopted the original Water Billing Rebate Dialysis Life Support System Policy and reconfirmed the same policy on 29 November 2004. The principles of the original policy have been incorporated into this policy.

#### 5.2.5.1 Eligibility

To be eligible for Council's home dialysis allowance, the customer must use a kidney dialysis machine or life support system at home that relies on large volumes of water and be connected to Council's Town water supply.

Water customers will be eligible for the water rebate when registered with Council as operating a kidney dialysis machine at their residence. The dialysis machine must be located and used at the residence to which the water rebate applies and fall within the water supply area.

Written evidence must be provided at the time of application for the rebate.

#### 5.2.5.2 Applications, Conditions and Approval

Applications are to be made in writing and include written evidence from a registered medical practitioner or hospital that they are required to undertake home dialysis treatment (specific details of the treatment, including length of such treatment if known), which requires substantial water use.

The written application and confirmation from a medical practitioner must contain the name of the resident using the dialysis, the property address and the date of commencement of dialysis.

The Manager – Water and Sewer will assess application, in accordance with this policy.

The rebate shall be pro rata, if a new application is received during the financial year.

In recognition of the reliance on an uninterrupted water supply, the resident will be advised in advance of any change in water supply due to shutdowns and maintenance activities wherever possible.

#### 5.2.5.3 Ceasing Home Dialysis

If home dialysis treatment ceases, the property owner must notify Council, in writing that this has occurred. The rebate will be calculated on a pro-rata basis. Failure to notify Council will result in the rebate being cancelled from the date of the billing reading for which the current or latest account had been issued.

#### 5.2.6 Rebates

##### 5.2.6.1 Rainwater Tank Installation

Council will issue one rebate per property, for rainwater tanks installed regardless of the number installed, to eligible applicants. The rebate amount is published in Council's annual Operational Plan.

To be eligible for the rebate the applicant must have installed a rainwater tank that:



- Has been purchased on or after 1 March 2005, evidence of purchase and installation is required
- Has a minimum capacity of 2,000 litres
- Is not installed as a requirement for new development or BASIX requirements
- Is not installed as a requirement on a condition of development / construction or subdivision consent
- Is in accordance with the current NSW Code of Practice Plumbing and Drainage
- Is on land that has an approved connection to a potable water supply owned by Council
- Is a new tank and is covered by a minimum of 12 months warranty
- Has all associated plumbing work completed by a licensed plumber
- Is used for collection and storage of rainwater for use on the site
- Is to operate for a period of at least five years after installation and
- Council has inspected internal plumbing connection to toilet and/or washing machine under s68 of the *Local Government Act 1993*.

#### 5.2.6.2 Dual Flush Toilet Installation

Council will issue one only rebate per property for dual flush toilets installed, regardless of the number of toilets installed, to eligible applicants. The rebate amount is published in Council's annual Operational Plan.

To be eligible for the rebate the applicant must:

- Be connected to the potable water supply owned by Council
- Purchase a 6/3 litre or 9/4½ litre dual flush toilet or cistern to replace an existing single flush toilet or cistern, on or after 1 July 2007 and be installed in a dwelling constructed and occupied before 1 July 2004 (pre BASIX dwellings)
- Provide evidence of purchase and installation of dual flush unit and
- Agree to refund the rebate if you return or exchange the dual flush unit within twelve (12) months. Council may audit the premises to verify that the new unit has been installed satisfactorily.



### 5.3 Factors Affecting Water Supply and Infrastructure

#### 5.3.1 Interruptions

##### 5.3.1.1 Unplanned Interruptions

Council makes every effort to deliver a reliable water supply service, however in the event of an unplanned interruption, Council will:

- Restore the service as quickly as possible; no interruption is to last longer than 12 hours, except in exceptional circumstances, and 75% of interruptions to last less than 6 hours
- Provide as much information as practicable with the available resources, based on the best information available at the time and
- Flush the water supply system to reduce the impacts of possible dirty water caused by such events.

Unplanned interruptions include water main breaks, pump station failures and supply interruptions.

##### 5.3.1.2 Planned Interruptions

Council may need to arrange planned interruptions to water supply services to allow for planned and regular maintenance of the water supply system. To reduce the impact of planned interruptions, Council will:

- Provide a minimum of 24 hours written notice to all domestic customers affected
- Provide a minimum of 2 days written notice to larger or critical customers likely to be heavily inconvenienced by an interruption, such as some commercial and industrial customers, schools, hospitals and nursing homes, preferably if time permits, 7 days written notice
- Provide a minimum of 7 days notice to home dialysis patients by contacting them individually and
- Restore services as quickly as possible; no planned interruption is to last longer than 6 hours wherever possible.

##### 5.3.1.3 Repairs and Maintenance

If Council undertakes any work on or adjacent to private property, Council will leave the affected area and immediate surrounds as near as possible to the state which existed prior to the work being undertaken, unless Council has entered into a different arrangement with the property owner.

There may be instances, where the affected and/or surrounding area maybe too wet to carry out remedial work immediately. Council will make this determination on a case-by-case basis and arrange with the property owner a suitable time to undertake the works.



#### 5.3.1.4 Dirty Water - Discolouration

A sudden increase in the rate or direction of water flow through pipes can stir up sediment. This may become suspended in the water, making it look dirty. Similarly, customers at the end of a water main may experience dirty water as these suspended sediments become trapped at the end of the pipe. Trace materials within the water, such as iron or manganese, cause this discolouration. When these materials enter the water supply system they are in extremely low levels, however changes to the supply as it travels through the system can cause these materials to accumulate and become visible, discolouring the water.

Generally, dirty water is harmless and the water is safe to use, although it may appear unpleasant.

##### Dirty Water and Galvanised Pipes

Corrosion may occur in older homes with galvanised pipes, causing the water to look orange or brown. Discolouration will occur more often in houses with galvanised water pipes. Galvanised pipes are no longer used in homes, with copper - or more recently polyethylene pipes have become the norm.

Anyone who experiences regular water discolouration and has galvanised water pipes in their home may consider replacing them and should seek further advice and assistance from a licensed plumber.

Any rectification works for galvanised pipes within a private property are at the property owner's expense.

##### Dirty Water and Scouring

The flushing process of cleaning the interior of the water mains by sending a rapid flow of water through the main is known as scouring. By flushing the water under higher release pressure through the mains, the build-up of sediment will be dislodged.

Council will notify residents of any planned scouring occurring where it is reasonably foreseeable. However, there may be instances during unplanned outages, including water main breaks, where scouring may occur unexpectedly.

If you experience dirty, or discoloured water after a scheduled clean, try running the outside tap for 1-5 minutes until the water clears.

##### Laundry Stained by Dirty Water

Discolouration of the water supply by materials such as iron and/or manganese may cause a rust-coloured stain on your clothing and linen while washing. If you notice a discolouration in the water from your household taps, it is recommended you do not wash clothing and linens in discoloured water due to the risk of stains.

If discoloured water is present, residents should delay washing clothes. If this is not possible, Council recommends:

- running some water into the machine to check the water colour before washing clothes; and



- checking the water colour before the washing machine reaches the rinse cycle – as it is at this stage that clothes can be stained.

If your load of washing is dirty or stained, you should keep the washing completely wet, and not hang it out. The stain becomes permanent only if the laundry is allowed to dry. If you have a nappy stain remover then the affected washing should be soaked and washed as directed, this can often remove the stains once the water has been cleared.

If your property, including clothes, household furniture or fittings, has been damaged by a dirty water (water discolouration) event, Council will consider, on application, requests to clean, replace or repair the damaged items.

Damaged laundry must be reported **to Council** as soon as it occurs.

On receipt of a Damaged by Dirty Water request, Council will attempt to clean or repair the items in the first instance.

If cleaning or repair is not possible, replacement of items will be considered. If the items are replaced, the damaged items will become the property of Council.

On receipt of the damaged items and proof of purchase for replacement items, Council will process the reimbursement. The customer will be issued a cheque for the agreed value.

#### 5.3.1.5 Boil Water Alert

In extraordinary circumstances, it may be necessary to issue a notice to potable water customers that indicates the water supply is not suitable for drinking; this is known as a 'boil water alert'. These instances may include detection of contamination in the potable water system, failure of the treatment process (including exceedance of critical control points) or poor raw water quality.

Under Section 22 of the *Public Health Act 2010*, the Chief Health Officer has the power to issue advice, for the benefit of the public, concerning the safety of drinking water and any possible risks to health. This advice may include a boil water alert. Council will issue the advice to the public in such form and manner directed by the Chief Health Officer.

Council may issue a boil water alert of its own accord. However, before issuing a boil water alert, Council will consult with the Public Health Unit (PHU) wherever possible.

Council, PHU, Water Unit and/or Chief Health Officer will consider the following when determining the need for a boil water alert:

- the findings of any water supply system investigation
- results of available water quality data (operational monitoring, field measurements and laboratory testing results)
- whether proper sample collection and analysis techniques were used
- whether samples are representative of water that is actually consumed





- the effectiveness of current treatment (including filtration and disinfection) to respond to the range of potential pathogens
- for a critical control point exception, consider the catchment condition, raw water quality and the likelihood of pathogens entering the drinking water supply
- any complaints about water quality (including taste, odour and appearance) or health. Evidence of illness associated with this water supply and
- the community impact of a boil water alert (including adverse consequences such as scalds) where the cause can be resolved promptly.

Once a boil water alert has been issued, Council will notify customers urgently and will use, where considered appropriate one, or a combination of the following methods:

- letterbox drops and doorknocking
- news releases
- signs on public taps and bubblers
- social media
- variable message boards
- radio announcements
- website and
- email.

Council will also endeavour to contact vulnerable and special customers directly including:

- water carters and consumers who receive carted water
- Schools and childcare centres
- Hospitals, nursing homes and medical facilities and
- Accommodation facilities and caravan parks.

**Where possible,** Council will consider providing alternate sources of water to affected customers, including bottled water, dependent on the scale and anticipated length of time the boil water alert is anticipated to last.

Council will consult with the PHU before lifting a boil water alert. In lifting a boil water alert, Council will endeavour to communicate the information in the same way the alert was issued.



### 5.3.2 Access and Notice of Entry to Properties

The *Local Government Act 1993* outlines Council's power to undertake a range of functions, including those relating to the supply of water and sewer services. These include, but are not limited to:

- **Section 191A** – allows for a Council employee (or contractor) authorised by a Council authority to enter any premises to carry out water supply work, sewerage work or stormwater drainage work on or under the premises.
- **Section 59A Clause 1** – determines that Council is the owner of all works of water supply, sewerage and stormwater drainage installed in or on land by the council (whether or not the council owns the land).
- **Section 59A Clause 2** – allows that Council may operate, repair, replace, maintain, remove, extend, expand, connect, disconnect, improve or do any other things that are necessary or appropriate to any of its works to ensure that, in the opinion of the Council, the works are used in an efficient manner for the purposes for which the works were installed.
- **Section 193** – determines the need for the Council giving the owner or occupier of the premises written notice of intention to enter the premises and outlines the requirements of the Notice and the exceptions of when notice of entry is not required.

When accessing a property to undertake work associated with Council's water and sewerage services, Council will:

- Provide written notice of the day access and entry to undertake work is required, prior to the day of entry. If written notice is not feasible, every endeavour will be made by Council employees to contact the owner or occupier by telephone and/or door knocking
- Written notice is not required under Section 193 sub section 3 in emergency situations. In the event of an emergency situation, Council employees attending will make every endeavour to contact the occupier of the property when arriving on site
- All Council employees who are required to access a property will have written authority from the General Manager to enter premises. This will be by Council Delegations of Authority and Authority to Enter Certificates
- Council employees will act in a professional and appropriate manner and take every care not to damage owner / occupier's property and will restore the affected land in accordance with the associated sections of this policy
- In the event Council employees on the property cause damage that cannot be restored, and it is proved to have been caused by Council, the owner may be entitled to compensation for the damage, at Council's discretion and
- Any authority to enter under Section 191A or any other applicable legislation or Council policy does not apply to entering the residence.



Council does not require an easement over any water or sewer supply infrastructure in order to access a property for the purpose of carrying out its duties under the relevant legislation.

### 5.3.3 Water Restrictions

Council may interrupt, limit or place restrictions on the supply of water when necessary by the Mayor and General Manager, including the determination of:

- purposes for which the water can be used
- how the water may be used for these purposes
- times when the water can be used and
- quantities of water that can be used.

Water restrictions are applied in the case of drought or other emergencies, if the available stored water or capacity to supply is so limited to make extraordinary measures necessary in the general interest of all water consumers.

Water restrictions will be widely advertised across various platforms to ensure awareness by all customers. Residents must comply with the conditions of the water restrictions on and from the date specified in the notice. Non-compliance with the conditions of the water restrictions may result in a penalty notice in accordance with the relevant legislation and Council resolution.

Council's POL 26032.1 Water Restrictions Enforcement Policy details the process by which Council will enforce water restrictions.

#### 5.3.3.1 Restriction of Water Supply – Unpaid Charges or Misuse of Water

Under the *Local Government Act 1993* and *Local Government (General) Regulations 2021*, Council may restrict or cut off the supply of water in a number of circumstances including:

- If any rates or charges in respect of the water supplied to the premises are unpaid
- If the owner or occupier or other person requiring a supply of water fails to comply with a lawful order or requirement to repair or alter water connections, pipes, fittings or fixtures connected to the water supply system.

In the cases above, Council will not undertake the restriction of water supply to critical customers, pensioner accounts or properties with farm animals.

The restriction of water supply will not be undertaken for unpaid charges without a reminder and notice of restriction being first provided. In cases where the property address and owner's postal address differs, an advice will be sent to the property owner(s) and occupier of the pending action.

If Council takes restriction action, by way of installing an orifice plate, reasonable flow for health and hygiene purposes will be provided. If it is believed that the restriction



will cause a health hazard the resident must contact Council within 7 days of the date on the notice of restriction.

Resumption of full supply will occur when the reason for the restriction of services no longer applies, and the payment of the applicable charge has been made.

#### 5.3.3.2 Water Wise Rules

To ensure Council has a secure drinking water supply to meet the long term needs of our customers, a set of three key water saving rules have been developed. These are common sense outdoor actions to minimise water wastage and reduce bills, which apply to everyone who uses water sourced from Council, including residents, businesses and government.

The key rules are:

- All handheld hoses must have a trigger nozzle attached.
- Watering with a sprinkler, irrigation system or hose is permitted any day before 10am or after 4pm. This avoids the hottest part of the day when water wastage occurs due to evaporation. Watering-cans can be used at any time, as can filling a bucket, washing a vehicle, building or pet, or topping up / filling a swimming pool, provided a trigger nozzle or pressure cleaner is used.
- No hosing of paths, driveways, concrete and other paved areas except when cleaning with water is necessary for reasons of safety, health, emergency, construction activity or surface discolouration. Use a broom or blower.

Council's water supply can be used:

- In the event of, or to prevent an accident, health hazard, surface discolouration or environmental issue
- To defend property from fire or test fire protection systems
- Watering systems can be used to establish new lawns and gardens for up to 14 days from installation and
- The use of water is allowed at any time for the purpose of cooling people or animals.

Exemptions exist for health, safety and emergency reasons and for certain businesses, such as commercial nurseries and landscapers, sporting grounds, firefighting and the use of rain or bore water.

Water Saving Tips can be found on Council's website and in the Water and Sewer Customer Service Guidelines.

#### 5.3.4 Protection of Assets - Pipelines and Easements

The location and protection of water supply infrastructure remains the responsibility of the person and/or organisation undertaking any excavation or associated works in the vicinity of these assets. The PPP approach of Plan, Pothole and Protect must be



applied at all times when any works are undertaken in the zone of influence associated with any water supply infrastructure. Information regarding Council's water assets can be found on Dial Before You Dig Plans which are to be obtained prior to any excavation.

Any damage and/or subsequent failure of water supply assets due to works by a third party will be rectified by Council and the costs of these works will be charged to the identified responsible party or parties.

Special conditions may apply to activities, such as design and construction of buildings, structures and excavation within the vicinity of all water assets and/or easements in favour of Council on public and private land. Persons undertaking such works are required to consult with Council's Water and Sewer **Business Unit**.

#### 5.3.5 Building Over Water Mains

Customers have a responsibility to ensure that construction is not undertaken without approval adjacent to or over our water assets. Council's first position is that structures are not to be constructed over or close to water trunk mains. Each case will however be considered on their merit having regard to POL/26013 Building in the Vicinity of Sewer and Trunk Water Mains.

Any costs associated with rectification works due to damage caused to the asset through the works associated with the illegal or unauthorised building adjacent to or over Council water assets will be at the property owner's expense. Refer to POL/26013 Building in the Vicinity of Sewer and Trunk Water Mains for details.

#### 5.3.6 Pumping Stations and Reservoirs

Public access to water supply sites and infrastructure including pumping stations, water treatment plants and reservoirs is restricted and strictly controlled at all times.

Council maintains an extensive network of surveillance and telemetry equipment to operate the water supply system.

Installation of third-party equipment on Council telemetry installations and reservoirs is not permitted.

Unauthorised access to Council's water infrastructure / sites is prohibited and may attract penalties, in accordance with the relevant legislation.

### 5.4 Water Connections – Installation, Maintenance and Metering

#### 5.4.1 Water Service Connections

Applications **under Section 68 of the Local Government Act 1993** must be made to connect to Council's water supply system. All applications require the payment of appropriate fees and charges, as defined in Council's adopted fees and charges, at the time of application. The type and location of the connection to Council's water supply system is at the discretion of Council. Unless otherwise approved, water service pipes from Council's water main are to be installed perpendicular to the water main.





Except in exceptional circumstances, Council will not permit water connections to trunk water mains.

The minimum individual property water service is 20mm for residential lots under 2,000m<sup>2</sup> or where total length of the service pipe is less than 30m and 25mm for residential lots over 2,000m<sup>2</sup> or where the total length of the service pipe is greater than 30m. For residential lots where the total length of the service pipe is greater than 130m or in the case of multi-occupancy dwellings a larger size may be required. The minimum individual property water service for industrial lots is 25mm. Larger meter and specific industrial sizing will be based on operational needs and fire standards; these are typically via a hydraulic consultant's advice or design and/or development requirements.

All pipes, valves, devices and fittings connected to Council's water supply system are to be rated for a safe working pressure of at least 1200kPa (120 metres pressure head) and shall be fit for purpose in accordance with the relevant Australian Standard.

#### 5.4.1.1 Trunk Water Main Connections

Trunk water supply pipelines deliver bulk water from one part of the system to another, often aided by pumping. As such, trunk mains are larger in diameter than reticulation mains, are not networked and have fluctuating pressures. Trunk mains are considered part of the distribution system, which is designed to accommodate the peak day demand for catchments within the water supply system.

Response and repair times for trunk water main failures can therefore be up to several days depending on the season, which far exceeds Council's level of service obligation. Council is not able to meet level of service obligations for customers serviced from trunk mains for the following reasons:

- Excessive pressure fluctuations caused by pumps starting and stopping, which lead to level of service complaints
- Excessive response and repair times due to larger diameter pipes and complex isolations and
- Long pipelines without networking meaning that service interruptions can disrupt excessive numbers of customers per incident.

As Council is unable to guarantee level of service obligations, Council does not permit properties to be connected to water supply trunk mains.

#### 5.4.1.2 Water Meter Installation

Metering allows Council to effectively and efficiently measure and record customer usage to allow for effective management of the water supply system. It provides for fair and reasonable billing of individual customers and helps to provide a good quality safe and reliable drinking water supply.

The location of the water meter is to be 1m inside the property boundary, where practical, and at the sole discretion of Council. The location of the water meter must be accessible at all times to Council's meter readers. Boundary fences, wall recesses,



retaining walls and garden beds must be setback to facilitate Council's access to water meters for maintenance, replacement and reading of the meter.

Council may enter private property to affect any necessary alterations, repairs to or replacement of the water service or water meter and to facilitate the meter reading.

Only Council or Council approved contractors may install water meters that measure the water supplied from Council's water supply system. A person must not connect in any way to Council's water supply system without the approval of Council.

All Council metering installations have backflow prevention devices fitted, ensuring no unwanted reverse flow of potentially contaminated water from a customer's premises to the public water supply system. However, additional backflow prevention devices may be required depending on the risk of the water user. Refer Section 5.4.3 Backflow and Cross Connection Control.

Council does not allow the installation of temporary water connections in its water supply network.

#### 5.4.1.3 Strata and Multi Occupancy Developments

##### New Strata and Multi Occupancy Developments

Council requires that each unit **or flat** in new developments are separately metered. All **new** strata or multi occupancy units must be provided with a separate external (located at the property boundary) water meter to register the water usage for each unit.

During the planning of new multi-unit complexes, discussions will be conducted with developers to ensure compliance with this policy, the **relevant** Australian Standards and NSW Best Practice. Requirements for connection will be contained within the Section 306 Notice of Requirements which will be issued to the developer upon application.

##### Existing Strata and Multi Occupancy Developments

In the case of multi occupancy buildings which do not have separately metered water services to each unit at present, Council can insist that all customers be separately metered, the provision of a single parent meter at the property boundary alone is not acceptable. Any requests by the property owner for separate metering will be at the property owner's cost.

#### 5.4.1.4 Torrens Title Stratum Developments

Individual Council water meters are to be provided at the property boundary, where practical for each Torrens Title Stratum lot in any new development. The location of the meter is to be on the property and at the sole discretion of Council. Council will require that the location of the water meter is accessible at all times to Council's meter readers. Boundary fences, wall recesses, retaining walls and garden beds must be setback to facilitate Council's access to water meters.



#### 5.4.1.5 Non-Connection to Council Water Supply System

Should a water service connection not be required due to alternative onsite water supply sources, which meet all statutory and guideline requirements, including those of the NSW Department of Health and NSW Fire Brigades, the property will only be charged the minimum Water Access Charge.

The application of the Water Access Charge is on the basis that a potable water service is available and provided within the street frontage to the property.

Should a water connection to Council's Water Supply System be required in the future, then applicable water supply **developer charges** will be levied. This amount would be credited with any previous payments for **developer charges** and/or annual water access charges.

#### 5.4.1.6 Connections in Rural or Fringe Areas

Where a property does not have a frontage to Council's water supply systems, property owners can apply to Council to extend the water main, and this will be assessed on a case-by-case basis.

If property owners wish to proceed and the application is approved, payment for the extension of Council water supply system (i.e. the water main) to an agreed point within the road reserve is required. Appropriate **developer** charges, as approved in Council's Development Servicing Plan and any other fees and charges, as calculated or set each year by Council will apply.

Once construction of new water main infrastructure is complete and all charges levied paid, the ownership of the new infrastructure will be vested to Council. **It is noted that it is the customers responsibility to obtain approvals for, and construct the necessary works.**

Individual water services along the road reserves are not permitted. Private supply lines in the road reserve, public land or passing through a number of properties (with or without the agreement of adjoining owners) are not permitted.

#### 5.4.1.7 Water Meter Ownership and Maintenance Responsibility

Council provides and maintains your water meter and will repair or replace it if a fault is detected, or as part of the replacement program at no cost to the owner. If the meter is damaged or tampered with, Council will charge the property owner repair or replacement costs.

Council is responsible for the maintenance of the water main, fittings, water service from the water main up to and including the meter and approved internal meters on private property. This means the property service line, pipes leading from the water main to the water meter and the water meter.

All pipes, taps, fittings and backflow prevention devices on your property that come from the meter, including the boundary garden tap on the meter frame are the responsibility of the property owner.



**5.4.1.8 Access to the Water Meter**

The property owner must ensure the water meter is accessible to Council or its representatives at all times for the purposes of meter reading, maintenance or replacement.

The meter and the visible pipes connected must:

- be clear of garden plants, trees, shrubs and overgrown grass
- be clear of concrete, retaining walls, fences and garden beds
- maintain a minimum 300mm clearance below the water meter, and
- maintain sufficient distance around the meter to work unimpeded (enough space to attach tools to the meter and turn and bend if necessary).

If you do not provide reasonable safe access to the meter, Council may:

- relocate the meter to a suitable location, at your cost
- require you to remove the obstruction, for example, remove vegetation and excavate around the water meter to provide 300mm clearance
- estimate your usage as per Section 5.2.2 Averaging Water Usage Accounts in this Policy
- require you to read the meter yourself and provide us with the reading however this is not intended to be a long-term arrangement for inaccessible meters or
- seek access at a time suitable to you, which may attract additional charges.

**5.4.1.9 Disconnection of Water Services**

Council will consider applications to disconnect the water service, if water service is:

- not required (i.e. house burnt down, being demolished, vacant and boarded up)
- being moved to a different location on the property (i.e. due to it being located in a driveway) or
- replaced by an alternate supply that has complied with all applicable health, environmental and council regulatory requirements (evidence must be provided at time of application).

Council will not disconnect water services if there are still occupants of the building/residence. Council may restrict flow, by way of installing an orifice plate, at the request and cost of the property owner in these instances.

Council's preference will be installing a lockable stop valve (if none already exists) to prevent water theft. This will be at the cost of the property owner. Council will only consider prevention of water theft by removal of the water meter entirely in exceptional circumstances.



You must not remove a water meter or the meter frame from your property.

#### 5.4.1.1 Meter Relocation Requests

Council will consider requests to relocate a water meter along a property boundary. All meter relocations are at the owner's expense.

#### 5.4.1.2 Upsizing/Downsizing Meters

The sizing of water meters is based on hydraulic considerations and Council's adopted standards. If a property owner wishes to change the size of the installed water meter, they will need to apply to Council and pay any applicable fee, as defined in Council's adopted fees and charges.

The application must be accompanied by hydraulic calculations signed off by a suitably qualified hydraulic consultant. The cost of changing the water meter will be at the owner's expense. Council is not obliged to approve an application to change the size of the water meter.

Where residential customers have been required to install a 25mm water service (for example, some battle-axe blocks), Council will work with the property owner to determine if they can be provided with a 20mm meter, as part of the water meter replacement program.

#### 5.4.2 Fire Services

##### 5.4.2.1 Fire Services

Council's water mains are usually located within public road, public reserve and pathways or water supply reserves. A property owner will be required to install a private hydrant (or hydrants) wherever an existing or proposed development is out of reach of the street hydrant on Council's reticulation and has a fire compartment exceeding 500 square meters in floor area.

New urban residential lots must have full fire hydrant coverage to Australian Standard AS 2419. There is a limited exception for battle-axe lots that fit into the requirements of NSW Fire Brigades Policy Number 8.

Where fire service coverage from a fire hydrant in accordance with Australian Standard AS 2419 is not practical either a private fire service or a tank storage alternative acceptable to Council's Development and Environment Group, NSW Fire Brigades and NSW Rural Fire Service will be required.

All proposed fire service plans and requests need to be submitted to Council after they have been certified by a suitably qualified hydraulic consultant and either the NSW Fire Bridge or NSW Rural Fire Service, as relevant.

##### 5.4.2.2 Installation of Fire Services

Council is responsible for the following, in the design and construction of a fire service:





- providing the main tapping, tee and valve in accordance with the feasible hydraulic design and/or calculations submitted to and approved by Council's Water and Sewer Development Engineer, at the cost of the developer; and
- supplying and installing an appropriately sized bypass meter, in accordance with the hydraulic design and/or calculations, at the cost of the developer, where required.

The developer and/or property owner is responsible for the following, in the design and construction of a fire service:

- submitting the hydraulic design and/or calculations for the fire service to Council's Water and Sewer Development Engineer for approval; and
- engaging a licensed contractor to install the remaining elements of the fire services to be compliant with the required Australian Standard.

Council does not allow the installation of in-ground hydrants on private property.

#### 5.4.2.3 Metering of Fire Services

Water metering of fire control services will be assessed on the type, size and use of the development. Typically:

- Hose Reel Services must be connected to a metered service (refer to the Plumbing Code of Australia 2019). Where this is not currently the case, Council will work with these property owners with a view to installing a complying connection, at the owner's expense.
- Designated Fire Hydrant Services must be fitted with an Australian Standard approved Double Check Valve Assembly (DCVA) and an appropriately sized bypass water meter and constructed in accordance with the relevant Australian Standard.
- Residential / Home Fire Sprinkler Services designed under AS2118.4 or AS2118.5, which utilise a low volume of water, must be fitted with an Australian Standard approved DCVA and an appropriately sized bypass water meter and constructed in accordance with the relevant Australian Standard.

Use of unmetered fire services for non-fire related purposes is considered water theft.

Mechanical metering of fire services is prohibited, while digital metering of fire services is permissible in accordance with the relevant Australian Standard.

#### 5.4.2.4 Designated Fire Hydrants and Sprinkler Services and Low Flow Bypass Meters

Water connections dedicated to designated fire hydrants and/or fire sprinkler systems must have a DCVA with a minimum 20-25mm diameter bypass meter fitted.

The DCVA shall be installed inside the property boundary as close as possible to the connection of the water main, and prior to any suction/booster assembly.

Only bypass meters, that are part of a prefabricated dual check valve assembly incorporating a bypass meter and backflow prevention to the Australian Standard are



permitted to be installed by licensed contractors, on approval by Council Water and Sewer **Business Unit**.

All low flow bypass meter installed by private licensed contractors are to be inspected by Council's Water and Sewer **Business Unit** for the purpose of recording meter details for billing only.

#### 5.4.2.5 Use of Fire Services

The supply of water from a fire service for any purpose other than firefighting or testing of firefighting equipment is not allowed and will be considered as water theft.

#### 5.4.2.6 Low Flow Bypass Metering and Accountability

The low flow bypass meter on a fire service is monitored by Council. If excessive flows are detected, a site inspection of the property will be carried out by a representative of Council's Water and Sewer **Business Unit**. These site inspections may reveal misuse, leakage, required fire system testing or may be the result of actual firefighting use.

The accounts of individual properties may be adjusted to reflect the true amount of water supply used on the development. The calculation for water used may be determined through estimation.

#### 5.4.2.7 Ownership and Maintenance Responsibilities for Fire Services

Council has ownership and is responsible for the maintenance of the fire service connection up to and including the isolating valve at the water main; that is the water main, tee and isolating valve.

The property owner has ownership and is responsible for the maintenance of the fire services, pipelines and fittings from the isolating valve.

The owner of the fire service must lodge an annual "Backflow Prevention Device Inspection, Testing and Maintenance Report" in accordance with this Policy for the service to be considered a Fire Service.

#### 5.4.3 Backflow and Cross Connection Control

##### 5.4.3.1 All Properties

Each property owner is responsible for their property complying with the Backflow and Cross Connection Control section of this policy. The property owner is to ensure all backflow prevention devices installed comply with the policy.

The backflow prevention device required for each application will be identified by the hazard rating detailed in AS/NZS 3500.1 Section 4 Table 4.1, as well as Appendix F Tables F1, F2 and F3 of the standard. Assessment of the hazard rating is at Council's discretion.

The property owner is responsible for installation of the appropriate backflow prevention devices on any property that has a high or medium hazard rating as set out in AS/NZS 3500.1 Section 4. The customer must engage an accredited backflow



prevention plumber to install the backflow prevention device and submit the record of installation to Council.

Where a new treated water service is to be connected on properties with high or medium hazard ratings the property owner must provide certification of the installation of a backflow prevention device complying with AS/NZS 3500.1 by an accredited backflow prevention plumber prior to Council making treated water available at the property.

Where the hazards are unknown for a property, the hazard rating will default to high, requiring the installation of a device appropriate for that hazard rating. If the hazard rating varies due to multiple processes or multiple tenants, the highest hazard rating must be applied.

#### 5.4.3.2 Domestic Properties

All domestic meters will have a dual check valve device as a minimum requirement. These are incorporated within the water meters provided by Council for 20mm and 25mm meters. These are assumed to provide a sufficient level of protection for domestic activities. Larger meters will require separate devices.

Additional backflow controls may be required for residential properties that have a risk of cross contamination of water supplies i.e. where Council's potable water supply is used to fill a rainwater tank. Refer Section 5.4.3.5 Cross Connection Control.

#### 5.4.3.3 Existing Properties without Backflow Protection

In cases where Council becomes aware that an existing connection does not have sufficient backflow prevention protection, Council may instruct the property owner to comply with this policy within **fourteen (14)** days of receipt of Council's notice.

If the property owner fails to comply with Council's notice, Council's plumber may enter the property, under Sections 191, 191A or 192 of the *Local Government Act 1993*, and install a suitable backflow prevention device in accordance with AS/NZS 3500.1 Section 4.

All costs incurred by Council taking this action will be billed to the property owner.

#### 5.4.3.4 Compliance and Reporting

Council will maintain a compliance register of installed testable backflow prevention devices fitted on high and medium hazard properties. Council requires:

- Accredited backflow prevention plumbers to install all backflow prevention devices. Only an accredited plumber may commission and test these devices
- All testable backflow devices to be registered with Council and tested on installation
- All testable devices to be tested on an annual basis, with testing carried out by an accredited backflow prevention plumber and



- The accredited backflow prevention plumber to submit the Certificate of Compliance for each backflow prevention device tested to Council for inclusion in the register.

The property owner is responsible for the installation, maintenance and certification of backflow prevention devices on their property in accordance with AS/NZS 3500.1.

Where the customer fails to provide the certification of backflow prevention devices, Council may undertake one or more of the following:

- **Issue reminder notice(s) to the customer**
- Test and certify the device and
- Disconnect the water service if Council believes that the hazard presented by the activities on the property presents an unacceptable risk to the water supply. This action is to prevent the possibility of the property contaminating the treated water supply.

All costs incurred by Council taking these actions will be billed to the property owner.

#### 5.4.3.5 Cross Connection Control

Property owners may need to install a backflow prevention device as part of their connection to Council's water supply system. All new connections, where the processes carried out on the property could endanger health or potentially cause death, must have a backflow prevention device installed in accordance with the *Plumbing Code of Australia 2019* and Australian standard AS 3500.

A backflow prevention device is used to protect water supplies from contamination and includes a break tank, registered air gap, pressure vacuum breaker, reduced pressure zone device or testable double check valve, as deemed appropriate by Council.

Council may require existing premises connected to Council's water supply system to be provided with a backflow prevention device for containment at the property boundary, and/or within the property for isolation of potential contamination zones. The devices shall be installed on the customer's side of the water meter with no connections between the water meter and the device. On a separate hydrant and sprinkler fire service on a non-residential property, the device shall be installed close to where the water service crosses the property boundary, prior to any booster assembly.

All backflow prevention devices are the responsibility of the property owner. All backflow prevention devices must be registered with Council and be tested on an annual basis with a 'Backflow Prevention Inspection Testing and Maintenance report' submitted to Council. Backflow prevention devices may reduce the pressure and flow rate of the water supply to the premises. It is the owner's responsibility to undertake, at their cost, any works on the premises necessary to provide adequate water flow rate and pressure for their needs.



## 5.5 Development Matters

### 5.5.1 Water and Sewer Role in Development

Council, as the Water Supply Authority as described under the *Water Management Act 2000* have the following responsibilities concerning building and land development within the Singleton Local Government area:

- Determining if the proposed site can be adequately serviced by Council's water and/or sewer infrastructure
- Ensuring the proposed development doesn't affect existing water and sewer supply systems, including the capacity to maintain current levels of service
- Providing compliance under the *Water Management Act 2000* (s305, s306 and s307) and *Local Government Act 1993* (s64 and s68) and
- Ensuring development meets the standards set out in Council's Technical Specifications for water and sewer supply systems.

The development assessment process by Council's Planning and Environmental Services Group will continue to address all aspects of development other than water and sewer services. Advice from the Water and Sewer group is only relevant to water and sewer matters, and it is the responsibility of the Developer to integrate this into the project scope and timelines and/or address other requirements of development. Council strongly recommends all developers consult with the Duty Planner and/or undertaking a Pre-Lodgement meeting prior to submitting an application.

#### 5.5.1.1 Certificate of Compliance under the *Water Management Act 2000*

If a development is proposed in the Singleton Local Government Area and the result will impact Council's water and/or sewerage systems, Council's Water and Sewer Business Unit will assess the application in accordance with the requirements of Sections 305, 306 and 307 of the *Water Management Act 2000* and associated regulations.

The developer is required to make an application under Section 305 to which Council will issue a Section 306 Notice of Requirements letter, which sets out the requirements that must be satisfied in order to achieve a Section 307 Certificate of Compliance. Completion of the required works and payment of the required fees must be satisfactorily completed prior to the issuing of a Certificate of Compliance under Section 307 of the *Water Management Act 2000*.

This includes Exempt and Complying Development.

The Building Plan Assessment process determines if a Section 305 Application for a Section 307 Certificate of Compliance is required.

The Section 306 Notice of Requirements letter may include a number of different conditions, applications and/or approvals depending on the nature of the development. This may include additional approvals such as *Building In The Vicinity Of Sewer And Water Trunk Mains*, or applications for water connections, or other conditions. Each requirement will need to be met at a particular stage of the development process, and





a Section 307 Certificate of Compliance can't be issued by Council until all requirements are satisfactorily met. It is the customers responsibility to rectify any issues arising from failure to complete the Section 306 requirements.

#### 5.5.1.2 Building Plan Assessment

If you are building, renovating and/or developing land in Council's water and sewer supply area, the development requires assessment by Council's Water and Sewer Business Unit.

This assessment determines any impact the development will have on Council's water and sewer infrastructure and if additional approvals are required, such as building over or adjacent to sewer infrastructure or a certificate of compliance under the *Water Management Act 2000*.

This includes Exempt and Complying Development.

#### 5.5.1.3 Privately Certified Development

Privately certified developments require, as a minimum, a Building Plan Assessment by Council's Water and Sewer Business Unit prior to the determination of the development to determine any impacts and conditions associated with Council's water and sewer assets. These developments may require additional approvals from Council's Water and Sewer Business Unit depending on the outcome of the Building Plan Assessment.

#### 5.5.2 Easements

The location of water mains that will become part of Council's water supply system on private property is to be avoided. Where a water main cannot be located in a dedicated public road reserve or access way, it may be located within an appropriately sized and registered easement, subject to Council's approval.

The easement is to be provided at the developer's full cost at the time of subdivisions and shall be created by an instrument on the certificate of title stating **"Easement for Water Supply Services. Access without notice will be required for the purpose of constructing, extending maintaining and operating these services"**. A registered surveyor shall survey easements and certify the location of pipelines within the easements.

However, where it is necessary, water mains are to be located in an easement in favour of Council and be of minimum width 3.5 metres, unless otherwise advised by Council. To allow for future relocation or replacement the pipeline is to be located off-centre preferably 1 metre from either edge of the easement.

The location of water services in easements other than a vehicular access related easement for the property being served will not be permitted unless under extenuating circumstances. The reason for this is that there is a risk of undetected interference with the water service in the form of damage, contamination or illegal connection if the easement is not in an area fully accessible to and able to be overseen by the serviced property owner.



### 5.5.3 Section 64 – Developer Charges

Council, as the Water Supply Authority as described under the *Water Management Act 2000*, and pursuant to Section 64 of the *Local Government Act 1993*, may levy fees or require particular water management works to be delivered as a condition of approval for connection of developments to the water supply network.

Fees levied under Section 64 of the *Local Government Act 1993*, referred to as a **developer charges**, are upfront payments levied by Council to recover part of the cost of providing the infrastructure either within Council's existing supply systems or through future capital works incurred in servicing new developments or additions/change to existing development, which impose a loading on Council's water supply and or sewer infrastructure.

As defined in the Department of Primary Industries, **Water 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater**; Developer Charges serve three related functions:

- they provide a source of funding for infrastructure required for new urban development
- they provide signals regarding the cost of urban development and encourage less costly forms and areas of development and
- are an integral part of the fair pricing of water related services.

Council has prepared a Development Servicing Plan (DSP) in accordance with Section 64 of the *Local Government Act 1993*, which details the water supply developer charge to be levied upon development areas utilising Council's water supply infrastructure.

Potential development areas not included in the current DSP will be subject to separate **developer contributions** charges based upon the actual cost of providing water supply services and are at the discretion of Council.

It should be noted that Section 64 **Developer Charges** are also known as headworks charges, developer charges, **developer contributions or other similar terms**.

#### 5.5.3.1 Calculation of Section 64 **Developer** Charges

Section 64 charges are levied when additional equivalent tenements (ET) are created or changed.

Standard residential lots (lot size 450m<sup>2</sup> to 2,000m<sup>2</sup>) are assumed to have an initial water ET loading of one ET, while larger or rural residential lots (lot size greater than 2,000m<sup>2</sup>) are assumed to have an initial water ET loading of 1.2 at the time of subdivision. Commercial and industrial developments initial water ET load are based on an average assumed loading per hectare. Assumed loadings are determined by the Water Directorate's Section 64 Determination of Equivalent Tenements Guidelines.

The charges applied at the time of subdivision provide a base entitlement for each allotment. As each allotment is developed, the new ET is calculated based on the type of development to be constructed.



The applicable Section 64 Charges will then be based on the estimated ET loading and Council's DSP and annual adopted Fees and Charges. Quoted charge rates will increase annually, where payment is made in future financial years.

Small home-based businesses are considered exempt from developer charges where the business is a casual operation and has an additional loading of less than 1ET.

#### 5.5.4 Augmentation of Water Supply Systems

Where a development is required by condition of **Section 306 Notice of Requirements** to augment water supply infrastructure the following conditions will apply:

- the design of the augmentation works required shall be based upon Council's Technical Specifications;
- at the direction of Council, the developer will be required to complete a site-specific Developer Servicing Strategy to determine the optimal configuration and staging of water and sewer infrastructure for a particular development and taking into account neighbouring developments that may reasonably connect. Council will review the strategy and may request modifications prior to approving it. A Developer Servicing Strategy is likely required in the following circumstances:
  - land remote from or on the fringe of existing water and/or sewer network(s) and/or where the most suitable point of connection to the existing network requires further investigation
  - large developments requiring new and/or augmented mains, pumping stations and reservoirs (typically with high water demand and/or sewer loadings) or
  - land elevated above existing supply limits where pressure boosting and/or maintenance may be required (e.g. by way of new reservoirs and/or pump stations) or
  - Land not specifically covered by current strategies or plans or
  - Where new infrastructure will service multiple potential developments in the future.
- where Council undertakes the work, the contribution required will be calculated by Council and paid by the developer prior to the work proceeding. Where the developer undertakes the work and an offset against **Developer Charges** is required, the design and the value of the work shall be approved and offsets agreed upon by Council prior to the work commencing. **Generally Council does not undertake works on behalf of developers**
- failure by the developer and/or consultant to obtain prior written design approval and cost agreement from Council will result in a nil offset being applied to the work and
- where Council has identified potential future demand for infrastructure over and above that required by the development in question, Council may elect to increase



the size of the infrastructure and meet the additional cost over and above the contribution calculated.

#### 5.5.4.1 Additional Water Mains

Where a development results in the need to upgrade water main pipework, then the applicant is required to fund a new water main capable of serving the proposed development as well as the existing water main capacity. The water assets created as a result of the upgrade will revert to the ownership of Council as per Section 59(a) of the *Local Government Act 1993*.

Should Council request additional capacity, then Council will contribute to the approved additional cost.

#### 5.5.4.2 Disinfection and Pressure Testing

All new water mains that are to be connected to Council's water supply system must be pressure tested and disinfected prior to commissioning and connection to Council's network. This is at the developers cost.

#### 5.5.4.3 Isolation to Facilitate Connection of New Developments

Following completion of disinfection and pressure testing, developers must apply and pay the appropriate fees, as defined in Council's adopted fees and charges, to facilitate the connection of new developments/infrastructure to existing Council infrastructure. Council will make every effort to provide isolation of water mains to permit interconnection at the date, time and for the specified period in this application. It is prudent to allow 4 weeks for this work as isolations can involve impacts to the network remote from the site. If Council cannot accommodate the requirements, the applicant will be advised and given notice of suitable times and duration and any additional charge that may apply.

#### 5.5.4.4 Statement of Available Water Pressure

Council can provide a statement of available water pressure for the hydraulic design of fire service installations, after receipt of the nominated flow rate and payment of appropriate fees, as defined in Council's adopted fees and charges.

#### 5.5.5 Disconnection of Existing Services Across Boundaries

Where a parcel of land is subdivided, any internal plumbing from the original parent lot subsequently passing into the annexed lot will be disconnected at the boundary. The developer will be required to pay a service disconnection fee and apply for and pay for service connection fees to service the development lots.

#### 5.5.6 Development Impacting Existing Water Assets

Where a development will negatively impact on Council's existing water assets, for example the relocation of a road, utility or installation of a pool, it is the responsibility of the developer to Consult with Council's Water and Sewer Group for advice. The Developer may be required to replace and/or relocate Council's assets at the



developer's cost. Assets replaced and/or relocated will need to meet Council's current Technical Specifications. The water assets created as a result of the relocation will revert to the ownership of Council as per Section 59(a) of the *Local Government Act 1993*.

Where a development may require use of existing assets, Council may request the developer to undertake an asset condition assessment to ensure the asset(s) are fit for purpose and will not be detrimentally impacted by the development. It is the responsibility of the developer to undertake these investigations at the developer's cost and provide the condition assessment to Council for assessment.

Should Council request additional capacity, then Council will contribute to the approved additional cost.

## 6 Relevant Legislation

Council provides water services appropriate to the current and future needs of the local community in accordance with relevant Acts, Regulations and standards. Some of the relevant Acts, Regulations and are:

- Local Government Act 1993 and Local Government (General) Regulation 2021
- Water Management Act 2000 and Water Management (General) Regulation 2018
- Water NSW Act 2014 and Water NSW Regulation 2013 and Water (Part 2 – General) Regulation 1997
- Plumbing and Drainage Act 2011 and Plumbing and Drainage Regulations 2017
- Public Health Act 2010 and Public Health Regulation 2012
- Fluoridation of Public Water Supplies Act 1957 and Fluoridation of Public Water Supplies Regulation 2017

## 7 Document Information

Related documents and reference information in this section provides a single reference point to develop and maintain site compliance information.

### 7.1 Related Documents

Related documents, listed below, are external documents directly related to or referenced from this document.

- Plumbing Code of Australia (2019)
- Australian Standard AS 2419 – Fire hydrant Installations – System Design, Installation and Commissioning
- Australian Standard AS/NZS 3500 – Plumbing and Drainage Set





- Australian Drinking Water Guidelines (2011)
- Code of Practice for Fluoridation of Public Water Supplies (2018)
- NSW Health and Department of Primary Industries Guidelines for Drinking Water Management Systems (2013)
- Department of Primary Industries (DPI) Water Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2016)
- NSW Guidelines for Best Practice Management of Water Supply and Sewerage (2007)
- Water Directorate – Section 64 Determination of Equivalent Tenements Guideline (2017)
- Water Directorate – Easement Guidelines (2015)
- National Instrument Test Procedures for Utility Meters (NITP 14) (2013)

Related documents, listed in Table 7-1 below, are internal documents directly related to or referenced from this document.

Number	Title
POL/26013	Policy – Building in the Vicinity of Sewer and Trunk Water Mains
POL/26005	Policy – Discharge of Liquid Trade Waste to Sewerage System
POL/1066	Policy – Water Carters
POL/26032	Policy – Water Restrictions Enforcement
POL/26015	Development Services Plan – Water and Sewer Supply Systems
21/25692	Technical Specifications – Design and Construction – Water Infrastructure – November 2020
	Singleton Council Operational Plan (Annual)
	Singleton Council Fees and Charges Schedule (Annual)
21/27507	Drinking Water Management System (DWMS) – 2021
21/77057	Delegations Register – Water and Sewer

Table 7-1 – Related documents

## 8 Responsible Officer / Policy Owner

The implementation and ownership of this policy rests with the Manager Water and Sewer, unless appropriately delegated to another officer.



The Manager Water and Sewer is responsible for the adherence to this Policy. The following officers may provide support and advice on this policy:

- Manager - Water and Sewer
- Coordinator - Water and Sewer – Utilities Engineering
- Coordinator - Water and Sewer – Delivery
- **Coordinator – Water and Sewer – Strategy and Compliance**
- Water and Sewer – Development Engineer

## 9

**Responsibilities**

Parties or Persons	Responsibilities
General Manager	<ul style="list-style-type: none"> <li>• Determine Level 4 Community Service Organisations</li> <li>• Determine appropriate action for breaches of policy</li> </ul>
Manager Water and Sewer	<ul style="list-style-type: none"> <li>• Ensure compliance of policy and all relevant procedures and supporting documents are current and communicated to all relevant stakeholders.</li> <li>• Determine all claims under Section 5.2.1 Concessions and Rebates – Concealed Water Leaks</li> <li>• Review policy regularly to ensure currency of principles</li> </ul>
Manager Development and Environment	<ul style="list-style-type: none"> <li>• Consider principles of the policy when assessing development and Section 68 applications and providing advice to customers.</li> </ul>
Financial Controller	<ul style="list-style-type: none"> <li>• Implementation and management of Concessions and Rebates</li> <li>• Assessment of levels and suitability for Community Service Organisations annually prior to issue of rates and charges notices.</li> <li>• Ensure compliance of Concessions and Rebates</li> </ul>
<b>Coordinator – Water and Sewer – Delivery</b>	<ul style="list-style-type: none"> <li>• <b>Assess applications for plumbing reimbursements</b></li> </ul>
<b>Water and Sewer Development Engineer</b>	<ul style="list-style-type: none"> <li>• <b>Assess developments in accordance with the principles of this policy</b></li> <li>• <b>Levy Section 64 Developer Charges in accordance with this policy</b></li> </ul>
Utilities Engineer – Process	<ul style="list-style-type: none"> <li>• Ensure compliance Drinking Water Quality Management System requirements and develop associated procedures.</li> </ul>
Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>• Compliance with Backflow Prevention and Cross Connection Control registration and testing</li> </ul>
Treatment Plant Operators	<ul style="list-style-type: none"> <li>• Comply with requirements Drinking Water Quality Management System</li> </ul>
Water and Sewer Staff	<ul style="list-style-type: none"> <li>• Ensure understanding of principles of the policy and all relevant procedures and supporting documents</li> </ul>



Parties or Persons	Responsibilities
	<ul style="list-style-type: none"> <li>Undertake all duties in accordance with the policy and supporting procedures in a safe manner.</li> </ul>
GIS Business unit	<ul style="list-style-type: none"> <li>Ensure accurate mapping available, showing all relevant sewer infrastructure.</li> </ul>
Frontline Staff	<ul style="list-style-type: none"> <li>Awareness and understanding of principles of the policy.</li> <li>Consider implications when discussing or dealing with customers or Council matters relating to building, renovating or developing land and sewer services.</li> </ul>

It is the responsibility of all Council employees and any person contracted to or acting on behalf of Council to have knowledge of, and to ensure compliance with this policy.

## 10 Approval

As per cover sheet.

## 11 Monitoring

This policy will be monitored by the Manager Water and Sewer, unless appropriately delegated to another officer.

## 12 Review Date

This policy, once adopted, is to remain in force until it is reviewed by Council. This policy is to be reviewed approximately every two (2) years to ensure that it meets legislative requirements.

In accordance with Section 165 (4) of the *Local Government Act 1993*, this policy will be reviewed within one year of the election of every new Council.

## 13 Last Review Date

April 2022

## 14 Record Keeping, Confidentiality and Privacy

All records received, created or supporting this policy will be kept on Council's Corporate Computer Systems in accordance with *State Records Act 1998* and will retain confidentiality and privacy in accordance with *Privacy and Personal Information Protection Act 1998* and Council Policy. Council is required to release certain information in accordance with *Government Information (Public Access) 2009*.

This policy is to be made available for public viewing as required under the *Government Information (Public Access) 2009*.



## 15 Breaches and Sanctions

Any breaches of this Policy will be referred to the General Manager for appropriate action.

## 16 Document History

The below table provides a summary of changes and amendments to this document.

Version	Date Amended	Author	Comment (e.g. reasons for review)
3	May 2022	Manager Water and Sewer	<ul style="list-style-type: none"> <li>• Biennial review</li> <li>• Inclusion of fees for isolations to connect developer-provided infrastructure to Council's existing infrastructure</li> <li>• Including of requirements for developments impacting existing water assets</li> <li>• Added document history</li> </ul>





# SEWER SERVICES

## Policy | Water and Sewer

To outline Council's commitment to supplying consistently high quality, effective sewerage services to its customers.

<b>Policy No:</b>	POL/26031	<b>Version:</b>	3
<b>Service Unit:</b>	Water and Sewer		
<b>Responsible Officer:</b>	Manager Water and Sewer		
<b>Responsible Director:</b>	Director Infrastructure & Planning		
<b>Authorisation Date:</b>		<b>Review Date:</b>	
<b>Minute No:</b>			

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Policy

Sewer Services

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## 1 Background

### 1.1 Title of the Policy and Commencement Date

The Sewer Services Policy takes effect from the date of adoption by the elected Council. Refer to [Policy Register](#) information provided on the cover page.

### 1.2 Purpose of the Policy

The purpose of this policy is to outline Singleton Council's (Council's) commitment to providing safe and effective collection and treatment of wastewater at Council sewerage treatment plants, as well as ensuring the protection and longevity of Council's sewer assets.

The policy provides general information and does not take precedence over design and construction specifications, Australian Standards, development conditions, or any other superior legislation or regulations.

## 2 Objective

### 2.1 Objectives and Coverage of the Policy

The main objective of this policy is to provide direction to:

- Council officers for the effective operation and management of Council's sewerage system and
- Landowners as to the processes, charges and responsibilities applicable when connected to Council's sewerage systems.

## 3 Application

### 3.1 Application of this Policy

This policy applies to Council activities as well as the activities of Council's customers and ratepayers with relation to the sewer services supplied by Council within the Singleton Local Government Area. The Sewer Services Policy is supported by Council's protocols, procedures and Guidelines.

## 4 Definitions

For the purposes of this policy:

Term	Meaning
Approval to Connect	An approval granted by the Council to connect a private drain or sewer with a public drain or sewer under the



Term	Meaning
	control of Council under Section 68 Part B Item 6 of the <i>Local Government Act 1993</i>
Approval to Install	An approval granted by the Council to install, construct or alter a waste treatment device or a human waste storage facility or a drain connected to any such device or facility in accordance with Section 68 of the <i>Local Government Act, 1993</i> .
Approval to Operate	An approval granted by the Council that requires owners/occupiers to manage their on-site sewage management system in accordance with the conditions of approval issued under section 68 of the <i>Local Government Act, 1993</i> .
Boundary box	A valve box at the property boundary incorporating an isolating valve, non-return valve and inspection tee
Boundary Shaft	Allows the private on-property sewer system to be inspected, cleaned and repaired from the surface.
Control Panel	The box incorporating the pump controls and alarm system for the pump.
Corrosion	Damage to the sewerage system, and particularly concrete components, as a result of septic sewage being discharged to the sewerage system.
Developer Charge	A charge levied on developers to recover part of the capital cost incurred in providing infrastructure to new developments, under section 64 of the <i>Local Government Act 1993</i> . Refer to Section 5.4.6.
Development Servicing Plan - DSP	A document setting out the calculation of developer charges within the Council's local government area. It includes the developer charge, assumptions used to calculate the charges, and planning information related to water and sewer infrastructure. It is in accordance with DPI Water's Developer charges Guidelines for Water Supply, Sewerage and Stormwater 2016.
Developer Servicing Strategy	Strategy prepared to determine optimal configuration of water and sewer infrastructure for a particular development and taking into account neighbouring developments that may reasonably connect.
Discharge Pipe	The pipeline from the Pressure Sewer Unit (PSU) to the pressure sewer main via the boundary box.
Equivalent Tenements – ET's	An Equivalent Tenement (ET) is a standard measure used to assess the impact a particular development or land type will have on Council's water and sewerage systems, in terms of average water consumption or average sewage discharge, relative to a standard residential property.
High Level Alarm	An alarm activated when the volume of wastewater in the storage vessel exceeds the predetermined normal level controlled by the pump.
Liquid Trade Waste	Liquid trade waste means all liquid waste other than sewage of a domestic nature.
Liquid Trade Waste Discharge Approval	Approval issued under section 68 of the <i>Local Government Act, 1993</i> to discharge liquid trade waste,



Term	Meaning
	meaning all liquid waste other than sewage of a domestic nature, to Council's sewerage system.
Maintenance	Includes repairs and replacement, and where relevant testing and inspections
Maintenance Hole	A covered hole, through which a person may access an underground or enclosed structure; such as the sewer.
Non-Drainable Lot	A lot of land that, at the time of subdivision can only be serviced by a Non-Standard Sewer Service.
Non-Rateable Sewer Customer	Land exempt from all rates, other than water supply special rates as outlined in Section 556 of the <i>Local Government Act 1999</i> .
Non-Standard Sewer Service	Properties that are connected to Council's sewerage system by private sewer infrastructure by means other than a direct gravity connection or a Council-owned pressure sewer system (PSS). This may be way of private collection pits/holding wells and/or private sewage pumping stations.
Non-Standard Sewer Agreement	Agreement entered into between the property owner and Council which outlines the terms of the connection of the property to Council's sewerage system via a Non-Standard Sewer Service.
Pressure Sewer System - PSS	An overall system including the Pressure Sewer Unit, control panel, discharge pipe, boundary box and pressure sewer pipes up to a discharge point in a conventional sewer.
Pressure Sewer Unit - PSU	The tank in which the pump and level probe is located and is typically made from polyethylene or poly and/or fibreglass.
Property	An individual, dwelling, or premises used for any purpose; or Land, whether built on or not (excluding public land); or a lot in a strata plan that is registered under the <i>Strata Schemes (Freehold Development) Act 1973</i> or the <i>Strata Schemes (Leaseholder Development) Act 1986</i> that is connected to, or for which a connection is available, to council's water supply system or sewerage system.
Property Owner	A person who holds ownership title to the property and/or as defined by the <i>Local Government Act 1993</i> .
Odour	A smell that is harmful to a person who is outside the premises from which it is emitted, or which interferes unreasonably with the comfort or repose of a person outside the premises from which it is emitted.
On-site Sewage Management System	Includes all types of human waste storage and treatment facilities, e.g. septic tanks, cesspits, compost toilets, urinals. Also includes the wastewater application (dispersal) area, e.g. absorption trenches, irrigation fields.
Operate a System of Sewage Management	Means hold or process, or re-use or otherwise dispose of, sewage or by-product of sewage (whether or not the sewage is generated on the premises on which the system of sewage management is operated). This includes:





Term	Meaning
	(a) use artificial wetlands, transpiration mounds, trenches, vegetation and the like in related effluent application areas; (b) hold or process sewage that is to be subsequently discharged to a public sewer
Risk	The effect of uncertainty on objectives (Note: an effect is a deviation from the expected and can be positive and/or negative)
Septicity	Septicity in sewage develops as a result of anaerobic bacterial activity, particularly in sewage that is left sitting for long periods of time. Septic sewage is more likely to be malodorous, corrosive to the sewerage system and more difficult to treat at a sewage treatment plant.
Sewage (also known as Wastewater)	Wastewater from toilets, sinks, showers and washing machines is carried through the sewer mains to be treated at the sewerage treatment plant.
Sewer	An asset owned by Council used for the conveyancing of sewage, whether raw or treated. A sewer may be 'live' or disused.
Sewer Discharge Factor - SDF	Equal to the total discharge to sewer including liquid trade waste divided by the total water consumption times by 100.
Sewer Line / Main / Pipe	An asset owned by Council, controlled and maintained by the Water and Sewer Business Unit, used for the conveying of sewage (raw or treated). A sewer may be operational or disused.
Sewerage System	The system consisting of assets owned by Council used for the conveyancing of sewage, whether raw or treated. It may comprise of gravity, pressure or rising sewer mains, sewer pump stations, pressure sewer systems and sewage treatment plants.
Stakeholders	Any person, company or relevant authority that can affect or be affected by the Council's actions objectives and policies.
Trade Waste Discharge Factor - TWDF	Equal to the liquid trade waste divided by the total water consumption times by 100.

## 5 Principles/Body

### 5.1 Sewer Services

#### 5.1.1 Sewerage Service Areas

Council manages and supplies customers with essential sewer services, in the area of Singleton, Glenridding, Singleton Heights, The Pinnacle, Hunterview and Darlington. The Maison Dieu area is connected to a pressure sewerage system servicing industrial and residential customers.



Council does not supply sewer services to Branxton; Hunter Water Corporation supplies sewer services to Branxton.

The levels of service customers can expect from Council are detailed in its [Water and Sewer Customer Service Plan](#).

#### 5.1.2 Connections to Sewer Services

All properties with a dwelling or commercial building, with amenities in the sewer service area shall be individually connected to the sewer main. In cases where a property is to be subdivided, and where existing buildings are to remain, each designated (lot and deposited plan) land parcel shall have an independent connection to Council's sewerage system. [The existing buildings are to be connected to the service within the lot.](#)

The sewerage services of any residential, community title, commercial or industrial development shall be separate and distinct from that of any other development. The only fitting to discharge to such services shall be those of the designated building and its fixtures to which the service is connected.

It is mandatory to connect to Council provided sewerage infrastructure if a property falls within the defined boundary of the [sewer service area](#).

Council applies a residential sewer charge per residential assessment, including vacant land. If a property is vacant and within 75 metres of a Council sewer main and could feasibly connect, the residential sewerage charge is applicable.

This residential sewer charge, per assessment is set annually in Council's adopted Operational Plan and is levied as part of the Rates Notice.

##### 5.1.2.1 New Sewer Connections

Applications under Section 68 of the *Local Government Act 1993* must be made to connect to Council's sewer system. Typically, connections to Council's sewer system will be made at the time of development and considered as part of the Certificate of Compliance process (refer Section 5.5.1.1 Certificate of Compliance under the Water Management Act 2000).

The type and location of the connection to Council's sewer system is at the discretion of Council. Council will not permit sewer connections to rising sewer mains.

Connections made to Council's sewer system not made during the initial development (e.g. secondary dwelling) may be made by a licensed plumber with the connection inspected by Council's Water and Sewer Business Unit for compliance with Council's Technical Specifications.

Alternatively, Council can undertake this work upon application and payment of appropriate fees and charges, as defined in Council's adopted fees and charges, at the time of application.



### 5.1.3 Discharge of Liquid Trade Waste

Liquid trade waste is defined in the *Local Government (General) Regulation 2021* as “all liquid waste other than sewage of a domestic nature.”

Council’s decision to accept liquid trade waste into its sewerage system is on the basis of a preventive risk management framework for managing risks to the sewerage system within an integrated water cycle management context and in compliance with its Environmental Protection Licence issued by the EPA.

Discharge is conditional upon the business owner and/or waste generator receiving a Liquid Trade Waste Discharge Approval, which may specify the upgrade and/or installation of pre-treatment devices, for example oil/water separators, grease arrestors and/or other specific treatment apparatus to ensure the resultant effluent discharge complies with trade waste requirements.

Refer to POL/26005 Discharge of Liquid Trade Waste to Sewer Policy for further details.

### 5.1.4 Sewer and Trade Waste Discharge Factors

Non-residential sewer and trade waste discharge is billed on the basis of the amount discharged to the sewerage system; in most cases this is by way of a sewer discharge factor (SDF) and a trade waste discharge factor (TWDF). These factors represent the estimated proportion of the water used by a customer that is subsequently discharged to the sewer either as sewage or liquid trade waste where the discharge is not measured.

The SDF is equal to the total discharge to sewer including liquid trade waste divided by the total water consumption times by 100. The TWDF is equal to the liquid trade waste divided by the total water consumption times by 100.

#### 5.1.4.1 Determination of Sewer and Trade Waste Discharge Factors for Billing

Council’s method of determining SDF and TWDF are set out in detail in POL/26005 Discharge of Liquid Trade Waste to Sewerage Policy.

### 5.1.5 Illegal Connections

Council has the right to disconnect any illegally connected property and/or fixtures. Illegal connections detected will be investigated by Council and action will be taken against the property owner. Penalties may apply for illegal connection and or construction, in accordance with the relevant legislation and Council resolutions.

### 5.1.6 Disconnection of Sewer

Where a property’s sewer connection becomes disused, is not to be redeveloped or is to be relocated to another location within the individual designated (lot and deposited plan) parcel of land, it shall be disconnected as required by Council, at the property owner’s expense.



Disused sewer services are to be sealed off at the point of connection to the sewer main, using approved materials in accordance with Australian Standard AS/NZS3500.2 Plumbing and Drainage and be undertaken by a licensed plumber or Council **upon payment of the appropriate fee**.

Disconnection of sewer services greater than 1.5m will be at the Council Water and Sewer Development Engineer's discretion.

Disconnection of a sewer service at the boundary shaft is not allowed.

Council requires a mandatory disconnection inspection by a representative of Council's Water and Sewer **Business Unit** with appropriate fees paid.

Council will not disconnect sewer services if there are still occupants of the building/residence.

The disconnection of sewer services does not preclude payment of the access charges for sewerage services.

#### 5.1.7 Stormwater Discharge to Sewer – Prohibited

The discharge of stormwater and/or ground water to Council's sewerage system, or connecting pipes carrying stormwater and/or groundwater to Council's sewerage system is prohibited. This includes stormwater downpipes being directed to the overflow relief gully.

If Council suspects stormwater discharge to sewer, smoke testing may be conducted on the sewer system. If this test confirms connection of stormwater to sewer, the connection is deemed illegal.

It is the property owner's responsibility to disconnect all stormwater from the sewer system in accordance with Council's written orders. This will be at the property owner's expense.

#### 5.1.8 Swimming Pools Backwash Discharge

Swimming pool backwash waste shall be connected to the sewer system by a designated sanitary drainage fixture **with an air gap connection method**. The discharge pipe (maximum size 50mm) shall not discharge at a flow rate greater than one litre per second.

The discharge of swimming pool backwash water shall not be carried out during rain periods.

A licensed plumber shall carry out all work in relation to a residential swimming pool backwash sewer connection. The connection must be by means of extending the backwash delivery pipe to an existing overflow relief gully or to a specifically installed new overflow relief gully. The overflow relief gully grating must not be obstructed from allowing free overflow by the positioning of the swimming pool backwash discharge pipe.

Direct connection to the sewer system or sanitary drainage system of the property is not allowed.



### 5.1.9 Maintenance Responsibility for Sewer Services and Components

#### 5.1.9.1 Sewer Maintenance Shaft

Council is responsible for maintenance and repair of maintenance holes for access. However, the property owner is responsible for ensuring the maintenance shaft is accessible with a minimum of 1 metre clearance for access and maintenance. It is illegal to build over maintenance shafts or cover them with soil, grass or other materials.

Where driveways or paving are constructed over or within 1 metre of a Council maintained maintenance shaft, the owner will be responsible for all costs associated with any demolition and/or reinstatement works necessary to allow maintenance and/or repair to the asset affected.

#### 5.1.9.2 Sewer Main Outside Property Boundary

If the sewer main is located outside the property boundary, the following maintenance responsibilities apply:

##### The Property Owner

The property owner is responsible to maintain and repair sewer pipes within the property up to the boundary connection point to Council's sewer main. This includes the boundary shaft, also known as the inspection shaft.

Property owners that wilfully or negligently cause harm or likely harm to the environment (e.g. through damaging sewer pipes within their property and causing a sewer overflow) may be subject to penalties under the *Protection of the Operations of the Environment Act 1997*.

##### Council

Council is responsible for maintenance and repair of:

- the sewer main
- the property connection drain up to the boundary shaft opening, or 1.0m inside the property boundary, whichever is lesser or
- 1.0m inside the property boundary, if there is no boundary shaft.

#### 5.1.9.3 Sewer Main Inside Property Boundary

If the sewer main is located inside the property boundary, the following maintenance responsibilities apply:

##### The Property Owner

The property owner is responsible to maintain and repair sewer pipes within the property up to the boundary connection point to Council's sewer main. This includes the boundary shaft, also known as the inspection shaft.



Property owners that wilfully or negligently cause harm or likely harm to the environment (e.g. through damaging sewer pipes within their property and causing a sewer overflow) may be subject to penalties under the *Protection of the Operations of the Environment Act 1997*.

#### Council

Council is responsible for maintenance and repair of

- the sewer main and maintenance hole
- the property connection drain up to the boundary shaft opening, or 1.0m from the sewer main, whichever is lesser or
- 1.0m from the sewer main, if there is no boundary shaft.

#### 5.1.9.4 Deep Sewer Mains with Vertical Risers

Deep sewer mains may have sealed vertical risers, a narrow pipe rising vertically from the sewer main to reach a minimum depth of 1.5m below the finished surface level of the allotment. The property connection is then branched through a junction to the vertical riser. In some of these installations boundary traps and vent lines are present.

If the deep sewer main is located **outside** the property boundary, the following maintenance responsibilities apply:

#### The Property Owner

The property owner is responsible to maintain and repair sewer pipes within the property up to the boundary connection point to Council's sewer main. This includes the boundary shaft, also known as the inspection shaft, boundary traps, 55 vents and vent lines.

Property owners that wilfully or negligently cause harm or likely harm to the environment (e.g. through damaging sewer pipes within their property and causing a sewer overflow) may be subject to penalties under the *Protection of the Operations of the Environment Act 1997*.

#### Council

Council is responsible for maintenance and repair of

- the sewer main and maintenance hole
- the property connection drain up to the boundary trap opening, or 1.0m inside the property boundary, whichever is lesser or
- 1.0m from the vertical riser, if there is no boundary trap.

If the deep sewer main is located **inside** the property boundary, the following maintenance responsibilities apply:





### The Property Owner

The property owner is responsible to maintain and repair sewer pipes within the property up to the boundary connection point to Council's sewer main. This includes the boundary shaft, also known as the inspection shaft, boundary traps, 55 vents and vent lines.

Property owners that wilfully or negligently cause harm or likely harm to the environment (e.g. through damaging sewer pipes within their property and causing a sewer overflow) may be subject to penalties under the *Protection of the Operations of the Environment Act 1997*.

### Council

Council is responsible for maintenance and repair of:

- the sewer main and maintenance hole
- the property connection drain up to the boundary trap opening, or 1.0m from the vertical riser, whichever is lesser or
- 1.0m from the vertical riser, if there is no boundary trap.

#### 5.1.9.5 Maintenance of the Boundary Shaft

The sewer boundary shaft is installed by the licensed plumber engaged by the property owner or developer and forms part of the private sewer system on the property. **Maintenance of** the sewer boundary shaft is the responsibility of the property owner.

In the event of a sewer blockage the boundary shaft must be located and inspected by the property owner or occupant, before contacting Council or a plumber. Boundary shafts are **most often** located close to the property boundary nearest the sewer main.

If a boundary shaft was originally constructed on the property, the Plumbing Code states this point should remain at surface level at all times.

If Council attends a property to clear a blockage and the boundary shaft is buried, Council may require you to arrange works to raise the boundary shaft to surface level. This will be at the property owner's expense.

If there is no boundary shaft installed, the property owner is required to engage a licenced plumber to install a boundary shaft for the property and/or development. This must be undertaken in accordance with the following requirements:

- The Building Code of Australia
- The Plumbing Code of Australia (inclusive of NSW amendments) and
- Australian Standard AS/NZA3500.2 Plumbing and Drainage.

Council requires access to the property boundary shaft to conduct inspections and maintenance on the sewer main and sewer junction point. Clear safe access is to be made available by the property owner for this task.



Council is not responsible for locating boundary shafts or connections. Council will provide where possible, sewer sanitary drainage diagrams free of charge to the plumber or property owner on request **to assist in their location**.

#### 5.1.9.6 Maintenance of Overflow Relief Gully (ORG)

The Overflow Relief Gully (ORG) also known as the Yard Gully is the most important fixture on your property. It prevents sewage from flowing inside your home. The overflow gully must be:

- Installed in accordance with the Building Code of Australia, Plumbing Code of Australia and Australian Standard AS/NZS3500.2 Plumbing and Drainage
- Strategically placed to provide minimum of 150mm difference in the height between all internal fixtures (floor wastes), and the spill level of the ORG
- Incorporate an unobstructed loose grating lid, which allows free relief and
- Not allow the ingress of surface or stormwater.

Council requires that one specified sewer ORG is installed on each individual dwelling for multi lot or strata dwellings.

#### 5.1.9.7 Maintenance of Boundary Traps and Vent Lines in Deep Sewer Main Connections

The sewer boundary traps, vents and vent lines are installed by the licensed plumber during construction of the sanitary drainage lines and forms part of the private sewer system on the property.

Maintenance of sewer boundary traps, vents and vent lines are the responsibility of the property owner.

#### 5.1.10 Non-Standard Sewer Services

There may be instances where it is not possible to connect customers to Council's sewerage system by a direct gravity connection or a Council-owned pressure sewer system (PSS) in a nominated pressure sewer system area. In these instances, Council may consider connecting customers to Council's sewerage system by private sewer infrastructure. These services are determined to be a 'Non-Standard Sewer Service' by Council.

##### 5.1.10.1 Methods of Property Connection to Council's Sewerage System

Council supports design practices that do not incorporate Non-Standard Sewer Services, including private collection pits/holding wells and/or private sewage pumping stations. Properties with the ability to drain to Council's sewer via gravity connection or those properties in a designated pressure sewer area are required to use this method of connection.

A Non-Standard Sewer Service will only be considered in limited circumstances, typically limited to instances where the topography of the customer's land or building



design does not feasibly allow for a gravity sewer connection (regardless of whether there would be additional cost to the developer) or the property is outside a designated pressure sewer area.

Where possible, lots requiring connection via a Non-Standard Sewer Service should be identified at the time of subdivision of the land. Properties that, upon subdivision of the land, can only be connected to Council's sewerage system by means of a Non-Standard Sewer Service are defined as 'Non-Drainable Lots'. The lot must be designated as such on the 88B Instrument, issued under the Sections 88B and 88E of the *Conveyancing Act 1919*, to ensure future property owners are aware of the additional sewerage requirements.

#### 5.1.10.2 Ownership, Operation and Maintenance of Non-Standard Sewer Services

The property owner retains ownership of the Non-Standard Sewer Service until the point of connection to Council's sewerage system. Refer Sections 5.1.9 Maintenance Responsibility for Sewer Services and Components and 5.3.1 Ownership of Construction and Maintenance of "On-Property" Assets for further information regarding the point of connection to Council's sewerage system.

The property owner is responsible for all operational and maintenance costs, including electricity and additional water usage if flushing is required, of a Non-Standard Sewer Service up to the point of connection to Council's sewerage system. Where a Non-Standard Sewer Service is installed, the installer shall supply relevant maintenance manuals and specifications of the system to the property owner for future reference.

Council requires that the owners of a Non-Standard Sewer Service engage an accredited service provider to monitor the ongoing performance and maintenance requirements of the system.

Council will require documentation to support satisfactory operation of the Non-Standard Sewer Service, which may include copies of records for maintenance, system details and regular inspections by appropriately qualified service technicians.

Where a Non-Standard Sewer Service is not performing satisfactorily (e.g. odours, septicity, excessive damage to downstream services) it is the owner's responsibility to rectify this. This may include upgrades to the system or rectification of Council's sewerage system.

#### 5.1.10.3 Approval Requirements

The property owner is responsible for the design and installation costs of the Non-Standard Sewer Service as well as gaining the necessary approvals. Property owners will also need to submit a hydraulic design to Council to support the applications. Services that have been installed incorrectly and/or without the approval of Council will be replaced/reconfigured at the property owner's expense.

Where a Non-Standard Sewer Service is to be installed, the property owner must make the following applications to Council and gain approval prior to undertaking the works:

- Application to Connect a Private Drain or Sewer with a Public Drain or Sewer Under the Control of Council under Section 68 Part B Item 6 of the *Local Government Act 1993* and



- Application to Install, Construct or Alter a Waste Treatment Device or Human Waste Storage Facility under Section 68 Part C Item 6 of the *Local Government Act 1993*.

These installations will also be required to hold an Approval to Operate a System of Sewerage Management under Section 68 Part C Item 6 of the *Local Government Act 1993*; this is an annual approval. For further information, refer Council's [POL/10115 On-Site Sewage Management Policy](#).

Customers who intend to discharge non-residential sewage to Council's sewerage system are also required to hold a Liquid Trade Waste Discharge Approval. For further information, refer [POL/26005 Discharge of Liquid Trade Waste to Sewerage System Policy](#).

These requirements are in addition to those under the *Plumbing and Drainage Act 2011* which also requires the arrangement of the Non-Standard Sewer Service to be detailed on the sewer service diagram.

Council will identify Non-Standard Sewer Services on the sewer service location plans to be included within contracts of sale.

#### 5.1.10.4 Non-Standard Sewer Service Agreement

A property owner will enter into a Non-Standard Sewer Service Agreement, which will detail the requirements of the connection, upon lodging the Application to Connect to Council and meeting all requirements.

As a minimum, the Non-Standard Sewer Service Agreement will outline connection and installation requirements (including discharge flowrates) and responsibilities of each party.

#### 5.1.10.5 Connection and Installation Requirements

To minimise the risk of overflow as a result of the Non-Standard Sewer Service and to reduce odour, septicity and corrosion of the sewerage discharge to Council's sewerage system. Non-Standard Sewer Services shall be subject to hydraulic design, but generally the following constraints will apply:

- Flows don't exceed the peak wet weather flow capacity of the downstream network. Nominally, pumps shall not discharge than 0.8L/s and a maximum of 60 metres head at the point of connection to Council's sewerage system and
- Pump float levels and holding tank/collection pits should be set at minimum levels with retention of contents to be not more than four (4) hours; this may necessitate the installation of flushing systems or implementation of flushing procedures. This may necessitate the need for a flushing system with appropriate backflow prevention.

Connection and installation requirements will be detailed in the Approval to Connect.



**5.1.10.6 Odour, Septicity, Corrosion and Flushing**

Non-Standard Sewer Services can contribute to odour complaints from adjoining properties as well as causing increased corrosion and septicity within Council's sewerage system. For customer's serviced by a Non-Standard Sewer Service, the property owner is responsible for the satisfactory operation and maintenance of the Non-Standard Sewer Service, including minimising odours, corrosion and septicity.

Methods to minimise odour, septicity and corrosion may include:

- Adjusting the pump activation mechanism to minimise retention and to reduce sewage storage to less than four (4) hours
- Benching the base of the wet well to reduce retention capacity and sludge build up
- Automating the activation of sewage pumping systems using time clocks and/or electronic level probes
- Using high level and fault alarms and pump run time monitoring to confirm pump operation and
- Installing an appropriate flushing system.

If Council or the Environment Protection Authority determines that an offensive odour is being emitted from a property as a result of the Non-Standard Sewer Service it may take action under the *Local Government Act 1993* and/or the *Protection of the Environment Operations Act 1997*. It is noted that it is the property owner's responsibility for upgrading the system if required to meet the required performance standards. It is noted that works may be required outside of the owners property in some instances, and the owner is responsible for all aspects of this work.

**5.1.10.7 Responsibility to Notify New Owners and Council**

Upon sale of the property, it is the responsibility of the property owner to notify the new property owner of the existence of the Non-Standard Sewer Service and provide all necessary information (including operations and maintenance manuals for pumping systems) to the new property owner to ensure the continued effective operation and monitoring of the system.

The property owner is also responsible to provide a copy of the Approval to Operate a System of Sewerage Management with the contract of sale.

**The new property owner is required to contact Council and update contact details.**

**5.2 Concessions and Rebates****5.2.1 Plumbing Reimbursement Claim**

If a sewer blockage is located in your area of responsibility, the property owner is required to pay the plumbing expenses. If the plumber identifies and removes the



blockage and confirmed it is located in Council's area of responsibility, Council may cover reasonable costs for the blockage removal.

Council will not cover the following:

- a plumber or customer who did not report the issue to Council in a timely manner and obtain a customer reference management (CRM) number. It is anticipated that the customer or plumber will report the issue to Council to enable inspection/verification of the issue or obtain suitable evidence of the issue location and cause
- any work carried out by a plumber relating to work on your private sewer drains, including locating, exposing and inspecting the property's boundary shaft
- any CCTV work in determining the location of the blockage (unless requested by Council) or
- installing the boundary shaft surface fitting in compliance with the Plumbing Code of Australia.

A "Plumbing Reimbursement Claim" must be submitted together with a line itemised tax invoice and receipt for payment in full within 60 days of the work being performed and forwarded to Council. The following conditions apply to all Plumbing Reimbursement Claims:

1. Invoice date must not predate completion of work
2. Claims must be submitted within 60 days of the work being performed
3. All Claims must include a line itemised copy of the tax invoice and proof of payment
4. All rejected claims must be resubmitted within 10 days of rejection being received for your application to be reassessed
5. Plumbers conducting the work must be appropriately licensed
6. Plumbers cannot be reimbursed by Council when additional plumbing work is conducted for the customer at the time of attendance for the blockage
7. Claims are not valid for plumbers conducting work at their own property
8. Claims will not be paid without customer details and signatures provided
9. The blockage or issue must be found to be in Council's area of responsibility initially
10. Council reserves the right to provide a full, part or no reimbursement depending on the work carried out
11. No reimbursements will be provided for any call backs to the property
12. The property must be connected to the Council's sewerage system
13. On verification of eligibility by Council, the reimbursement will be paid as a cheque directly to the customer (Council will not pay plumbers bills directly).

Council reserves the right to inspect the work carried out at the property or liaise with the plumber after receiving an application, to determine eligibility for reimbursement.





Council may reject claims if it believes costs and works are excessive and justification cannot be provided.

#### 5.2.1.1 Plumbing Reimbursement Claim Reasonable Costs

Council considers attending a site, diagnosing the blockage location or removing the blockage (if located in Council's area of responsibility) would take approximately one hour. We will limit reimbursement for when the blockage is in our section or main to \$250 (including GST) unless in exceptional circumstances, considered case by case.

#### 5.2.1.2 Plumbing Reimbursement Claim Boundary Shafts

If a boundary shaft was originally constructed on the property, the Plumbing Code states this point should remain at surface level at all times.

If Council attends a property to clear a blockage and the boundary shaft is buried, Council may require you to arrange works to raise the boundary shaft to surface level. This will be at the property owner's expense.

Council is not responsible for locating or raising of boundary shafts or connections.

Council will not accept any Plumbing Reimbursement claims for the location of or raising of Boundary Shafts.

### 5.2.2 Community Service Obligations

Council on 4 August 2008, minute 239/08, adopted the original Community Service Obligations Sewer and Liquid Trade Waste Services Policy. The principles of the original policy have been incorporated into this policy.

Council wishes to assist and encourage the provision of charitable and non-profit organisation based services in its Local Government Area. This section sets out the criteria for non-rateable sewer customers to qualify as a Community Service Obligations customer and the degrees of subsidies for these charges.

#### 5.2.2.1 Classification as a Community Service Obligations Customer

Applications for Classification as a Community Service Obligations (CSO) customer must be made in writing to Council. Applications must include sufficient documentation to support the claim and be signed by the governing body, CEO or owner of the property. Council will reserve the right to seek further details, where required to allow for classification.

Applications will be assessed by the Manager – Water and Sewer in consultation with other Council staff with community welfare responsibilities, where required.

Eligible applicants will be classified into an appropriate CSO Level (Refer to 5.2.2.2) based on the nature of the property and service, the degree of funding and the type of community organisation.



The General Manager has authority under this policy to approve CSO classifications 1, 2 and 3. Council remains the determining body for approval of CSO classification 4.

#### 5.2.2.2 Community Service Obligations Customer Categories

The following criteria must be satisfied by applicants for recognition as a Community Service Obligations customer.

##### Level 1

1. Provides service to the local Singleton community
2. Provides community benefit
3. A non-profit service
4. Is operated and run solely by volunteers
5. Requires subsidy for operation; or exists only through local sponsorship and community funding; or not heavily funded by other spheres of Government and
6. All public have full access to the facility at all times

Examples of Organisations in this level include, but are not limited to: Registered charities, Churches and Church Halls.

##### Level 2

1. Provides service to the local Singleton community
2. Provides community benefit
3. Some paid employees
4. Some monies generated through fund raising; has minimal income generating capacity
5. Owned by Community or Government and
6. All public have access to the facility (outside of organised events).

Examples of Organisations in this level include, but are not limited to Hospitals, Emergency Services Stations, Ambulance, Fire, Police, and Council Parks and Public Reserves.

##### Level 3

1. Provides service to the local Singleton community
2. Provides Community benefit
3. A commercial or business type enterprise
4. Paid employees; or some monies generated through fundraising



5. Owned by Community or Government and
6. Facility is open for limited general public access (outside of organised events).

Examples of Organisations in this level include, but are not limited to: Nursing homes, Schools and Childcare centres.

#### Level 4

Other community service organisation not able to be categorised into CSO Level 1, 2 or 3 may be considered under CSO Level 4.

The examples given in each level above are for broad classification purposes only. Applicants must satisfy the criteria in order to be classified into a particular level.

#### Combined Facilities within a Land Use

Some organisations have combined facilities within a Land Use, for example, Church/School. The criteria for classification in these cases would need to be based on the primary purpose of the property. The General Manager has delegated authority to make the determination of Level based on the above criteria, in cases where dual land uses exist.

#### 5.2.2.3 Degree of Subsidies

Community Service Obligations are categorised into four levels based on the nature and level of service provided to the community. The recognition of a CSO in respect of sewer services results in the following subsidy from Council Charges where applicable.

- Level 1 be entitled to a reduction of 75% for annual sewer access charge
- Level 2 be entitled to a reduction of 50% for annual sewer access charge
- Level 3 be entitled to a reduction of 25% for annual sewer access charge
- Level 4 be entitled to a percentage reduction as determined by Council.

There are **no** subsidies provided in respect to **Liquid Trade Waste**.

#### 5.2.2.4 Annual Confirmation Organisation meets Community Service Obligations Criteria

Organisations classified as CSO customers will be **reviewed and** assessed annually. The recipient of the subsidy must confirm in writing how the criteria for the level of subsidy received is met. This includes confirmation of the type of community organisation and benefit provided, the degree of funding received from other sources and where appropriate confirmation of registration as a notfor-profit organisation.

This must be completed prior to 30 June annually.



#### 5.2.2.5 Breaches and Sanctions

Organisations found to have made inadequate or misleading statements in order to obtain a CSO classification under this policy will have this classification revoked immediately. Recovery of any unpaid charges will be obtained using relevant provisions of the *Local Government Act 1993*.

### 5.3 Pressure Sewer System

Council has adopted pressure sewer systems (PSS) as an acceptable alternative to conventional gravity systems in certain circumstances. The Maison Dieu area **and some areas in Redbournberry are** designated as a reticulated pressure sewer area, however where PSS prove to be the most appropriate technology for a particular connection **based on consideration of capital and operating costs and environmental factors**, it may be utilised as the means for providing sewerage services to other areas.

Properties located within the pressure sewer system area require an individual PSS which is installed within the property and connected to the nearest sewer main. A PSS is comprised of four main components; a boundary box, pump and tank unit, pump control panel and a property discharge line.

PSS are considered a developer-provided-asset and the developer is required to pay all costs for the initial purchase and installation of all components. All pressure sewer systems are subject to an Installation and Maintenance and Service Agreement between the property owner and Council.

#### 5.3.1 Ownership of Construction and Maintenance of “On-Property” Assets

##### 5.3.1.1 Classification of Pressure Sewer System Assets

A PSS incorporates a sewerage collection tank and grinder / macerator pump that discharges sewage at a designated flow rated to Council's sewer point of connection and can be divided into two distinct parts, being:

- **On-Property Works** – infrastructure works within private property for the purposes of servicing that specific property. These are sewer assets between the house and the individual property boundary kit.
- On-Property works can be sub-divided as being either private works and the responsibility of the property owner, or Council works and the responsibility of Council; and
- **Reticulation Works** – infrastructure downstream from individual property boundary kits all the way to the pressure sewer system discharge.

##### 5.3.1.2 Ownership of the Pressure Sewer System Assets

Council owns, installs and maintains all pressure sewer units within its designated pressure sewer service area. The distinction between Council “on-property” owned components and “on-property” works that are privately owned and the responsibility of the owner are as follows:



### Council

The following components (as defined in Water Services Association of Australia (WSAA) 07-2007) are under the ownership and responsibility of Council (as developer provided assets), being:

- Collection tank / Pump Unit
- Property discharge line from the pump to the property boundary assembly
- Control (alarm) panel
- Property boundary assembly
- Pump control (power) cable – electrical cable from the collection tank to the control panel and
- Vertical riser (if applicable) – attached to the lowest inlet point and which is extended above the surface to allow for connect to the property discharge by a licensed plumbing contractor.

A Maintenance and Service Agreement entered into with the property owner outlines maintenance, access and entry requirements and system use.

Council is responsible for all reticulation works.

### Private

Electrical works from the house up to and including the isolation switch (to be installed within 300mm of the agreed location of the control (alarm) panel) are under the ownership of the property owner.

Plumbing works from the house up to and including the connection to the vertical riser on the inlet side of the pressure sewer tank, including the venting (if remote from the pressure sewer tank).

The main components being:

- sanitary drains to collection tank
- switchboard and isolation switch
- power supply to the switchboard and
- venting (if remote from the collection tank).

The property owner is responsible for electricity costs and additional water usage costs if cleaning or flushing of the PSS is required.

#### 5.3.1.3

#### Construction of Pressure Sewer System Assets

Council employees or Council approved contractors will install and commission the PSS per the approved plans. Property owners will be advised when their properties are fully connected to the PSS.



Council is responsible for the connection of internal drains to the PSS within 1m of the Collection Tank / Pump Unit, this is to be arranged by the property owner.

Property owners must not connect any stormwater pipes or discharges to the PSS. Refer Section 5.1.7 Stormwater Discharge to Sewer – Prohibited for further information.

#### 5.3.1.4 Maintenance of Pressure Sewer System Assets

Pressure sewer systems do not have any property owner serviceable parts and under Section 635 of the *Local Government Act 1993* it is an offence to wilfully or negligently remove, damage, destroy or interfere with a sewer system.

Property owners should note that the property discharge line, boundary control kit and conduits for pump control/power panel cabling are also defined as part of the system.

It is the responsibility of the property owner to locate the property discharge line and conduits before commencing any excavation work which may damage the lines, Council may recover costs for any wilful or negligent damage to the PSS.

#### 5.3.1.5 Boundary Control Kit

Council requires safe access to the boundary control box, generally located on the front boundary, to conduct inspections and maintenance on the pressure sewer system. Clear safe access is to be made available by the property owner for this task.

Charges may be applicable to the property owner for locating or clearing a boundary control box.

#### 5.3.2 New Pressure Sewer System Connections

All properties within a designated Council pressure sewer area will be required to connect to the PSS. No other type of onsite sewerage management system is allowable.

PSS connected to Council's sewer assets, supplied and installed by Council will be exempt from the requirements of Section 68 of the *Local Government Act 1993* with regards to an Approval to Install and/or Approval to Operate an Onsite Sewerage Management System (OSSM)..

PSS not owned by Council that are considered Non-Standard Sewer Systems are still subject to approval requirements of Section 68 of the *Local Government Act 1993*. Refer to Section 5.1.10.3 Approval Requirements for further information.

All plumbing and drainage inspections and conditions, in accordance with the *Plumbing and Drainage Act 2011* are applicable. These requirements must be undertaken in accordance with Council's Planning and Environmental policies and procedures.

PSS connected to Council's sewer assets are managed within the principals of this policy.





**5.3.2.1 Number of Units - Residential**

Generally, only one single PSS will be permitted for each residential property. For multiple dwellings on the same property, a single PSS (if of sufficient capacity) may be approved to serve more than one dwelling; however, this unit may have more than one pump.

Council will consider approving more than one PSS on a property if the general property layout or the layout of the different dwellings on the property requires more than one unit. The cost of additional pressure sewer units will be at the property owner's expense.

Council may require the provision of a hydraulic design to enable to suitable sizing of the PSS.

**5.3.2.2 Number of Units – Non-Residential**

The number of PSS is dependent on the site conditions, power supply, land availability and is assessed on a case-by-case basis by Council upon application.

Council's preferred method is via the installation of individual pressure sewer pump and tank units, installed within each allotment, connected to a common property service line, discharging to the sewer main in the street.

Council may consider a single suitably sized pump and tank unit to service the entire development dependent on:

- The number of units / workshops to be serviced
- The availability of common land at the front of the property, clear of driveways and other trafficable areas to house the pump and tank unit
- The pump and tank unit are sited to ensure 24-hour access is available (not behind fences or gates) and
- Whether a sewer pump station **rather than a PSS** is better suited to the development load.

Council may require the provision of a hydraulic design to enable to suitable sizing of the PSS.

**5.3.2.3 Sizing of Pressure Sewer System Units**

Evidence will be required to support the installation of a PSS, including hydraulic designs where appropriate, to confirm the collection tank and pumping unit is capable of providing adequate emergency storage volume prior to sewer overflow.

**5.3.2.4 Layout of On-Property Components**

Council's standard configuration requirements is that on-site pressure sewer collection tank / pumping unit are located on the street frontage of the property to facilitate ongoing access for operation and maintenance activities.



Pump unit locations will be selected in consultation with the property owners taking into consideration any existing pipe work, the location of existing structures and future planned extensions or development of the property.

When planning a pressure sewer connection, the applicant must provide an accurately marked up site plan showing the following items, along with the request form,:

- outline of building and any other significant structures proposed for the site, including:
  - lot boundary and measurements
  - proposed collection tank and measurement to nearest corner and offset from side and front property lines to the centre of the collection tank
  - proposed control / alarm panel, if located on the side of a building include distance from electrical switchboard (must be within 300mm) or if located on a free-standing pole, off sets from boundaries and proposed building and
  - proposed boundary kit and measurement to nearest corner and offset from side and front property lines to the centre of the boundary kit.
- alignment of pipework from the house gully trap to the proposed collection tank, including pipe size and material
- measurement from the centre of the collection tank to the control / alarm panel (must be within 10m)
- proposed cable routing from the switchboard to the control/alarm panel (must be within 300mm) and
- any known obstructions or constraints to installing the PSS infrastructure, e.g. other services, retaining walls, hard rock.

Along with the request for quotation form and marked up site plan, the following evidence is required:

- the residence is able to drain to the collection tank i.e. there is adequate fall, and
- the required tank size and confirmation the tank is able to provide adequate emergency storage volume prior to sewer overflow.

Finished RLs, floor levels and future landscaping works must be provided on application for PSS, or prior to installation.

Following the approval and construction of on-property works, a final work as constructed property sewer service diagram is to be submitted to Council.



#### 5.3.2.5 Minimum Clearance to Pressure Sewer Systems

To ensure the safe operation and maintenance of the pressure sewer system minimum clearances must be maintained at all times as follows:

- Minimum horizontal clearance of 3.0m from the edge of the pump and tank unit to any window, door or opening
- Minimum horizontal clearance of 2.0m from the edge of the pump and tank unit to any footing/foundation and/or structure
- Minimum horizontal clearance of 1.0m from the edge of the pump and tank unit to driveways and paving
- Minimum horizontal clearance of 1.0m from the outside diameter of the property service line maintained by Council (line from the street to the tank)
- Collection tank / pumping unit must be 150mm below the overflow relief gully and must not be in a hollow, i.e. landscaping built up around the tank collar and
- Must not be encased in concrete.

#### 5.3.2.6 Requirements for Easements over On-Property Works

Easements will not be required over any part of the “on-property” works, so as to enable subsequent relocation works (normally the property discharge line) as required to accommodate future property modifications. However, an easement will be required if the property discharge line is required to pass through a neighbouring property.

Council reserves the right to create an easement (if required) on a particular property, to ensure the safe ongoing operation of the system, the minimisation of any health concerns and/or the protection of any Council property.

Council does not require an easement for accessing on-property components for maintenance or inspection requirements, Council has a right to enter land under the *Local Government Act 1993*, refer to Section 5.4.1 Access and Notice of Entry to Properties.

#### 5.3.2.7 Change of Ownership – Pressure Sewer Area

Properties in a designated pressure sewer area will be required to be specified in [Section 10.7 Planning Certificates \(formerly Section 149 Part 5 Certificates\)](#). This is specifically to allow the prospective land purchaser to discover prior to their purchase that the property is service by a pressure sewer system.

When applying for a sewer diagram (a conveyancing requirement) an initial copy of the plan and homeowner’s manual will be provided to the applicant.

#### 5.3.2.8 Power Supply

Pumping units must be connected to a property’s switchboard as part of the “on-property” works. Property owners are responsible for installing and maintaining the



power supply, the independent circuit breaker and the power cable to the control (alarm) panel for the pumping system on the property.

The owner is also responsible for the payment of power usage charges associated with the pumping system, as pressure sewer systems service that property only.

#### 5.3.2.9 Special Requirements for Swimming Pools and Spas

While PSS do not prohibit high discharge applications such as with the backwash from spas and swimming pools, appropriate provisions must be in place to accommodate these discharges. Sudden discharges from spas and swimming pools could trigger the pumping unit high level alarm or, in a worst-case scenario, result in an overflow at the residential overflow relief gully.

Council may impose special requirements on properties, which are proposing the installation of spas and swimming pools. These requirements may include the provision of non-standard collection and pumping units with additional storage in the collection tank, a buffering tank or the use of a cartridge filter system. The agreed format of discharge will be covered by a condition of consent for the spa or swimming pool.

Direct connection to the PSS is not permitted.

The cost for any additional equipment or on-property works required to accommodate large sudden discharges from spas and pools will be at the expense of the property owner.

Any damage caused to the PSS, or system fault, as a result of connecting fixtures not approved by Council's Water and Sewer **Business Unit** will result in the property owner being responsible for all costs associated with any rectification works.

#### 5.3.2.10 Discharge of Trade Waste

Discharge is conditional upon the business owner and/or waste generator receiving a Liquid Trade Waste Discharge Approval, which may specify the upgrade and/or installation of pre-treatment devices, for example oil/water separators, grease arrestors and/or other specific treatment apparatus to ensure the resultant effluent discharge complies with trade waste requirements.

Refer to POL/26005.4 Discharge of Liquid Trade Waste to Sewer Policy.

#### 5.3.3 Repairs and Maintenance of Pressure Sewer Systems

The pump unit(s) located in each PSS require maintenance and repairs; Council currently undertakes this work for an annual fee. This pump maintenance fee is in addition to any other sewerage charges applicable **and is charged on a customer's rates notice or water and sewer bill**. The pump maintenance fee is set and published in Council's adopted Operational Plan annually.

In cases of neglect, failure to undertake the requirements set out in the Owner's Manual or where the pumping unit or service line is deliberately damaged, Council may seek to recover costs from the property owner.



Where changes to site conditions, including surface levels requires the pump and tank unit, boundary control kit and/or service lines, maintained by Council to be relocated or altered, all alteration works are to be undertaken by Council and associated costs paid by the owner.

Where driveways or paving are constructed over or within 1m of a Council maintained PSS, the owner will be responsible for all costs associated with any demolition and/or reinstatement works necessary to allow maintenance and/or repair to the asset affected.

**Minor landscaping** over the discharge line is permitted, however the pump and tank lid are not to be covered. If the line requires repairing, Council staff will need to access the pipe; this may mean that landscaping will need to be removed. In this case Council will endeavour to minimise disruption to the garden. Property owners will be responsible for all costs associated with any landscaping rectification works.

Interfering with delivery lines or collection and pumping units without Council's approval may be subject to action under Section 635 of the *Local Government Act 1993*. This is in addition to meeting any costs arising from loss of warranty on the pumping unit, and/or damage to that unit, and/or any costs associated with such unauthorised works.

#### 5.3.3.1 Substances Not to be Discharged into Domestic Pressure Sewer Systems

Certain substances are not permitted to be discharged into domestic PSS as they may result in a blockage of the pump unit and/or discharge pipeline **leading to an overflow**. These include, but not limited to:

- **Stormwater**
- Cooking oils and fats
- Glass
- Metal
- Wipes (i.e. baby wipes, hand wipes, antiseptic wipes etc.)
- Needles and syringes
- Seafood shells
- Rocks
- Nappies, socks, rags or clothes
- Chemicals (other than those used in normal domestic products such as dishwashing powder, detergents and hair dyes)
- Plastic objects
- Paints (water soluble and oil based)



- Sanitary napkins or tampons
- Kitty litter
- Flammable materials
- Lubricating oil and/or grease and
- Petrol or Diesel.

Any damage caused to the pressure sewer system as a result of substances, not approved by Council, entering into the sewer system, or reoccurring visit for the same issue, will result in the property owner being responsible for the actual costs associated with rectification or blockage clearance works.

#### 5.3.3.2 Relocating Collection Tanks, Pumping Units and Property Discharge Lines

If a property owner wishes to relocate the on-property discharge line or collection and pumping unit, Council may allow such relocation subject to:

1. The hydraulics on the property allowing the unit to be moved
2. The associated costs with the relocation being met by the owner and
3. The proposed relocation does not place an unreasonable access or maintenance burden on Council's Water and Sewer staff.

Any relocation of the collection and pumping unit or property discharge line will be at the property owner's expense. Property owners proposing to relocate the collection and pumping unit or property discharge line are required to contact Council's Water and Sewer **Business Unit**.

The on-property works remain Council's property.

Interfering with delivery lines or collection and pumping units without Council's approval may be subject to action under Section 635 of the *Local Government Act 1993*. This is in addition to meeting any costs arising from loss of warranty on the pumping unit, and/or damage to that unit, and/or any costs associated with such unauthorised works.

### 5.4 Factors Affecting Sewer Services and Infrastructure

#### 5.4.1 Access and Notice of Entry to Properties

The *Local Government Act 1993* outlines Council's power to undertake a range of functions, including those relating to the supply of water and sewer services. These include, but are not limited to:

- **Section 191A** – allows for a Council employee (or contractor) authorised by a Council authority to enter any premises to carry out water supply work, sewerage work or stormwater drainage work on or under the premises.





- **Section 59A Clause 1** – determines that Council is the owner of all works of water supply, sewerage and stormwater drainage installed in or on land by the council (whether or not the council owns the land).
- **Section 59A Clause 2** – allows that Council may operate, repair, replace, maintain, remove, extend, expand, connect, disconnect, improve or do any other things that are necessary or appropriate to any of its works to ensure that, in the opinion of the Council, the works are used in an efficient manner for the purposes for which the works were installed.
- **Section 193** – determines the need for the Council giving the owner or occupier of the premises written notice of the intention to enter the premises and outlines the requirements of the notice and the exceptions of when notice of entry is **not** required.

When accessing a property to undertake work associated with Council's water supply and sewer services, Council will:

- Provide written notice of the date access and entry to undertake work is required, prior to the date of entry. If written notice is not feasible, every endeavour will be made by Council employees to contact the owner or occupier by telephone
- Written notice is not required under Section 193 sub section 3 in emergency situations. In the event of an emergency situation, Council employees attending will make every endeavour to contact the occupier of the property when arriving on site
- All Council employees who are required to access a property will have written authority from the General Manager to enter premises. This will be by Council Delegations of Authority and Authority to Entry Permits
- Council employees will act in a professional and appropriate manner and take every care to not to damage owner / occupier's property and will restore the affected land in accordance with the associated sections of this policy
- In the event Council employees on the property cause damage that cannot be restored, and it is proved to have been caused by Council, the owner may be entitled to compensation for the damage, at Council's discretion and
- Any authority to enter under section 191A or any other applicable legislation or Council policy does not apply to entering the residence.
- Council does not require an easement over any water or sewer infrastructure in order to access a property for the purpose of carrying out its duties under the relevant legislation.

#### 5.4.2 Blockages

The property owner is responsible for clearing blockages and repairing cracks to the house drains. This includes the lines to the connection point of the sewerage maintenance shaft.



Property owners are responsible to maintain and repair sewer pipes, including clearing blockages within the property up to the boundary connection point to Council's sewer main. This includes the boundary shaft, also known as the inspection shaft.

Council is responsible for maintenance and repair (including clearing of blockages) of the sewer main and property connection up to the boundary shaft or 1.0m inside the property boundary, whichever is lesser.

In a case where the connection of the private plumbing to the sewerage main is outside the property boundary, then the property owner is only responsible for the private plumbing up to the line of the property boundary.

In the event of a blockage, the property owner must contact a licensed plumber in the first instance to identify the cause. If the blockage is located within the property owner's area of responsibility, then the property owner must pay for the cost of clearing the blockage and any associated repairs to the private plumbing.

If the plumber believes that the blockage is located within Council's area of responsibility, then the plumber or owner must contact Council as soon as possible to arrange for Council employees to attend the site and perform any repairs and maintenance. The caller must obtain a CRM reference number.

Council will liaise with the plumber or owner in relation to the blockage, location and our intentions regarding the problem. If the blockage is actually located in Council's area of responsibility, Council will reimburse reasonable charges from the plumber in attending the site. Refer to [Section 5.2.1 Plumbing Reimbursement Claim 5.2.1 Plumbing Reimbursement Claim](#) for conditions.

#### 5.4.3 Excavation and Construction Near Pipelines and Easements

The location and protection of sewer infrastructure remains the responsibility of the person and/or organisation undertaking any excavation or associated works. The PPP approach of plan, pot-hole and protect must be applied at all times when any works are undertaken in the zone of influence associated with any sewer infrastructure. Information regarding Council's sewer assets can be found on Dial Before You Dig Plans which are to be obtained prior to undertaking excavation and construction works.

Any damage and/or subsequent failure of sewer assets due to excavation or other site works will be rectified by Council and the costs of such rectification works will be charged to the identified responsible parties for such damage and/or failure.

Special conditions including building, structures and excavation exclusion zones apply to all sewer pipelines and/or easements in favour of Council on public and private land.

#### 5.4.4 Building Over Sewers

Customers have a responsibility to ensure that construction is not undertaken without approval adjacent to or over our sewer assets. Council's first position is that structures are not to be constructed over or close to sewers. Each case will however be considered on their merit having regard to the POL/26013 [Building in the Vicinity of Sewer and Water Trunk Mains Policy](#).



Any costs associated with rectification works due to damage caused to the asset through the works associated with the illegal or unauthorised building adjacent to or over Council sewer asset will be at the property owner's expense. Refer to the POL/26013 [Building in the Vicinity of Sewer and Trunk Water Mains Policy](#) for details.

## 5.5 Development Matters

### 5.5.1 Water and Sewer Role in Development

Council, as the Water Supply Authority as described under the *Water Management Act 2000* has the following responsibilities concerning building and land development within the Singleton Local Government area;

- Determining if the proposed site can be adequately serviced [by Council's](#) water and/or sewer infrastructure
- Ensuring the proposed development doesn't affect existing water supply and sewerage systems, including the capacity to maintain current levels of service
- Providing compliance under the *Water Management Act 2000* (s305, s306 and s307) and *Local Government Act 1993* (s64 and s68) and
- Ensuring development meets the standards set out in Council's [Technical](#) Specifications for water supply and sewerage systems.

The development assessment process by Council's Planning and Environmental Services Group will continue to address all aspects of development other than water and sewer services.

#### 5.5.1.1 Certificate of Compliance under the Water Management Act 2000

If a development is proposed in the Singleton Local Government Area and the result will impact Council's water and/or sewerage systems, Council's Water and Sewer [Business Unit](#) will assess the application in accordance with the requirements of Section 305, 306 and 307 of the *Water Management Act 2000* and associated regulations.

The developer is required to make an application under Section 305 to which Council will issue a Section 306 Notice [of Requirements](#) letter, which sets out the requirements that must be satisfied in order to achieve a Section 307 Certificate of Compliance. Completion of the required works and payment of the required fees must be satisfactorily completed prior to the issuing of a Certificate of Compliance under Section 307 of the *Water Management Act 2000*.

This includes Exempt and Complying Development.

The Building Plan Assessment process determines if a Section 305 Application for a Section 307 Certificate of Compliance is required.



#### 5.5.1.2 Building Plan Assessment

If you are building, renovating and/or developing land in Council's water and sewer service area, the development requires assessment by Council's Water and Sewer **Business Unit**.

This assessment determines any impact the development will have on Council's water and sewer infrastructure and if additional approvals are required, such as building over or adjacent to sewer infrastructure or a certificate of compliance under the *Water Management Act 2000*.

This includes Exempt and Complying Development.

#### 5.5.1.3 Privately Certified Development

Privately certified developments require, **as a minimum**, a Building Plan Assessment by Council's Water and Sewer **Business Unit** prior to the determination of the development to determine any impacts and conditions associated with Council's water and sewer assets. **These developments may require additional approvals from Council's Water and Sewer Business Unit depending on the outcome of the Building Plan Assessment.**

#### 5.5.2 Easements

The location of sewer mains that will become part of Council's sewer supply system on private property is to be avoided. Where a sewer main cannot be located in a dedicated public road reserve or access way, it may be located within an appropriately sized and registered easement, subject to Council's approval.

The easement is to be provided at the developer's full cost at the time of subdivisions and shall be created by an instrument on the certificate of title stating **"Easement for Sewer Services. Access without notice will be required for the purpose of constructing, extending maintaining and operating these services"** A registered surveyor shall survey easements and certify the location of pipelines within the easements.

However, where it is necessary, sewer mains are to be located in an easement in favour of Council and be of minimum width 3.5 metres, unless otherwise advised by Council. To allow for future relocation or replacement the pipeline is to be located off-centre preferably 1 metre from either edge of the easement.

The location of sewer assets in easements other than a vehicular access related easement for the property being served will not be permitted **unless under extenuating circumstances**. The reason for this is that there is a risk of undetected interference with the sewer service in the form of damage, contamination or illegal connection if the easement is not in an area fully accessible to and able to be overseen by the serviced property owner.

#### 5.5.3 Section 64 - Developer Charges

Council, as the Water Supply Authority as described under the *Water Management Act 2000*, and pursuant to Section 64 of the Local Government Act 1993, may levy fees or



require particular water management works to be delivered as a condition of approval for connection of developments to the water supply network.

Fees levied under s64 of the *Local Government Act 1993*, referred to as a **developer contribution**, are upfront payments levied by Council to recover part of the cost of providing the infrastructure either within Council's existing supply systems or through future capital works incurred in servicing new developments or additions/change to existing development, which impose a loading on Council's water supply and or sewer infrastructure.

As defined in the Department of Primary Industries 2016 Developer Charges Guidelines for Water Supply, Sewerage and Stormwater; Developer Charges serve three related functions:

- they provide a source of funding for infrastructure required for new urban development;
- they provide signals regarding the cost of urban development and this encourage less costly forms and areas of development; and
- are an integral part of the fair pricing of sewer related services.

Council has prepared a Development Servicing Plan (DSP) in accordance with Section 64 of the *Local Government Act 1993*, which details the **developer contributions** to be levied upon development areas utilising Council's water supply infrastructure.

Potential development areas not included in the current DSP will be subject to separate headworks and distribution charges based upon the actual cost of providing sewerage services, and are at the discretion of Council.

It should be noted that Section 64 charges/contributions are also known as **headworks charges/developer charges or developer contributions**.

#### 5.5.3.1 Calculation of Section 64 **Developer** Charges

Section 64 charges are levied when additional equivalent tenements (ET) are created or changed.

Residential lots are assumed to have an initial sewer ET loading of one ET at the time of subdivision. The initial sewer ET load for commercial and industrial developments is based on an average assumed loading per hectare. Assumed loadings are determined by the Water Directorate's Section 64 Determination of Equivalent Tenements Guidelines.

The charges applied at the time of subdivision provide a base entitlement for each allotment. As each allotment is developed, the new ET is calculated based on the type of development to be constructed.

The applicable Section 64 Charges will then be based on the estimated ET loading and Council's DSP and annual adopted Fees and Charges. Quoted charge rates will increase annually, where payment is made in future financial years.

Small home-based businesses are considered exempt from developer charges where the business is a casual operation and has an additional loading of less than 1ET



#### 5.5.4 Augmentation of Sewerage Systems

Where a development is required by condition of development consent to augment sewerage infrastructure the following conditions will apply:

- the design of the augmentation works required shall be based upon Council's Developer (Technical) Specifications;
- at the direction of Council, the developer will be required to complete a site-specific Developer Servicing Strategy to determine the optimal configuration of water and sewer infrastructure for a particular development and taking into account neighbouring developments that may reasonably connect. A Developer Servicing Strategy is likely required in the following circumstances:
  - land remote from or on the fringe of existing water and/or sewer network(s) and/or where the most suitable point of connection to the existing network requires further investigation;
  - large developments requiring new and/or augmented mains, pumping stations and reservoirs (typically with high water demand and/or sewer loadings);
  - land requiring new sewer pump station(s) to transport sewage into an adjoining sewerage system; or
  - land located below existing supply levels where pressure sewer systems and pressure sewer mains may be required.
- where Council undertakes the work, the contribution required will be calculated by Council and paid by the developer prior to the work proceeding. Where the developer undertakes the work and an offset against contribution is required, the design and the value of the work shall be approved and agreed upon prior to the work commencing;
- failure by the developer and/or consultant to obtain prior written design approval and cost agreement from Council will result in a nil offset being applied to the work; and
- where Council has identified potential future demand for infrastructure over and above that required by the development in question, Council may elect to increase the size of the infrastructure and meet the additional cost over and above the contribution calculated.

##### 5.5.4.1 Additional Sewer Mains

Where a development results in the need to upgrade sewer main pipework, then the applicant is required to fund a new sewer main capable of serving the proposed development as well as the existing sewer main capacity. The sewer assets created as a result of the upgrade will revert to the ownership of Council as per Section 59(a) of the *Local Government Act 1993*.

Should Council request additional capacity then Council will contribute to the approved additional cost.





### 5.5.5 Disconnection of Existing Services Across Boundaries

Where a parcel of land is subdivided, any internal plumbing from the original parent lot subsequently passing into the newly created lot, will be disconnected at the boundary. Each allotment is to be individually serviced; private sanitary drains are not permitted within an adjoining property boundary.

### 5.5.6 Connections in Fringe Areas

Where your property does not have access to Council's sewer systems, property owners can apply to Council to extend the sewer main and this will be assessed on a case-by-case basis.

If property owners wish to proceed and the application is approved, payment for the extension of Council sewer system (i.e. the sewer main) to an agreed point is required. Appropriate headworks charges, as approved in Council's Development Servicing Plan and any other fees and charges, as calculated or set each year by Council will apply.

Once construction of new sewer main infrastructure is complete and all charges levied paid, the ownership of the new infrastructure will be vested in Council.

### 5.5.7 Development Impacting Existing Sewer Assets

Where a development will negatively impact on Council's existing sewer assets, for example the relocation of a road, utility or installation of a pool, it is the responsibility of the developer to protect, replace and/or relocate Council's assets at the developer's cost. The assets replaced and/or relocated will need to meet Council's current Technical Specifications. The sewer assets created as a result of the relocation will revert to the ownership of Council as per Section 59(a) of the *Local Government Act 1993*.

Where a development is looking to utilise existing assets, Council may request the developer to undertake an asset condition assessment to ensure the asset(s) are fit for purpose and will not be detrimentally impacted by the development. It is the responsibility of the developer to undertake these investigations at the developer's cost and provide the condition assessment to Council for assessment.

Should Council request additional capacity, then Council will contribute to the approved additional cost.

## 6 Relevant Legislation

Council provides water services appropriate to the current and future needs of the local community in accordance with relevant Acts, Regulations and standards. Some of the relevant Acts, Regulations and are;

- *Local Government Act 1993 and Local Government (General) Regulation 2021*
- *Water Management Act 2000 and Water Management Regulations 2018*
- *Plumbing and Drainage Act 2011 and Plumbing and Drainage Regulations 2017*



- *Public Health Act 2010 and Public Health Regulation 2012*
- *Protection of the Environment Operations Act 1997 and Protection of the Environment Operations (General) Regulations 2021*

## 7 Document Information

Related documents and reference information in this section provides a single reference point to develop and maintain site compliance information.

### 7.1 Related Documents

Related documents, listed below, are external documents directly related to or referenced from this document.

- Plumbing Code of Australia (2019)
- Australian Standard AS/NZS 3500 – Plumbing and Drainage Set
- WSA 02-2002 Sewerage Code of Australia
- NSW Guidelines for Best Practice Management of Water Supply and Sewerage (2007)
- Department of Primary Industries (DPI) Water - Developer Charges Guidelines for Water Supply, Sewerage and Stormwater (2016)
- Water Directorate – Section 64 Determination of Equivalent Tenements Guideline (2017)
- Water Directorate – Easement Guidelines (2015)
- Department of Planning Industry and Environment – Liquid Trade Waste Guidelines (2021)

Related documents, listed in **Table 7-1** below, are internal documents directly related to or referenced from this document.

Number	Title
POL/26013	Policy – Building in the Vicinity of Sewer and Water Trunk Mains
POL/26005	Policy – Discharge of Liquid Trade Waste to Sewerage System
POL/10066	Policy – Water Carters
POL/26015	Development Services Plan – Water and Sewer Supply Systems
21/25693	Technical Specifications – Design and Construction – Sewer Infrastructure – 2020
	Singleton Council Operational Plan (Annual)



Number	Title
	Singleton Council Fees and Charges Schedule (Annual)
21/77057	Register of Delegations

Table 7-1 – Related documents

## 8 Responsible Officer / Policy Owner

The implementation and ownership of this policy rests with the Manager Water and Sewer, unless appropriately delegated to another officer

The Manager Water and Sewer is responsible for the adherence to this Policy. The following officer may provide support and advice on this policy:

Manager - Water and Sewer

Coordinator - Water and Sewer – Utilities Engineering

Coordinator - Water and Sewer – Delivery

Coordinator – Water and Sewer – Strategy and Compliance

Water and Sewer – Development Engineer

## 9 Responsibilities

Parties or Persons	Responsibilities
General Manager	<ul style="list-style-type: none"> <li>Determine Level 4 Community Service Organisations.</li> <li>Determine appropriate action for breaches of policy.</li> </ul>
Manager Water and Sewer	<ul style="list-style-type: none"> <li>Ensure compliance of policy and all relevant procedures and supporting documents are current and communicated to all relevant stakeholders.</li> <li>Review policy regularly to ensure currency of principles.</li> </ul>
Manager Development and Environment	<ul style="list-style-type: none"> <li>Consider principles of the policy when assessing development and Section 68 applications and providing advice to customers.</li> </ul>
Financial Controller	<ul style="list-style-type: none"> <li>Implementation and management of Concessions and Rebates</li> <li>Assessment of levels and suitability for Community Service Organisations annually prior to issue of rates and charges notices</li> <li>Ensure compliance of Concessions and Rebates</li> </ul>
Coordinator – Water and Sewer – Delivery	<ul style="list-style-type: none"> <li>Assess applications for plumbing reimbursements</li> </ul>



Parties or Persons	Responsibilities
Water and Sewer Development Engineer	<ul style="list-style-type: none"> <li>Assess developments in accordance with the principles of this policy</li> <li>Levy Section 64 Developer Charges in accordance with this policy</li> </ul>
Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Determine liquid trade waste approvals</li> <li>Determine sewer and liquid trade waste discharge factors</li> <li>Assess and approve applications for site-specific sewer and liquid trade waste discharge factors</li> </ul>
Water and Sewer People Leaders	<ul style="list-style-type: none"> <li>Provide direction to staff and ensure compliance with the policy.</li> <li>Provide expert knowledge of the policy and its principles to Council staff, its customers and other stakeholders.</li> </ul>
Water and Sewer Staff	<ul style="list-style-type: none"> <li>Ensure understanding of principles of the policy and all relevant procedures and supporting documents.</li> <li>Undertake all duties in accordance with the policy and supporting procedures in a safe manner.</li> </ul>
GIS Business unit	<ul style="list-style-type: none"> <li>Ensure accurate mapping available, showing all relevant sewer infrastructure.</li> </ul>
Frontline Staff	<ul style="list-style-type: none"> <li>Awareness and understanding of principles of the policy.</li> <li>Consider implications when discussing or dealing with customers or Council matters relating to building, renovating or developing land and sewer services.</li> </ul>

It is the responsibility of all Council employees and any person contracted to or acting on behalf of Council to have knowledge of, and to ensure compliance with this policy.

## 10 Approval

As per cover sheet.

## 11 Monitoring

This policy will be monitored by the Manager Water and Sewer, unless appropriately delegated to another officer.

## 12 Review Date

This policy, once adopted, is to remain in force until it is reviewed by Council. This policy is to be reviewed approximately every two (2) years to ensure that it meets legislative requirements.



In accordance with Section 165 (4) of the *Local Government Act 1993*, this policy will be reviewed within one year of the election of every new Council.

### 13 Last Review Date

April 2022

### 14 Record Keeping, Confidentiality and Privacy

All records received, created or supporting this policy will be kept on Council's Corporate Computer Systems in accordance with *State Records Act 1998* and will retain confidentiality and privacy in accordance with *Privacy and Personal Information Protection Act 1998* and Council Policy. Council is required to release certain information in accordance with *Government Information (Public Access) 2009*.

This policy is to be made available for public viewing as required under the *Government Information (Public Access) 2009*.

### 15 Breaches and Sanctions

Any breaches of this Policy will be referred to the General Manager for appropriate action.

### 16 Document History

The below table provides a summary of changes and amendments to this document.

Version	Date Amended	Author	Comment (e.g. reasons for review)
3		Manager Water and Sewer	<ul style="list-style-type: none"> <li>• Biennial review</li> <li>• Articulation of Council's approach to sewer connections</li> <li>• Incorporation of determination of sewer and trade waste discharge factors</li> <li>• Incorporated POL/26033 Non-Standard Sewer Service Policy</li> <li>• Added document history</li> </ul>





# Discharge of Liquid Trade Waste to Sewerage System

## Policy | Water and Sewer Group

To enable Singleton Council to regulate discharge of waste from business to the sewerage system

<b>Policy No:</b>	POL/26005	<b>Version:</b>	6
<b>Service Unit:</b>	Water and Sewer		
<b>Responsible Officer:</b>	Liquid Trade Waste Officer		
<b>Responsible Director:</b>	Director – Planning & Infrastructure		
<b>Authorisation Date:</b>		<b>Review Date:</b>	
<b>Minute No:</b>			

### Printing Disclaimer

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## 1 Background

### 1.1 Title of the Policy and Commencement Date

The Discharge of Liquid Trade Waste to Sewerage System Policy takes effect from the date of adoption by the elected Council. Please refer to Policy Register information provided on the cover page.

### 1.2 Purpose of the Policy

This Policy is to regulate the discharge of non-domestic waste from business premises, and to oversee the scheduled maintenance of wastewater pre-treatment devices situated at these sites. This is to ensure wastewater discharged into Singleton Council's sewerage system is free of potentially harmful contaminants and chemicals.

## 2 Objective

### 2.1 Objectives and Coverage of the Policy

The objectives of this policy are to:

- protect public health;
- protect the health and safety of Council employees;
- protect the environment from the discharge of waste that may have a detrimental effect;
- protect Council assets from damage;
- assist Council to meet its statutory obligations;
- provide an environmentally responsible liquid trade waste service to the non-residential sector;
- encourage waste minimisation and cleaner production in the commercial and industrial sectors;
- promote water conservation, water recycling and biosolids reuse;
- ensure compliance of liquid trade waste dischargers with Council's approved conditions;
- provide operational data on the volume and composition of industrial and commercial effluent to assist in the operation of the sewerage system and the design of augmentations or new sewerage systems; and
- ensure commercial provision of services and full cost recovery through appropriate sewerage and liquid trade waste fees and charges.



### 3 Application

#### 3.1 Application of this Policy

This Policy is applicable to all owners of business enterprises, and the owners of premises these businesses operate from.

### 4 Definitions

For the purposes of this policy, the table below defines the following terms:

Term	Meaning
Assumed Concurrence	Council may apply to the Secretary of the NSW Department of Planning and Environment (DPE) for authorisation to assume concurrence for Classification B or Classification S activities. Requests for assumed concurrence need to be forwarded to Department of Planning and Environment - Water (DPE Water). If granted, Council will no longer need to forward such applications for concurrence.
Automatic Assumed Concurrence	Councils have been authorised to assume concurrence for Classification A activities. Such applications may be approved by Council without forwarding the application for concurrence.
Biochemical Oxygen Demand (BOD5)	The amount of oxygen utilised by micro-organisms in the process of decomposition of organic material in wastewater over a period of five days at 20°C. In practical terms, BOD is a measure of biodegradable organic content of the waste.
Biosolids	Primarily organic solid product produced by sewage processing which may be used for beneficial reuse. Until such solids are suitable for beneficial use, they are defined as wastewater solids or sewage sludge.
Bunding	Secondary containment provided for storage areas, particularly for materials with the propensity to cause environmental damage.
Chemical Oxygen Demand (COD)	A measure of oxygen required to oxidise organic and inorganic matter in wastewater by a strong chemical oxidant. Wastewaters containing high levels of readily oxidised compounds have a high COD.
Chemical Toilet	Toilet in which wastes are deposited into a holding tank containing a deodorising or other chemicals; wastes are stored and must be pumped out (and chemical recharged) periodically.
Commercial Kitchen/Caterer	For the purpose of this Policy, a commercial kitchen is a premise that is typically a stand-alone operation and prepares food for consumption off-site. These types of businesses typically cater to wedding functions, conferences, parties, etc. This definition would not apply



Term	Meaning
	to a food processing factory supplying pre-prepared meals to an airline company or similar.
Contingency Plan	A set of procedures for responding to an incident that will affect the quality of liquid trade waste discharged to the sewerage system. The plan also encompasses procedures to protect the environment from accidental and unauthorised discharges of liquid trade waste to the stormwater drainage system, and leaks and spillages from stored products and chemicals.
Due Diligence Program	A plan that identifies potential health and safety, environmental or other hazards (e.g. spills, accidents or leaks) and appropriate corrective actions aimed at minimising or preventing the hazards.
Effluent	The liquid discharged following a wastewater treatment process.
Effluent Improvement Plan (EIP)	The document required to be submitted by a discharger who is not meeting the acceptance limits for discharge waste quality set down in Council's approval conditions and/or liquid trade waste approval. The document sets out how the discharger will meet the acceptance limits for the discharge of liquid trade waste to the sewerage system within the agreed timeframe.
Environment Management Plan (EMP)	Document which sets out a site's methods for managing its outputs and outcomes with regard to effect on the environment.
Float Tank	Also known as Iso-tank, sensory deprivation tank or sensory attenuation tank, it contains a soundproof, lightproof environment. Users float in water treated with salts to create a specific gravity equal to the human body. The strength of the salts and sterilisation chemicals used make discharges from these tanks not suitable for discharge to Council's sewer system.
Grease Arrestor	Device used to treat waste water, prior to discharge to the sewerage system, by capturing fats, oils and solids primarily from food businesses.
Heavy Metals	Metals of high atomic weight which in high concentrations can exert a toxic effect and may accumulate in the environment and the food chain. Examples include mercury, chromium, cadmium, arsenic, nickel, lead and zinc.
Housekeeping	A general term, which covers all waste minimisation activities connected with the way in which operations within the premises are carried out.
Industrial Discharges	Defined as liquid waste generated by industrial or manufacturing processes; also known as industrial liquid trade waste.
Liquid Trade Waste	Liquid trade waste means all liquid waste other than sewage of a domestic nature.



Term	Meaning
Liquid Trade Waste Discharge Approval	Approval granted by Local Water Utility under Section 68 of the Local Government Act 1993 to discharge non-domestic wastewater to the sewerage system.
Liquid Trade Waste Agreement	An agreement, in addition to the Liquid Trade Waste Discharge Approval, which sets out further requirements for sites which generate large or complex discharges.
Liquefaction	The process of generating a liquid from a solid or gas by applying physical, chemical and heat processes. The high strength wastes generated by these processes are considered not suitable for discharge to Council's sewerage system.
Mandatory Concurrence	For the liquid waste in Classification C, councils will need to obtain concurrence for each discharger. DPE – Water provides concurrence on behalf of the Secretary, DPE.
Methylene Blue Active Substances (MBAS)	These are anionic surfactants (see Surfactants definition) and are called MBAS as their presence and concentration is detected by measuring the colour change in a standard solution of methylene blue dye.
Minimal Pre-treatment	For the purpose of this Policy includes sink strainers, basket arrestors for sink and floor waste, plaster arrestors and fixed or removable screens.
Open Area	Any unroofed process, storage, washing or transport area potentially contaminated with rainwater and substances which may adversely affect the sewerage system or the environment.
Pan	For the purpose of this Policy “pan” means any moveable receptacle kept in a closet and used for the reception of human waste
pH	A measure of acidity or alkalinity of an aqueous solution, expressed as the logarithm of the reciprocal of the hydrogen ion (H <sup>+</sup> ) activity in moles per litre at a given temperature; pH 7 is neutral, below 7 is acidic and above 7 is alkaline.
Premises	Has the same meaning as defined in the Local Government Act 1993 Dictionary and includes any of the following: <ul style="list-style-type: none"> <li>(a) a building of any description or any part of it and the appurtenances to it</li> <li>(b) land, whether built on or not</li> <li>(c) a shed or other structure</li> <li>(d) a tent</li> <li>(e) a swimming pool</li> <li>(f) a ship or vessel of any description (including a houseboat)</li> <li>(g) a van.</li> </ul>
Prescribed Pre-treatment Equipment	Standard non-complex equipment used for pre-treatment of liquid trade waste, e.g. a grease arrestor, an oil arrestor/separator, solids arrestor or cooling pit.





Term	Meaning
Primary Measurement Device	A device such as a gauging pit, weir tank or flume installed in the liquid trade waste discharge line suitable for installation of instrumentation for flow measurement. In cases of commercial flows this can mean a removable section of pipe (in the fresh water supply to the trade waste area) and the installation of a check meter.
Septage	Material pumped out from a septic tank during desludging; contains partly decomposed scum, sludge and liquid.
Septic Tank	Wastewater treatment device that provides a preliminary form of treatment for wastewater, comprising sedimentation of settleable solids, flotation of oils and fats, and anaerobic digestion of sludge.
Septic Tank Effluent	The liquid discharged from a septic tank after treatment.
Sewer Discharge Factor - SDF	Equal to the total discharge to sewer including liquid trade waste divided by the total water consumption times by 100.
Sewage Management Facility	A human waste storage facility or a waste treatment device intended to process sewage and includes a drain connected to such a facility or device.
Sewage of a Domestic Nature	Includes human faecal matter and urine and waste water associated with ordinary kitchen, laundry and ablution activities of a household, but does not include waste in or from a sewage management facility.
Sewage Treatment Works	Facility designed to treat domestic wastewater through physical, chemical and biological processes.
Sewerage System	The network of sewage collection, transportation, treatment and by-products (effluent and biosolids) management facilities.
Stormwater	Water resulting from a rain event.
Sullage	Domestic wastewater excluding toilet waste.
Surfactants	The key active ingredient of detergents, soaps, emulsifiers, wetting agents and penetrants. Anionic surfactants react with a chemical called methylene blue to form a blue-chloroform-soluble complex; the intensity of colour is proportional to concentration.
Suspended Solids (SS)	The insoluble solid matter suspended in wastewater that can be separated by laboratory filtration and is retained on a filter. Previously also referred to as non-filtrable residue (NFR).
Total Dissolved Solids (TDS)	The total amount of dissolved material in the water.
Trade Waste Discharge Factor - TWDF	Equal to the liquid trade waste divided by the total water consumption times by 100.
Waste Minimisation	Procedures and processes implemented by industry and business to modify, change, alter or substitute work practices and products that will result in a reduction in the volume and/or strength of waste discharged to sewer.



## 5 Principles/Body

### 5.1 Procedural Statement

#### 5.1.1 What is liquid trade waste?

Liquid trade waste is defined in the Local Government (General) Regulation 2005 as "Liquid trade waste means all liquid waste other than sewage of a domestic nature."

Liquid trade waste discharges to the sewerage system include liquid wastes from:

- business/commercial premises (e.g. beautician, florist, hairdresser, hotel, motel, restaurant, butcher, service station, supermarket, dentist);
- community/public premises (including craft club, school, college, university, hospital and nursing home);
- industrial premises;
- trade activities (e.g. mobile carpet cleaner);
- any commercial activities carried out at a residential premises;
- saleyards, racecourses and from stables and kennels that are not associated with domestic households; and
- septic tank waste, chemical toilet waste, waste from marine pump-out facilities and established sites for the discharge of pan content from mobile homes/caravans to the sewerage system.

While septic tank, pan and ship-to-shore pump-out waste are defined as trade waste, they are not accepted by Council and are excluded from this Policy.

Liquid trade waste excludes:

- toilet, hand wash basin, shower and bath wastes derived from all the premises and activities mentioned above;
- wastewater from residential toilets, kitchens, bathrooms or laundries (i.e.. domestic sewage);
- common use (non-residential) kitchen and laundry facilities in a caravan park; and
- residential swimming pool backwash.

#### 5.1.2 Criteria for approval to discharge liquid trade waste into Council's sewerage system – factors for consideration

Council's decision to accept liquid trade waste into its sewerage system is on the basis of a preventive risk management framework for managing risks to the sewerage system within an integrated water cycle management context. It will be based on the discharge meeting Council's requirements. When determining an application to discharge liquid trade waste to the sewerage system, Council will consider the following factors:



- The potential for the liquid trade waste discharge to impact on public health;
- The possible impacts the discharge may pose to the environment (land, water, air, noise, or nuisance factors);
- The potential impacts of the discharge on the health and safety of the Council's employees;
- The possible impact of the discharge on Council's sewerage infrastructure or sewage treatment process;
- The capability of the sewerage system (both transportation and treatment components) to accept the quality and quantity of the proposed liquid trade waste discharge;
- The impact the liquid trade waste will have on the ability of the sewerage scheme to meet its Environment Protection Authority licence requirements;
- Compliance of the proposed liquid trade waste discharge with guideline limits in this policy;
- The potential impacts of the discharge on the quality of, and management practices for, effluent and biosolids produced from the sewage treatment process;
- The adequacy of the pre-treatment process(es) to treat the liquid trade waste to a level acceptable for discharge to the sewerage system, including proposed safeguards if the pre-treatment system fails;
- Whether appropriate safeguards are proposed to avoid the discharge of other, non-approved wastes to the sewerage system;
- The adequacy of any chemical storage and handling facilities, and the proposed safeguards for preventing the discharge of chemicals to the sewerage system;
- Whether prohibited substances are proposed to be discharged;
- The potential for stormwater entering the sewerage system and adequacy of proposed stormwater controls;
- Waste minimisation and water conservation programs; and
- The adequacy of the proposed due diligence program and contingency plan, where required.

#### 5.1.2.1 Discharge quality

Council has guideline limits for the acceptance of discharges, as set out in **Table 5-1**. Council may vary the guideline limits for a particular sewage treatment works depending on the limits set in the Environmental Protection Licence issued by the NSW Environment Protection Authority and other possible risk factors. Where the guideline limits cannot be met, applicants are required to provide justification for exceeding the limits. Based on the type and the proposed contaminant levels, Council may refuse the application, or may approve it subject to an Effluent Improvement Program, or other conditions being implemented.



Parameter	Limits	Analytical Method Reference
<b>General Acceptance Guideline Limits</b>		
Flow Rate	The maximum daily and instantaneous rate of discharge (kL/h or L/s) is set on the available capacity of the sewer. Large dischargers are required to provide a balancing tank to even out the load on the sewage treatment works.	
BOD <sub>5</sub>	Normally, approved up to 600 mg/L. In some cases higher concentration for low mass loadings may be acceptable, if the sewage treatment works has sufficient capacity and odour will not be a problem.	5210B
Suspended solids	Concentrations up to 600mg/L may be acceptable.	2540D
COD	Normally, not to exceed BOD <sub>5</sub> by more than three times. This ratio is given as a guide only to prevent the discharge of non-biodegradable waste.	
Total Dissolved Solids	Up to 4000 mg/L may be accepted. However, the acceptance limit may be reduced depending on available effluent disposal options at the sewage treatment works and will be subject to a mass load limit.	2510B
Temperature	Less than 38°C.	
pH	Within the range 7.0 to 9.0.	
Oil and Grease	100 mg/L if the volume of the discharge does not exceed 10% of the design capacity of the treatment works, and 50 mg/L if the volume is greater than 10%.	USEPA1664
Detergents	All industrial detergents are to be biodegradable. A limit on the concentration of 50 mg/L (as MBAS) may be imposed on large liquid trade wastes.	
Colour	No visible colour when the waste is diluted to the equivalent dilution afforded by domestic sewage flow.	
Radioactive Substances	The discharge must comply with the <i>Radiation Control Act 1990</i> .	



Parameter	Maximum Concentration (mg/L)	Analytical Method Reference	
Acceptance Guideline Limits for Inorganic Compounds			
Ammonia (as N)	50	4500-NH3-B	
Boron	5	3120B	
Bromine	5	DPD-colorimetric test kit	
Chlorine	10	DPD-colorimetric test kit	
Cyanide	1	4500-CN-G and E	
Fluoride	30	4500-F-C	
Nitrogen (Total Kjeldahl)	100	4500-Norg B or C	
Phosphorus (total)	20	4500P-I & 4500P-F	
Sulphate (as SO4)	500	3120B	
Sulphide (as S)	1	4500S2-C&D or E	
Acceptance Guideline Limits for Organic Compounds			
Benzene	<0.001	6200	
Toluene	0.5	6200	
Ethylbenzene	1	6200	
Xylene	1	6200	
Formaldehyde	30		
Phenolic compounds (non-halogenated)	1	6410B	
Petroleum hydrocarbons C6-C9 (flammable)	5		
Petroleum hydrocarbons (non-flammable)*	30	USEPA 8015B USEPA 8260B	
Pesticides general (except organochlorine and organophosphorus)	0.1	6410B	
Polynuclear Aromatic Hydrocarbons (PAHs)	5	6410B & 6440	
Parameter	Maximum Concentration (mg/L)	Allowed Daily Mass Limit (g/d)	Analytical Method Reference
Acceptance Guideline Limits for Inorganic Compounds			
Aluminium	100	-	3120B
Arsenic	0.5	2	3114B
Cadmium	1	5	3120B
Chromium – refer notes	3	10	3120B



Parameter	Maximum Concentration (mg/L)	Analytical Method Reference	
Cobalt	5	15	3120B
Copper	5	15	3120B
Iron	100	-	3120B
Lead	1	5	3120B
Manganese	10	30	3120B
Mercury	0.01	0.05	3112B
Molybdenum	5	15	3120B
Nickel	1	5	3120B
Selenium	1	5	3120B
Silver – refer notes	2	5	3120B
Tin	5	15	3120B
Zinc	1	5	3120B
Total heavy metals (excluding aluminium, iron and manganese)	Less than 30 mg/L and subject to total mass loading requirements		

Table 5-1 - Guideline limits for acceptance of liquid trade wastes into sewerage system

Notes on **Table 5-1**: Where hexavalent chromium (Cr6+) is present in the process water, pre-treatment will be required to reduce it to the trivalent state (Cr3+), prior to discharge into the sewer. Discharge of hexavalent chromium (Cr6+) from chromate compounds used as corrosion inhibitors in cooling towers is not permitted.

The limit on silver is applicable to large dischargers. The concentration of silver in photoprocessing waste where a balancing tank is provided is not to exceed 5 mg/L.

#### 5.1.2.2 Prohibited substances

Some substances are not suitable for discharge to the sewerage system. **Table 5-2 summarises** those substances which must not be discharged to the sewerage system. Council may not grant approval for the discharge of these substances to the sewerage system unless it is specifically approved under section 68 of the *Local Government Act 1993*. Approval shall not be granted where other legislation prohibits such discharge.





- organochlorine weedicides, fungicides, pesticides, herbicides and substances of a similar nature and/or wastes arising from the preparation of these substances
- organophosphorus pesticides and/or waste arising from the preparation of these substances
- per- and poly-fluoroalkyl substances (PFAS)
- any substances liable to produce noxious or poisonous vapours in the sewerage system
- organic solvents and mineral oil
- any flammable or explosive substance
- discharges from 'Bulk Fuel Depots'
- natural or synthetic resins, plastic monomers, synthetic adhesives, rubber and plastic emulsions
- roof, rain, surface, seepage or ground water, unless specifically permitted (clause 137A of the *Local Government (General) Regulation 2005*)
- solid matter
- disposable products including wet wipes, cleaning wipes, colostomy bags, cat litter and other products marketed as flushable
- any substance assessed as not suitable to be discharged into the sewerage system
- waste that contains pollutants at concentrations which inhibit the sewage treatment process – refer *Australian Sewage Quality Management Guidelines, June 2012, WSAA*
- any other substances listed in a relevant regulation.

Table 5-2 – Substances prohibited from being discharged into the sewerage system

#### 5.1.2.3 Stormwater discharges from open areas

Stormwater is a prohibited discharge under this policy. The ingress of stormwater into the sewerage system can cause operational problems to the system and result in sewer overflows, as the sewerage system does not have the capacity for such flows. Therefore, Council does not generally accept the discharge of stormwater to the sewerage system.

However, it is recognised that it may not always be possible or practical to prevent all stormwater entering the sewerage system at some liquid trade waste premises. The discharge of limited quantities of first flush stormwater from sealed areas will be considered where roofing cannot be provided because of safety or other important considerations. The discharge from unsealed areas is not permitted.



Before the stormwater will be considered for discharge to the sewerage system, the applicant must provide the following information:

- reasons why the area cannot be fully or partially roofed and bunded to exclude stormwater;
- the dimensions and a plan of the open area under consideration;
- whether the open area is sealed;
- the estimated volume of the stormwater discharge;
- information on rain gauging;
- where a first-flush system is proposed, details on how the stormwater will be diverted to the drainage system after the first flush is accepted (the first flush to be limited to first 10 mm of storm run off);
- measures proposed for diverting stormwater away from the liquid trade waste generating area; and
- report on other stormwater management options considered and why they are not feasible.

#### 5.1.2.4 Discharge of contaminated groundwater

Similar to stormwater, discharge of groundwater or seepage water to a sewerage system is prohibited under clause 137A of the *Local Government (General) Regulation 2005*. Accordingly, groundwater extracted during construction activities (for example from building/road construction, vacuum excavation, mining/exploration works, etc.) is not permitted to discharge into council's sewerage system directly or indirectly.

However, groundwater previously contaminated by human activities (such as service station remediation sites) may be considered for discharge to the sewerage system. Limited quantities of groundwater from remediation projects may be accepted under controlled conditions after appropriate pre-treatment, for a limited period.

#### 5.1.2.5 Discharge of Landfill leachate

Singleton Council does not accept discharge from municipal waste landfills to the sewerage system.

#### 5.1.2.6 Discharge from float tanks

The discharge of float tank water into a council's sewerage system is not permitted.

Float tanks, often referred to as floatation pods, iso-pods (isolation tank), sensory deprivation systems, or REST tanks (restricted environmental stimulation therapy tanks) are typically small, enclosed pods containing about 1,000 litres of water. Float tanks are generally used in some health retreats and fitness centres. This water usually contains large quantities of Epsom salts (300–700 kg of magnesium sulphate), resulting in total dissolved solids concentration up to 700,000 mg/L. It is normally heated to around 35°C.



Discharge of such water to sewer is not permitted due to potential adverse impacts associated with the high salt content on the sewer infrastructure and treatment processes. It is also not appropriate to dispose of such waste to septic tanks or on-site soak wells.

If wastewater is proposed to be transported away for off-site management, council will request the operator of such facilities to provide the details of liquid waste transporters and written verification from the receival facilities acknowledging and agreeing to receive such wastewater.

#### 5.1.2.7 Discharge from service station forecourts and other refuelling points

##### New Premises

The discharge of wastewater including run-off from service station forecourts and other refuelling points (such as at bus depots, etc.) is not permitted. Refer to NSW EPA Practice Note, *Managing Run-off from Service Station Forecourts*, June 2019, for information on managing such wastewater.

##### Existing premises

The discharge of wastewater from existing service stations and other refuelling areas may be permitted, provided appropriate pre-treatment is provided and the requirements are adhered to (such as having a manual activated pump, an inspection aperture, etc.).

If a refuelling area is refurbished, then the discharge from this area must be disconnected from the sewerage system.

#### 5.1.2.8 Discharge from liquefaction and/or pulverisation of solid waste by physical or chemical processes

The wastewater arising from liquefaction or pulverisation of solid waste by physical means, such as pulping or macerating, or by chemical means, such as dissolving solid waste in highly acidic or alkaline solutions, is not permitted to be discharged to the sewerage system. The following sections describe examples of such processes.

##### Macerators

Macerators and any similar devices used for pulverising of solid waste are not permitted to be connected to council's sewerage system. Solid waste includes, but is not limited to, sanitary napkins, placenta, surgical waste, disposable nappies, mache bedpan/urine containers, food waste, disposable products and animal waste (dog/cat faeces, cat litter).

##### Food waste disposal units

Discharge of waste from food waste disposal units (also known as in-sink food waste disposers or garbage grinders) in non-residential premises is not permitted, unless an approval is in place for an existing premises.

##### Alkaline hydrolysis waste



This is a process where human or animal tissue is broken down using alkaline solutions at elevated temperatures and pH. The process may be used in animal care facilities, veterinary premises, animal research laboratories, funeral parlours, etc. The generated wastewater is of a high strength and may result in high loadings on the sewerage system. Accordingly, the wastewater generated by this process is not allowed to be discharged to the sewerage system.

Such wastes must be removed from the premises by a licenced waste haulage contractor and not discharged to the sewerage system directly or indirectly.

#### **5.1.2.9 Discharge of disposable waste products**

Any disposable solid products including those marketed as 'flushable' (such as wet wipes, cleaning wipes, colostomy bags, cat litter, etc.) are not permitted to be discharged to the sewerage system. Contrary to manufacturers' claims, flushable wet wipes do not breakdown in the sewerage system in a similar way to a toilet paper and may cause blockages within the discharge premises or in the council's sewerage system, causing raw sewage overflow to the environment.

#### **5.1.2.10 Use of additives in pre-treatment systems**

The use of bacterial, enzyme and/or odour-controlling agents in pre-treatment equipment (such as in grease arrestors) is prohibited unless specifically approved by Council with the department's concurrence.

#### **5.1.2.11 Discharge from solid food waste processing units (digesters/composters)**

Some solid waste processing equipment (such as composters, digesters, etc.) on the market use different treatment technologies to reduce the volume of waste. These techniques may include thermal treatment and aerobic digestion.

The quality of wastewater from this equipment depends on the type of solid waste fed into it and the effectiveness of the design of the on-site pre-treatment, hence frequent sampling will be required for monitoring and charging purposes. Sampling needs to be undertaken by either a council officer or an independent party acceptable to council.

As these systems can be difficult to assess and maintain, these will be considered on a case-by-case basis.

#### **5.1.2.12 Food waste disposal units**

The use of food waste disposal units (also known as in-sinkerators, in-sink food waste disposers, or garbage grinders) is not permitted. Existing installations in hospitals and nursing homes may be permitted, provided that liquid trade waste is discharged through an adequately sized grease arrestor. For existing premises, a food waste disposal charge will be levied based on the number of beds in the hospital or nursing home.

If the hospital or nursing home kitchen is refurbished, the food waste disposal unit must be removed.



**5.1.2.13 Devices that macerate or pulverise waste**

Macerators and any other similar devices that are used for pulverising of solid waste are not authorised to connect to Council's sewerage system. Solid waste includes, but is not limited to, sanitary napkin, placenta, surgical waste, disposable nappy, mache bedpan and urine containers.

Therefore Council will not accept any discharges from such devices to its sewerage system.

**5.1.2.14 Use of additives in pre-treatment systems****5.1.3**

**Council does not allow solvents, enzymes, bioadditives, and odour control agents to be used in pre-treatment systems (except neutralising chemicals designated for the re-treatment) except by specific written application and subsequent approval.** Framework for regulation of liquid trade waste

**5.1.3.1 Application Procedures**

To obtain Council's approval to discharge liquid trade waste to Council's sewerage system, a discharger must lodge an application in writing. Application forms are available from Council. If a person wishes to discharge liquid trade waste to the sewerage system but is not the owner of the premises, the person must obtain the owner's consent to the application.

The applicant must provide the following information:

- site owner's full name, address, contact telephone number;
- address of the business/industry where discharge to the sewerage system will occur;
- name of contact person for the premises and telephone contact for the business/industry;
- type of process/activity generating the liquid trade waste;
- normal hours of business operation;
- rate of discharge, including:
  - the average per day, maximum per day and per hour, and
  - hours of the day during which discharge will take place
- characteristics of wastes, including:
  - nature of source
  - expected maximum and average concentrations of pollutants
- chemicals to be used – supply Safety Data Sheets;



- details of any proposed pre-treatment facilities, location and site plan. Details should include:
  - pre-treatment process details;
  - internal wastewater drainage;
  - pump size;
  - rising main size, length and profile;
  - system operational characteristics;
  - operational procedures;
  - provisions for sampling and flow measurement, where required; and
  - proposed connection point to the sewerage system.
- flow diagram and hydraulic profile of proposed liquid trade waste pre-treatment facilities;
- maintenance schedule for pre-treatment equipment, including contractor's details;
- stormwater drainage plan;
- measures for prevention of stormwater ingress into the sewerage system;
- location, nature and chemical composition of all substances stored/used on site;
- justification for disposing of the waste into the sewerage system over other possible options (if any);
- methods of disposal for other wastes that are not discharged to the sewerage system;
- any relevant environmental impact assessments; and
- any additional information as requested by Council.

Council may, under section 86 of the *Local Government Act 1993*, request an applicant to provide more information to enable it to determine the application.

#### 5.1.3.2 Approval of applications

Where an application is approved, Council will notify the applicant as soon as practical of the approval and any conditions of the approval. The duration of the approval will be as stated in the approval. In cases where Council requires a discharger to enter into a liquid trade waste services agreement, Council will issue a deferred commencement approval under section 95 of the *Local Government Act 1993* requesting the discharger to do so within the time specified in Council's letter. In such cases, the approval will not be operative until the agreement has been executed by the discharger.





An applicant may make a minor amendment or withdraw an application before it is approved by Council. An applicant may also apply to Council to renew or extend an approval, in accordance with section 107 of the *Local Government Act 1993*.

If an application is refused, Council will notify the applicant of the grounds for refusal.

An approval to discharge liquid trade waste to Council's sewer is not transferable. A new application must be lodged and a new approval obtained if there is a change of the approval holder or the activity. Council must be notified of change of ownership and/or occupier in all cases, whether a new approval is required or not, to allow updating of records.

#### 5.1.3.3 Concurrence

If Council supports an application and has a notice stating that concurrence of the Secretary, DPE, can be assumed for the waste relevant to the application, Council will approve the application. Otherwise, Council will seek concurrence in accordance with the requirements of section 90(1) of the *Local Government Act 1993*. DPE – Water provides concurrence on behalf of the Secretary, DPE.

Liquid trade waste discharges are divided into four classifications for the purpose of the concurrence process:

- Concurrence Classification A – liquid trade waste dischargers for which Council has been authorised to assume concurrence to the approval subject to certain requirements
- Concurrence Classification B – liquid trade waste dischargers whereby Council may apply for authorisation to assume concurrence to the approval subject to certain requirements
- Concurrence Classification S – the acceptance of septic tank, pan waste and ship-to-shore pump-out. Singleton Council does not accept waste defined as Classification S
- Concurrence Classification C – all other liquid trade waste dischargers that do not fall within Concurrence Classification A, B or S, and therefore require Council to forward the application for concurrence.

All councils have been authorised to assume concurrence for Concurrence Classification A liquid trade waste discharges. These are listed in Table 5-3 and Council will not need to seek concurrence for approval of trade waste applications for these activities.

Commercial Retail Food Preparation Activities	Other Commercial Activities
Bakery (retail)	Animal wash (pound, stables, racecourse, kennels, mobile animal wash and veterinary with no X-ray)
Bed and Breakfast (<10 persons)	Beautician
Bistro	Boiler blowdown
Boarding house/hostel kitchen	Car detailing
Butcher shop (retail)	Cooling tower



Commercial Retail Food Preparation Activities	Other Commercial Activities
Café/coffee shop/coffee lounge	Craft activities (making of clay pottery, ceramics, cutting and polishing of gemstones or making of jewellery at clubs, cottage industries)
Canteen	Dental surgery/dental specialist
Cafeteria	Dental technician
Chicken/poultry shop (only fresh chickens/game sold)	Doctor's surgery, medical centre - plaster casts (no X-rays)
Chicken/poultry shop (retail BBQ/charcoal chicken)	Florist
Club (kitchen wastes)	Funeral parlour, morgue
Commercial kitchen/caterer	Hairdressing (includes barbers)
Community hall/civic centre	Jewellery shop
Day care centre	Laboratory (pathology/analytical)
Delicatessen	Laundry or laundromat (coin operated)
Doughnut shop	Lawnmower repairs
Fast food outlet (McDonalds, KFC, Burger King, Pizza Hut, Red Rooster, etc.)	Mechanical repairs/workshop
Fish shop (retail – fresh and/or cooked)	Mobile cleaning units
Food caravan	Optical service
Fruit and vegetable shop (retail)	Pet shop (retail)
Function centre	Photographic tray work/manual development
Hotel	Plants retail (no nursery)
Ice cream parlour	School (Primary and Secondary)
Juice bar	Stone working
Mixed business	Swimming pool/spa/hydrotherapy
Motel	Vehicle washing (by hand/wand, automatic car wash, external truck wash or underbody/engine degrease only)
Nightclub	Venetian blind cleaning
Nursing home kitchen	Veterinary /animal kennels with X-ray
Nut shop	Waterless minilab
Patisserie	
Pie shop	
Pizza shop	
Restaurant	
Salad bar	
Sandwich shop	
School canteen	
Supermarket (with butcher/delicatessen/ seafood/or charcoal chickens)	
Take-away food outlet	

Table 5-3 – Liquid trade waste discharges with automatic assumed concurrence

Notes on **Table 5-3**: The volume of liquid trade waste must not exceed 5 kL/d or 1000 kL/a except in the case of commercial retail food preparation activities, where up to 16



kL/d is included in this category. If the waste discharged to the sewer exceeds these volumes, the application must be treated as Concurrence Classification B. Discharges over 20 kL/d must be treated as Classification C.

#### 5.1.3.4 Discharge Factors

On approval of a site's discharge, Council sets the site's Sewer Discharge Factor (SDF) and Trade Waste Discharge Factor (TWDF). These are an estimated percentage of all wastewater discharged from the site, based on water consumption, and are used to determine the site's sewer and trade waste charges for a period.

In most circumstances, Council uses the suggested SDF and TWDF provided by the Department of Planning and Environment on the DPE's secure website to set the discharge factors for billing purposes.

However, in some circumstances a customer may request to use site-specific SDF and/or TWDF by applying in writing to Council. The site-specific factors can be developed by:

- carrying out a water balance assessment taking into account any additional water supply sources and the volume of water not discharged to the sewerage system;
- using check meters installed on dedicated water supply lines for liquid trade waste areas and applying a suitable factor to the water consumption recorded by the check meter;
- using check meters installed on water supply lines for areas where water is not discharged to the sewerage system; or
- measuring the actual flow to the sewerage system.

Customers who elect not to use the guidance SDF and/or TWDF will need a suitably qualified person to develop site-specific factor(s) using one of the methods above at their own cost. All supporting information is to be provided to Council for approval of the site-specific factor(s) prior to it being used for billing purposes. Site-specific factors will be reviewed on an at least five-yearly basis, or upon change of activities, to ensure currency. In some circumstances Council may require the Customer to install measures to verify discharges at the Customers cost.

The above also applies to complex developments where there is no suitable standard SDF and/or TWDF.

Site-specific SDF and TWDF will only be used for the property they are developed.

#### 5.1.3.5 Liquid trade waste charging categories

Four classifications of liquid trade waste have been established for concurrence purposes, Classification A, B, C and S. For trade waste charging purposes there are also four charging categories, Category 1, 2, 2S and 3.

Figure 1 below shows that Classification A dischargers fall into Charging Category 1 or Category 2. Classification B dischargers fall into Charging Category 2, except for a few dischargers with low impact on the sewerage system which fall into Category 1.



Classification S dischargers fall into Charging Category 2S. Classification C dischargers fall into Charging Category 3.

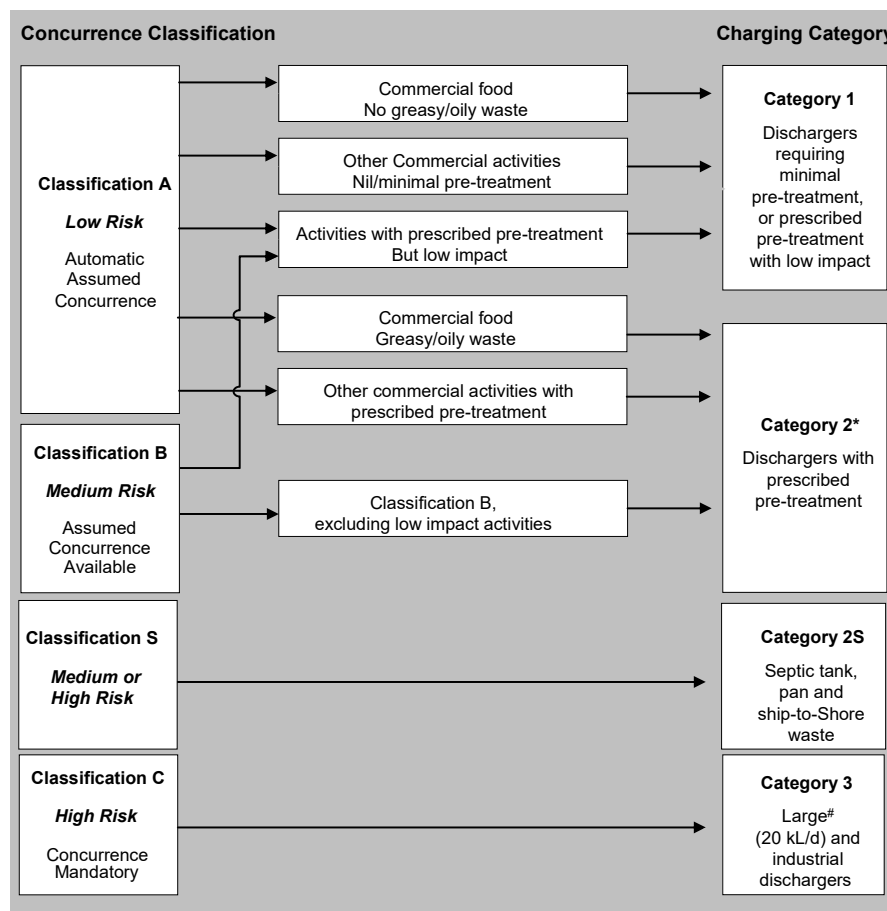


Figure 1 – Charging categories for trade waste

### Category 1 Discharger

Category 1 liquid trade waste dischargers are those conducting an activity deemed by Council as requiring nil or only minimal pre-treatment equipment and whose effluent is well defined and of a relatively low risk to the sewerage system. In addition, Category 1 includes dischargers requiring prescribed pre-treatment but with low impact on the sewerage system.

**Classification A activities – Commercial retail food preparation activities that do not generate an oily/greasy waste:** bakery (only bread baked on-site), bistro (sandwiches, coffee only), café/coffee shop/coffee lounge, canteen, community hall (minimal food), day care centre, delicatessen, fruit and vegetable shop, hotel, ice cream parlour (take away only), juice bar, mixed business, motel, nightclub, nut shop, pizza cooking/reheating (no preparation or washing up on-site, pizza heated and sold



for consumption off-site), potato peeling (small operation), sandwich shop/salad bar, take away food outlet.

**Classification A activities – Other commercial activities:** animal wash, beautician/hairdressing, crafts < 1000 L/d, dental surgery (plaster casts, no X-ray unless digital), doctor's surgery and medical centre (plaster casts, no X-ray), florist, funeral parlour, mobile cleaning units, morgue, jewellery shop, optical service (retail), pet shop, plants retail (no nursery), public swimming pool, photographic (tray work/manual development), venetian blind cleaning, veterinary (no X-ray).

**Classification A or B activities – dischargers with prescribed pre-treatment with low impact on the sewerage system:** boiler blowdown, cooling tower, industrial boilers, laboratory (analytical/pathology/tertiary institution), laundry, primary and secondary school, vehicle washing.

### Category 2 Discharger

Category 2 liquid trade waste dischargers are those conducting an activity deemed by Council as requiring a prescribed type of liquid trade waste pre-treatment equipment and whose effluent is well characterised.

Trade Waste dischargers with prescribed pre-treatment include:

**Classification A activities:** Premises that prepare and/or serve hot food or foods that generate an oily/greasy waste: bakery (pies, sausage rolls, quiches, cakes, pastries with creams or custards), bistro, boarding house/hostel kitchen, butcher, café/coffee shop/coffee lounge, cafeteria, canteen, fast food outlet, chicken/poultry shop, club, community hall, commercial kitchen/caterer, nursing home, patisserie, supermarket, doughnut shop, fish shop (cooking on-site), function centre, hotel, ice cream parlour, motel, nightclub, pizza cooking, restaurant, sandwich shop/salad bar, take away food outlet.

**Other commercial Classification A activities:** car detailing, craft activities > 1000 L/d, dental surgery with X-ray, lawnmower repairs, mechanical workshop, stone working, veterinary (with X-ray), waterless mini-lab.

**Classification B activities:** auto dismantler, bus/coach depot, construction equipment maintenance and cleaning, equipment hire, maintenance and cleaning, glass cutting and grinding, graphic arts, hospital (with or without X-ray), medical centre (with X-ray), optical services (at medical or educational facilities, workshops), oyster processing – shucking, panel beating, photographic lab, radiator repairer, screen printing, service station forecourt, shopping complex, water wash mini-lab, X-ray radiologist.

**Other Classification A activities:** fish shop (fresh fish for retail).

### Category 2S Discharger

Category 2S dischargers are those conducting an activity of transporting and/or discharging septic tank or pan content waste into the sewerage system. Note that Singleton Council does not accept Classification S waste, however this Category is included for informational purposes.



Trade waste dischargers include the following Classification S activities:

**Classification S activities:** bus/rail coaches/caravan/motor home/caravan park waste dump points, mooring/marina dump points, pan waste, portable chemical toilet waste, septage, septic tank effluent, ship-to-shore pump-outs (galley waste and toilet waste).

#### Category 3 Discharger (large or industrial waste dischargers)

Category 3 liquid trade waste dischargers are those conducting an activity which is of an industrial nature and/or which results in the discharge of large volumes (over 20 kL/d) of liquid trade waste to the sewerage system. Any Category 1 or 2 discharger whose volume exceeds 20 kL/d becomes a Category 3 discharger, except shopping complexes and institutions (eg. hospitals, educational facilities, correctional facilities, etc.)

**Large trade waste dischargers and other Classification C activities include:** abattoir, bakery (wholesale), brewery, cooling towers, cosmetics/perfumes manufacture, dairy processing (milk/cheese/yoghurt/ice cream etc.), food processing (cereals/cannery/condiments/ confectionary/edible oils/fats/essence/ flavours/fish/fruit juice/gelatine/honey/meat/pickles/ smallgoods/tea and coffee/vinegar/yeast manufacture etc.), fruit and vegetable processing, flour milling, glue manufacturer, egg processing, pet food processing, plants nursery (open areas), potato processing, poultry processing, saleyards, seafood processing, soft drink/cordial manufacture, starch manufacture, sugar refinery, tanker washing, tip leachate, transport depot/terminal, water treatment backwash, wholesale meat processing, winery, wine/spirit bottling.

**Dischargers of industrial waste include the following Classification C activities:** acid pickling, adhesive/latex manufacture, agricultural and veterinary drugs, anodising, bitumen and tar, bottle washing, cardboard and carton manufacture, carpet manufacture, caustic degreasing, chemicals manufacture and repackaging, contaminated site treatment, cyanide hardening, detergent/soaps manufacture, drum washing, electroplating, engine gearbox reconditioning, extrusion and moulding (plastic/metal), feather washing, fellmonger, felt manufacture, fertilisers manufacture, fibreglass manufacture, filter cleaning, foundry, galvanising, glass manufacture, ink manufacture, laboratories (excluding those in Category 2), liquid wastewater treatment facility (grease trap receival depot and other pump-out waste depot), metal finishing, metal processing (refining/rumbling/ non-cyanide heat treatment/phosphating/ photo engraving/printed circuit etching/sheet metal fabrication etc.), mirrors manufacture, oil recycling (petrochemical) and refinery, paint stripping, paint manufacture, paper manufacture, pharmaceuticals manufacture, plaster manufacture, powder coating, printing (newspaper, lithographic), sandblasting, slipway, tannery, timber processing (joinery and furniture/plywood/hardwood), textile manufacture (wool dyeing/ spinning/scouring), truck washing (internal), waxes and polishes.

#### 5.1.3.6 Liquid trade waste fees and charges

Council provides sewerage and liquid trade waste services on a commercial basis, with full cost recovery through sewerage and liquid trade waste fees and charges. Council's proposed fees and charges are advertised annually for public comment in its draft Operational Plan.





Note that the fees and charges set out below are for example purposes; Council's Fees and Charges are advertised annually for that year. In addition to the trade waste fees and charges described below, Council may elect to include any trade waste charges shown in Section 8 of the *Liquid Trade Waste Management Guidelines, 2021*.

Liquid trade waste discharged to the sewerage system from industrial, commercial or other non-residential customers can impose significant costs on sewage transport and treatment facilities. To recover these costs and to ensure removal of existing significant cross-subsidies from residential customers, in addition to a two-part tariff with an appropriate sewer usage charge/kL for non-residential sewerage, appropriate fees and charges are levied for liquid trade waste.

Council's liquid trade waste fees and charges may include:

- Application fee
- Annual trade waste fee
- Re-inspection fee
- Trade waste usage charge
- Septic tank and pan waste disposal charge
- Excess mass charges
- Food waste disposal charge
- Non-compliance trade waste usage charge
- Non-compliance excess mass charge and pH charge
- Non-compliance penalty.

#### Application Fee

The application fee recovers the cost of administration and technical services provided by Council in processing applications for approval to discharge liquid trade waste to the sewerage system. The application fee will be allocated on the basis of the category into which the discharger is classified and reflects the complexity of processing the application. Application fees will be set annually by Council, refer to Council's adopted Fees and Charges.



**Annual Trade Waste Fee**

The purpose of this fee is to recover the cost incurred by Council for administration and the scheduled inspections each year to ensure a liquid trade waste discharger's ongoing compliance with the conditions of their approval.

As part of an inspection, Council or its agents may undertake monitoring of the liquid trade waste discharges from premises or business. Such monitoring may include but is not limited to, flow measurement and the sampling of the liquid trade waste. Where more than one instance of such monitoring is undertaken by Council, or its agents, in a financial year, the cost involved may be recovered from the discharger.

Annual liquid trade waste fees are determined on the basis of the category of the discharger and are proportionate to the complexity of their inspection and administration requirements. Annual trade waste fees will be set by Council. Where the discharger is required to pay for monitoring this will be charged on the basis of full cost recovery.

**Re-inspection Fee**

Where non-compliance with the conditions of an approval has been detected and the discharger is required to address these issues, Council will undertake re-inspections to confirm that remedial action has been satisfactorily implemented. Council will impose a fee for each re-inspection. The re-inspection fee will be set annually by Council on the basis of full cost recovery. A re-inspection may include the monitoring of liquid trade waste discharges, the cost of which may be recovered from the discharger.

**Trade Waste Usage Charge (Category 2 dischargers)**

The trade waste usage charge is imposed to recover the additional cost of transporting and treating liquid trade waste from Category 2 dischargers.

$$\text{Trade Waste Usage Charge (\$)} = Q \times C2$$

Where  $Q$  = Volume (kL) of liquid trade waste discharged to sewer, and

$C2$  = Usage Charge as set by Council annually in its fees and charges

**Excess Mass Charges**

Excess mass charges will apply for substances discharged in excess of the deemed concentrations in domestic sewage shown in **Table 5-4** below. For excess mass charge calculation, equation 1 below will be applied.

Substance	Concentration (mg/L)
Biochemical Oxygen Demand (BOD <sub>5</sub> )	300
Suspended Solids	300
Total Oil and Grease	50
Ammonia (as Nitrogen)	35



Substance	Concentration (mg/L)
Total Kjeldahl Nitrogen	50
Total Phosphorus	10
Total Dissolved Solids	1000
Sulphate (SO <sub>4</sub> )	50

Table 5-4 – Deemed concentration of substances in domestic sewage

$$\text{Equation 1: Liquid Trade Waste Excess Mass Charge (\$)} = \frac{(S - D) \times Q \times U}{1,000}$$

Where: S = Concentration (mg/L) of substance in sample.

D = Concentration (mg/L) of substance deemed to be present in domestic sewage.

Q = Volume (kL) of liquid trade waste discharged to the sewerage system.

U = Charging rate (\$/kg) for discharge of substance to the sewerage system.

Charging rates (U) used in equation (1) are as shown in Council's Operational Plan.

With regard to BOD, equation (1) applies for BOD<sub>5</sub> up to 600 mg/L.

If Council approves the acceptance limits for BOD<sub>5</sub> higher than 600mg/L, an exponential type equation will be used for calculation of the charging rate U<sub>e</sub> (\$/kg) as shown in equation 2. Equation 2 provides a strong incentive for dischargers to reduce the strength of waste. In addition, equation 5 will be used where the discharger has failed to meet their approved BOD limit on two or more instances in a financial year.

U<sub>e</sub> is the excess mass charging rate for BOD (\$/kg).

$$\text{Equation 2: } U_e = 2C \times \frac{(\text{Actual BOD} - 300\text{mg/L})}{600\text{mg/L}} \times 1.05 \frac{(\text{Actual BOD} - 600\text{mg/L})}{(600\text{mg/L})}$$

Where C = the charging rate (\$/kg) for BOD<sub>5</sub> 600mg/L.

Actual BOD = the concentration of BOD<sub>5</sub> as measured in a sample

#### Food Waste Disposal Charge

Where Council has permitted the use of a food waste disposal unit for an existing hospital, nursing home or other eligible facility, the following additional food waste disposal charge will be payable annually.

$$\text{Food Waste Disposal Charge (\$)} = B \times UF$$

Where B = Number of beds in hospital or nursing home.

UF = Annual charging rate (\$/bed) for a food waste disposal unit at a hospital or nursing home.



## Non-compliance Charges

Category 1 and 2 Dischargers - If the discharger has not installed or maintained appropriate pre-treatment equipment, the following trade waste usage charges will be applied for the relevant billing period:

Category 1 and 2 Discharger - \$19.00/kL (2021/22) as set annually in Council's Fees and Charges

## Category 3 Discharger - Non-compliance pH charge

Equation 3 is used for waste with pH being outside the approved range. This equation provides an incentive for dischargers to apply appropriate pH correction so their waste remains within the approved pH limits. Council may require industrial and large dischargers to install and permanently maintain a pH chart recorder or data logger as control of pH is critical to minimising odour and corrosion problems in the sewerage system.

Equation 3: Charging rate for pH where it is outside the approved range for the discharger =

$$K \times (\text{actual pH} - \text{approved pH}) \times 2^{(\text{actual pH} - \text{approved pH})}$$

Where K = pH coefficient = 0.46 (2021/22) as set annually in Council's Fees and Charges

## Non-compliance Excess Mass Charges

Where a discharge quality fails to comply with the approved concentration limits of substances specified in Council's approval conditions (or the acceptance criterion listed in Council's trade waste policy), Council incurs additional costs in accepting and treating that waste. Council may also face problems with the effluent and biosolids management.

In order to recover Council's costs, equation 4 shall apply for non-compliance excess mass charges, except for BOD where equation 5 shall apply.

Equation 4: Non-compliance Excess Mass Charges (\$) =

$$\frac{(S - A) \times Q \times 2U}{1,000} + \frac{(S - D) \times Q \times U}{1,000}$$

Where S = Concentration (mg/L) of substance in sample.

A = Approved maximum concentration (mg/L) of pollutant as specified in Council's approval (or liquid trade waste policy).

Q = Volume (kL) of liquid trade waste discharged for the period of non-compliance.

U = Excess mass charging rate (\$/kg) for discharge of pollutant to sewerage system, as shown in Council's Annual Management Plan.

D = Concentration (mg/L) of substance deemed to be present in domestic sewage.



## Non-compliance Excess Mass Charges for BOD

If a discharger has failed to meet the approved maximum concentration of BOD on two or more instances in a financial year, the non-compliance excess mass charging rate for BOD  $U_n$  will be levied on the basis of equation 5:

$U_n$  is the BOD non-compliance excess mass charging rate.

Equation 5:  $U_n =$

$$2C \times \frac{(A - 300 \text{ mg / L})}{600 \text{ mg / L}} \times 1.05 \frac{(A - 600 \text{ mg / L})}{600 \text{ mg / L}} + 4C \times \frac{(Actual \text{ BOD} - A)}{600 \text{ mg / L}} \times 1.05 \frac{(Actual \text{ BOD} - A)}{600 \text{ mg / L}}$$

## Non-compliance Penalty

The non-compliance penalty covers instances where Council may seek compensation for its costs relating to legal action, damage to infrastructure, incurred fines and other matters resulting from illegal, prohibited or unapproved liquid trade waste discharged to the sewerage system.

## Responsibility for Payment of Fees and Charges

Property (land) owners are responsible for the payment of fees and charges for water supply, sewerage and liquid trade services provided by Council. This includes property owners of marinas, caravan parks, etc., if a dump point located at their premises is connected to the sewerage system. Where another party (lessee) leases premises any reimbursement of the lessor (property owner) for such fees and charges is a matter for the lessor and the lessee.

All dischargers of liquid trade waste to Council's sewerage system should be aware that they are subject to prosecution and imposition of fines under the *Local Government Act 1993* and the *Protection of the Environment (Operations) Act 1997* and Regulations. In addition to fines, Council may recover costs of damages and fines.

Charging Category	Application Fee	Annual Non-Residential Sewerage Bill With Appropriate Sewer Usage Charge/kL	Annual Trade Waste Fee	Re-Inspection Fee (when required)	Trade Waste Usage Charge/Kl	Septic Waste Disposal Charge	Excess Mass Charges/kg	Non-Compliance Trade Waste Usage Charge/kL	Non-Compliance Excess Mass/kg and pH Charges/kL (if required)
1	Yes	Yes	Yes	Yes	No	No	No	Yes	No
2	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No



2S	Yes	Yes	Yes	Yes	No	Yes	No	No	No
3	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes

Table 5-5 – Summary of trade waste fees and charges incurred by the discharger as a result of an illegal liquid trade waste discharge

#### 5.1.3.7 Risk Assessment and ranking

Council will carry out inspections of premises of all liquid trade waste dischargers and their treatment facilities according to a risk-based approach to Council's sewerage network and treatment plant. These risk categories are based on the complexity and impact of the discharge, and are:

Low Risk      Classification A      2-yearly inspections, minimum

Medium Risk      Classification B      Annual inspections, minimum

High Risk      Classification C      Quarterly inspections

If a site is considered to pose an increased risk than its default Classification would generally indicate, such as by being subject to non-compliance or reinspection fees more than once in a calendar year, Council may at its discretion increase the Risk category. This will result in an increase in frequency of compliance inspections, and therefore cost to the customer.

Similarly, Council may reverse a previously increased Risk category if the customer demonstrates willing compliance over a two year period of increased inspections.

The customer will be informed via letter of any change to its default Risk category.

#### 5.1.3.8 Monitoring

Council will carry out inspections of the premises of all liquid trade waste dischargers and their treatment facilities at least once per annum. Inspections of commercial premises preparing hot food may be carried out at least four times per annum. Monitoring of the large and industrial dischargers is to be carried out as specified in the approval conditions.

The applicant may be required to monitor the liquid trade waste discharge as a condition of an approval or agreement. They may also be required to pay for any sampling and testing of liquid trade waste undertaken by Council.

For this purpose, an inspection/sampling point, where the waste can be inspected and sampled, will be specified in the approval and/or agreement. This point will normally be located after the pre-treatment facility. The discharger may need to install a suitable method of flow measurement.

Council may require the discharger to:

- install a permanent primary measurement device;





- measure the volume and flow rate using the permanently installed flow measurement system (such as a flow metering system);
- install a flow measurement device on a temporary basis and obtain enough data to determine a basis for assessing the flow rate and volume; and/or
- provide a system which allows obtaining a flow weighted composite sample.

Testing of samples is to be undertaken by a NATA-registered or other laboratory recognised by DPE – Water to ensure reliable and accurate results. Where the discharger is sampling the effluent, Council may randomly take duplicates to confirm the waste characteristics.

#### 5.1.3.9 Liquid trade waste services agreement

In addition to its approval under the *Local Government Act 1993*, Council may require certain dischargers, including those who wish to discharge liquid trade waste in large volumes (discharge >20 kL/d) or industrial waste (Concurrence Classification C discharges) to execute a liquid trade waste services agreement. The agreement will set out the conditions associated with the discharge and execution of the agreement will be a condition of the approval issued by Council. The conditions will be binding on the applicant and the Council. The agreement will be for a period of up to five (5) years. No discharge is to be made to Council's sewerage system until an agreement or an interim agreement has been executed.

Provision can be made in the agreement for (in addition to Council's approval conditions):

- additional conditions for discharge of liquid trade waste;
- cancellation of the agreement and/or order to cease the discharge if the discharger is found to be in breach of the agreement or the liquid trade waste approval or, in the opinion of Council, the waste is adversely affecting the sewerage system or the environment;
- entry by Council officers to inspect the liquid trade waste collection, treatment, monitoring and disposal systems;
- the applicant to notify Council in advance of any changes that may affect the quality and quantity of the liquid trade waste; and
- the amount of bond/security to be lodged with Council prior to discharging to the sewerage system.

#### 5.1.3.10 Enforcement of approvals and agreements

Failure to obtain Council's approval to discharge liquid trade waste into the sewerage system, or failure to comply with the conditions of the approval is an offence under s626 and s627 of the *Local Government Act 1993*. In addition, these offences are prescribed as penalty notice offences under the Act and Council may issue a penalty notice to such discharger.



Furthermore, sections 628 and 634 to 639 list other offences related to water, sewerage and stormwater drainage.

Polluting of any waters by a discharger of liquid trade waste who does not have a Council approval or who fails to comply with the conditions of the approval is guilty of an offence under section 120 (1) of the *Protection of the Environment Operations Act 1997*. In addition, under section 222 of this Act, Council may issue a penalty notice to such a discharger.

Any person who fails to comply with the terms or conditions of a liquid trade waste services agreement (i.e.. there is a breach of the agreement) will be required to indemnify the Council against any resulting claims, losses or expenses in accordance with section 8 of the agreement. Suspensions may also apply and may include a notice to cease the discharge.

#### 5.1.3.11 Modification and revocation of approvals

Council reserves the right to modify or revoke an approval to discharge liquid trade waste to the sewerage system in any of the following circumstances:

- if the approval was obtained by fraud, misrepresentation or concealment of facts;
- for any cause arising after the granting of the approval which, had it arisen before the approval was granted, would have caused the council not to have granted the approval;
- for failure to comply with a requirement made by or under the *Local Government Act 1993* relating to a condition of the approval; and/or
- for failure to comply with a condition of the approval.

#### 5.1.3.12 Prevention of waste of water

Water must be used efficiently and must be recycled where practicable. It is an offence under section 637 of the *Local Government Act 1993* and its Regulation to waste or misuse water.

Dilution of trade waste with water from any non-process source including Council's water supply, bore water, groundwater and/or stormwater as a means of reducing pollutant concentration is therefore strictly prohibited.

#### 5.1.3.13 Effluent improvement plans

Where the existing liquid trade waste discharged does not meet Council's requirements, the applicant may be required to submit an Effluent Improvement Plan setting out how Council's requirements will be met. The proposed plan must detail the methods/actions proposed to achieve the discharge limits and a timetable for implementation of the proposed actions. Such actions may include more intensive monitoring, improvements to work practices and/or pre-treatment facilities to improve the effluent quality and reliability.



**5.1.3.14 Due diligence programs and contingency plans**

For Concurrence Classification A, a discharger is not required to submit either a due diligence program or a contingency plan.

A discharger may be required to submit a due diligence program and a contingency plan for Concurrence Classification B where it is considered that the discharge may pose a potential threat to the sewerage system. If required, a due diligence program and contingency plan must be submitted to Council within six months and three months respectively of receiving a liquid trade waste approval.

For Concurrence Classification C, a discharger may need to provide a due diligence program and contingency plan to Council within six months and three months respectively of receiving a liquid trade waste approval.

It should be noted that:

- If the discharger has an accredited environmental management system in place, a due diligence program and contingency plan may not be required. However, proof of accreditation must be provided to Council with the application. The Environmental Management Plan (EMP) may not include all necessary provisions in regard to trade waste. In such cases Council may require that a suitable due diligence program and contingency plan be developed and submitted to Council.
- Where Council considers there is potential risk to the sewerage system from a discharge, it may request a due diligence program and contingency plan to be submitted prior to commencing the discharge.

**6 Relevant Legislation**

Council provides water and sewer services appropriate to the current and future needs of the local community in accordance with relevant Acts, Regulations and standards. Some of the relevant Acts and Regulations are:

- *Local Government Act 1993 and Local Government (General) Regulation 2021*
- *Liquid Trade Waste Management Guidelines, 2021*
- *Protection of the Environment Operations Act 1997*

**7 Document Information**

Related documents and reference information in this section provides a single reference point to develop and maintain site compliance information.

**7.1 Related Documents**

Related documents, listed below, are external documents directly related to or referenced from this document.

- Australian Sewage Quality Management Guidelines, June 2012, WSAA



- Practice Note, Managing Run-off from Service Station Forecourts, June 2019, NSW EPA

Related documents, listed in **Table 7-1** below, are internal documents directly related to or referenced from this document.

Number	Title
POL/26031	Policy – Sewer Services Policy
09/1474	Trade Waste - Form - Application - Commercial Liquid Trade Waste - Classification A - Template
09/1477	Trade Waste - Form - Application - Commercial Liquid Trade Waste - Classification B or C - Template
13/17926	Trade Waste - Form - Discharge Approval - Template

Table 7-1 – Related documents

## 8 Responsible Officer / Policy Owner

The implementation and ownership of this policy rests with the Liquid Trade Waste Officer, unless appropriately delegated to another officer.

## 9 Responsibilities

Parties or Persons	Responsibilities
Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>• Implement Discharge of Liquid Trade Waste to Sewerage System Policy</li> <li>• Liaise with DPE – Water as required</li> <li>• Review Policy in accordance with Section 12</li> <li>• Report on liquid trade waste matters to Manager – Water and Sewer</li> </ul>
Manager – Water and Sewer	Oversee the implementation of Discharge of Liquid Trade Waste to Sewerage System Policy

Table 9-1 – Responsibilities

It is the responsibility of all Council employees and any person contracted to or acting on behalf of Council to have knowledge of, and to ensure compliance with this policy.

## 10 Approval

As per cover sheet.

## 11 Monitoring

This policy will be monitored by the Manager Water and Sewer, unless appropriately delegated to another officer.



**12 Review Date**

This policy, once adopted, is to remain in force until it is reviewed by Council. This policy is to be reviewed approximately every two (2) years to ensure that it meets legislative requirements.

In accordance with section 165 (4) of the *Local Government Act 1993*, this policy will be reviewed within one year of the election of every new Council.

**13 Last Review Date**

April 2022

**14 Record Keeping, Confidentiality and Privacy**

All records received, created or supporting this policy will be kept on Council's Corporate Computer Systems in accordance with *State Records Act 1998, NSW* and will retain confidentiality and privacy in accordance with *Privacy and Personal Information Protection Act 1998, NSW* and Council Policy. Council is required to release certain information in accordance with *Government Information (Public Access) 2009, NSW*.

This policy is to be made available for public viewing as required under the *Government Information (Public Access) 2009, NSW*.

**15 Breaches and Sanctions**

Any breaches of this Policy will be referred to the General Manager for appropriate action.

**16 Document History**

The below table provides a summary of changes and amendments to this document.



Version	Date Amended	Author	Comment (e.g. reasons for review)
1	06/11/2000	Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Initial release</li> </ul>
2	05/12/2005	Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Periodic review</li> </ul>
3	16/08/2012	Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Periodic review</li> </ul>
4	19/03/2020	Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Periodic review</li> <li>Update to new template</li> </ul>
5	18/05/2020	Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Biennial review</li> <li>Classification S (septage) excluded from acceptance</li> </ul>
6		Liquid Trade Waste Officer	<ul style="list-style-type: none"> <li>Biennial review</li> <li>Added document history</li> </ul>







# DRAFT BUILDING IN THE VICINITY OF SEWER AND TRUNK WATER MAINS

## Policy | Water and Sewer

A guideline for proposed development where approval is required to build in the vicinity of Council's sewer and water mains. This policy will ensure Council's water and sewer assets are protected.

<b>Policy No:</b>	POL/26013	<b>Version:</b>	4
<b>Service Unit:</b>	Water and Sewer		
<b>Responsible Officer:</b>	Manager – Water and Sewer		
<b>Responsible Director:</b>	Director – Infrastructure and Planning		
<b>Authorisation Date:</b>	May 2022	<b>Review Date:</b>	May 2024
<b>Minute No:</b>			

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## 1 Background

### 1.1 Title of the Policy and Commencement Date

The Building in the Vicinity of Sewer and Trunk Watermains Policy takes effect from the date of adoption by the elected Council. Please refer to [Policy Register](#) information provided on the cover page.

This policy is based on Council Minute 463/76 of 22 November 1988. Council reaffirmed the policy in its revised format in accordance with the policy register details on the cover page.

### 1.2 Purpose of the Policy

This policy has been prepared to guide proposed development(s) in the vicinity of Council's gravity sewer mains, trunk water assets and their zones of influence, including any proposed works that may be exempt from development approval. The implementation of this policy is to:

- nominate Council's sewer and water pipelines and easements over which construction is permitted, conditionally permitted and not permitted and, where construction is permitted, provides guidelines and limitations, and
- reduce conflicts over access and damage to pipeline assets, improve customer service and reduce Council's risk.

Applications for construction adjacent to and over Council's assets will only be considered if it can be clearly demonstrated that the applicant has investigated all other options for development. Council will treat each application on its merits, but it should not be assumed that consent for construction over or near the sewer or water mains will be automatically granted.

This Policy is divided into two parts:

#### Part 1 – Building in the Vicinity of Sewer Mains

Provides policy positions on building over or adjacent to gravity sewer infrastructure.

#### Part 2 – Building in the Vicinity of Trunk Water Mains

Provides policy positions on building in the vicinity of trunk water mains.

The policy is based on the model policy and information contained in the Water Directorate's Building in the Vicinity of Sewer and Trunk Water Mains Guidelines, 2019.

## 2 Objective

### 2.1 Objectives and Coverage of the Policy

Improper construction practices in the vicinity of sewer and water mains may cause pipes and joints to deform, fracture and/or burst leading to infiltration and exfiltration, tree root intrusion, blockages and other operational problems. Ingress of pipe embedment and the surrounding soil into the sewer or water main failure and



## Policy

## Building in the Vicinity of Sewer and Trunk Water Mains

subsequent flooding may cause subsidence leading to damage to the Owners' structure. The principal objectives of this policy are:

- To prevent structural damage to the buried asset resulting from the Owner's construction works or imposed loads from the Owner's structure;
- To prevent consequential damage to the Owner's structure;
- To have free and unrestricted access by the Council to the pipeline or easement at all times to install, operate and maintain the buried asset without potential harm to any Owner's built over or adjacent structure;
- To maintain the amenity (functional use) of the property and allow the occupant use of the property without unnecessary constraints; and
- To adopt best practice for both construction and maintenance e.g. application of trenchless technology to construction and repair can significantly reduce access requirements necessary for open trenching construction and repair.

### 3 Application

#### 3.1 Application of this Policy

Council's first position is that structures not be constructed over sewer or water mains or within their zone of influence.

Any application to Council to building adjacent/over water and sewer mains will only be considered if alternative options outlined below are found not to be viable:

1. Relocate proposed structure
2. Relocate Council's affected assets
3. Provide protection measures and build over/adjacent to asset.

The Building in the Vicinity of Sewer and Trunk Watermains Policy applies to the following three structure types:

1. Heavy or Permanent Structures;
2. Light Weight or Demountable Structures; and
3. Miscellaneous Structures.

The policy addresses low risk commonly encountered situations nominating requirements for the construction of minor structures built over or near an easement. The policy applies to sewer up to and including DN 225 (225mm inside diameter pipes) as well as associated vent(s) or maintenance structure(s) and guidance on larger structures. The policy also applies to trunk water mains DN200 and some DN150 water mains.



## 4

**Definitions**

For the purposes of this policy:

Term	Meaning
Approved	Acceptable to, authorised by or approved by Council.
Building Adjacent to Sewer	Where a structure is proposed to be built in the zone of influence but not over the sewer. The structure is likely to impact on Council sewers and associated structures.
Building Over Sewer	The erection of a structure over and within the zone of influence of the sewer.
CCTV	Closed Circuit Television
Council	Singleton Council
Easement to Drain Sewage	A legal entitlement placed over a parcel of land for the purpose of the provision, operation and maintenance of sewer infrastructure.
Encasement	The protection of a sewer pipe by encasing all around with concrete to Council standards.
Guidelines	Building in the Vicinity of Sewer of Trunk Water Mains Guidelines
Heavy / Permanent Structures	Any approved structure typically constructed from masonry, brick, steel, timber or concrete and it is neither reasonable or practical to remove or dismantle the structure for the purpose of carrying out sewer repairs or refurbishment. Some examples are dwelling houses, garages, onsite cabins.
Improvements	Are deemed to include but not be limited to pavements, shrubs, gardens, retaining walls, fences and all other structures.
Lamphole	A vertical pipe or shaft between <b>maintenance</b> holes into which a light may be lowered for inspecting sewer.
Lightweight Demountable Structures	Any approved structure that can, at the owner's risk and expense, be easily and readily dismantled and re-erected at the request of Council, if access to the main (by excavation) was required. Some examples are domestic carports, small tool or garden sheds, pergola.
Maintenance Shaft	Allows a sewer system to be inspected, cleaned and repaired from the surface.
<b>Maintenance</b> Hole	A covered hole, through which a person may access an underground or enclosed structure; such as the sewer.
Miscellaneous Structures	Any approved structure where no special protection measures for the sewer main should be required as long as the minimum clearance requirements have been met. Some examples are rainwater tanks, driveways or retaining walls.





Term	Meaning
Not Fully Enclosed	Means where at least one side of the carport/verandah is completely open or two sides are partly open. Doors of any type are to be considered as closed sides.
Owner	The Agency, Authority, Board, Company, Controlling Authority, Corporation, Council, Department, Individual, Regulator, Utility or other legal entity who is the Owner or lessee of the property and/or who has responsibility for the property.
PSS	Pressure Sewer System
Pressure Sewer System (PSS) Boundary Unit	A Council installed valve box located on the pressure sewer main at the property boundary.
Pressure Sewer System Discharge Pipe	The pipe running from the pressure sewer unit to the boundary kit.
Sewer	An asset owned by Council used for the conveyancing of sewage, whether raw or treated. A sewer may be live or disused.
Sewer Line / Main / Pipe	An asset owned by Council, controlled and maintained by the Water and Sewer Group, used for the conveying of sewage (raw or treated). A sewer may be operational or disused.
Trunk Water Main	A trunk water main is deemed to be a water main of greater than or equal to 200mm diameter and some 150mm watermains.
Vent Shaft	Also known as a ventilation shaft or vent stack is a tall shaft designed for the safe release of gases built up in the sewers.
Water Main	An asset owned by Council, controlled and maintained by the Water and Sewer Group, used for the conveying of water (raw or treated). A water main may be operational or disused.
Works	All those Works being sewers, maintenance structures, vents, pumping stations, pressure mains and accessories and shall include valve chambers and storage facilities as shown on the Design Drawings and includes any part or parts of the Works.
Zone of Influence	The 'zone of influence' is that area of soil/strata above a water or sewer main that is likely to be influenced by building loads. Factors that determine the 'zone of influence' include trench width and depth and soil classification (by qualified structural engineer as per AS 2870) and Groundwater / level of the water table. The boundary of the 'zone of influence' coincides with the angle of repose of the strata encountered (including



Term	Meaning
	cut/fill). This boundary shall commence at the bottom corner of the trench nearest the proposed foundation. If the trench is partly in rock or shale the boundary shall commence at the top of the rock or shale strata. In heterogeneous soil the angle of repose may differ.  The above criteria do not apply to water charged strata. Foundations in water charged ground are to be designed by a structural engineer and approved by Council.

## 5 Part 1 – Building in the Vicinity of Sewer Mains

### 5.1 Procedural Statement

Building over or adjacent to sewer by residents, commercial or industrial business' can be problematic for Council and the land owner, especially when sewer maintenance or repairs are required.

### 5.2 Consideration of Build Over Sewer Requests

Each case will be assessed on its merits after lodgement of a development or other application with consideration being given, but not limited to the loads imposed on the sewer, accessibility to sewer mains, the criticality and type of the sewer. On application Council will consider the following in the below order:

- Relocation of the proposed building/structure;
- Relocation of services; or
- Building over or adjacent to the sewer.

It is the responsibility of the developer, applicant or owner to investigate and document the above options in consultation with Council.

If the option to building over or adjacent to the sewer is determined, a CCTV inspection prior to and following the construction will be required to ensure no damage to the sewer infrastructure is sustained. The costs associated with the CCTV inspections and rectification works as a result of the building over or adjacent to sewer will be at the expense of the applicant/owner.

An encumbrance will be registered by Council over the property to enable any future purchaser to be aware of the conditions under which approval for the construction of the structure over the sewer was given including any specific conditions.

#### 5.2.1 Relocation of Proposed Building or Structure

In all instances, the first option considered should be the relocation of the proposed building or structure away from existing sewer assets.

If this is not feasible, due to the position of the sewer main on the property adversely restricting the use of the land, relocation of assets may be considered.



**5.2.2 Relocation of Assets**

Council will only consider relocation of existing sewer assets if the developer can demonstrate that building away from the sewer adversely restricts the use of the land. Any relocation works need to ensure all required design standards (cover, grade, position) are still met and that the capacity or functionality of the assets is not reduced. All costs associated with the relocation of assets are to be funded by the developer.

**5.2.2.1 Relocation – Gravity Mains**

Where approval to relocate a sewer is granted the developer will be required to submit plans in accordance with Council's Development Specifications. Relocating the sewer, following approval, is required before construction of the proposed building/structure can commence. The applicant will need to liaise with Council regarding the bypassing of live sewage flows.

**5.2.2.2 Relocation – Rising Mains**

Where approval to relocate a rising main is granted the developer will be required to submit plans in accordance with Council's Development Specifications. Following approval, the developer is required to relocate and ensure proper function of the rising main before construction of the building/structure can commence. The applicant will need to liaise with Council regarding the bypassing of live sewage flows.

**5.2.2.3 Relocation – Easements**

The developer will be required to acquire/provide an easement in accordance with Council requirements over a relocated gravity and/or rising main.

**5.2.3 Construction Not Permitted**

Structures and/or construction will **not** be permitted to be built over and/or in close proximity to the following:

- Sewer rising mains, surcharge mains and critical gravity mains (generally all sewer mains of greater diameter than 300mm mains and/or deemed to be excessively deep i.e.. greater than 3.0 metres), as determined by Council.
- An easement containing a pressurised sewer (rising main or pressure sewer or vacuum sewer) or within 1 metre from any point on the outside edge of Council's water main, pressurised sewer or associated vent or maintenance structure.
- Where sufficient clearances to sewer **maintenance** holes, inspection shafts, lampholes, maintenance points and junctions cannot be achieved **(eg for maintenance)**.
- A sewer access point or property sewer connection point (For exceptions refer the Council's Building Over or Adjacent to Sewer Infrastructure Guideline). This also includes situations where it is considered that a future requirement to gain access to a section of sewer, for example, to construct a sewer connection off this section of sewer to serve a further land division, exists.
- Concrete pipes, asbestos cement pipes or vitreous clay pipes. They are often cracked and have leaking joints and require rehabilitation or replacement before construction to minimise the likelihood of any problems or structural failure. If local



conditions permit, these pipes can be replaced with alternative pipe materials, subject to approval by Council.

- Any gravity sewer that, in the opinion of Council, **may be or is** in poor condition. **In these instances** the condition of the sewer must be **determined** by CCTV inspection, its structural condition assessed and as appropriate rehabilitation works **may be required**. The costs associated with the CCTV inspection are to be at the applicant/owner's expense. **A copy of the CCTV footage and report shall be provided to Council for review.**
- Within 1 metre of a sewer connection servicing an adjoining property.
- Where the driving of piles of any description in an easement or within 1 metre measured from the outside diameter of the sewer is proposed. Approval may be considered where CCTV inspections are carried out, at the applicant/owner's expense, prior to and following the installation of the piles and the applicant accepts the liability for any damage to the sewer as a result of this work.

### 5.3 Building Over Sewer

Council will only consider a building/structure over the sewer main in exceptional circumstances and then only if the applicant can demonstrate that relocating the building/structure and/or relocation of the sewer is not feasible.

The developer shall consider an integrated approach and demonstrate that all associated risks can be managed with marginal costs if building over a sewer main is to be considered and accepted by Council. All costs associated with the works are to be funded by the developer.

Council may require applications to build over a sewer to include a CCTV inspection of the subject sewer, undertaken by a contractor qualified and with the necessary experience to do so, or by Council at the applicant's expense. **The inspection shall be completed and condition/ defects recorded in accordance with the Water Services Association of Australia Conduit Inspection Reporting Code WSA 05-2013 - Version 3.1. or its replacement.** The results of the CCTV inspection are to be submitted to Council with the application. The inspection may be used as a dilapidation survey, with the developer required to fully fund any repair work required to rectify damage caused by their development.

Depending on the results of the CCTV inspection, Council may require the developer to:

- Reconstruct the sewer main in its existing location using construction materials as specified by Council and in accordance with requirements set down within Council's Technical Specifications and approved plans; or
- Reline the existing sewer main by the engagement of contractors qualified to undertake such work. The name of contractor and the relining technique to be utilised will be submitted to Council for approval prior to work commencing.

All works on gravity sewer mains must be completed for the full extent between **maintenance holes.**



### 5.3.1 Permitted Structures

In most circumstances, Council will permit the following structures to be built over easements/Council sewers up to and including DN225 provided the specified provisions are met (Refer also to Council's Building Over or Adjacent to Sewer Infrastructure Guidelines):

- Landscaped or terraced gardens;
- Concrete or decorative paving;
- Class 10 non-habitable buildings or structures as classified in the Building Code of Australia (BCA). Class 10a includes a non-habitable building being a private garage, carport, shed or the like. Class 10b includes a structure being a fence, mast, antenna, retaining or free-standing wall, swimming pool or the like.
- Demountable structures such as garages, carports, verandas, pergolas, above-ground swimming pools and spas and prefabricated garden sheds, tool sheds, shade houses, aviaries and the like.

In certain cases, such as driveways over sewers, Council may require that a design be prepared by appropriately qualified consultants and certification of the design following construction. This may include additional compaction test results, subgrade inspections and other measures deemed necessary by the designer.

### 5.3.2 In-ground and Non-Demountable Swimming Pools and Spas

Construction of in-ground and non-demountable swimming pools and spas adjacent to the line of the sewer provided a minimum of 1.5 metre horizontal clearance is maintained between the outside edge of the pool/spa and the outside edge of the sewer and no additional load is placed on the sewer.

If a pool is constructed within the zone of influence of a sewer main it should be designed and certified as being self supporting with foundations founded below the zone of influence.

Construction of in-ground and non-demountable swimming pools and spas over or within 1.5 metres of access points, such as maintenance structures, inspection and vent shafts, is not permitted.

### 5.3.3 Above-ground Demountable Swimming Pools and Spas

Above-ground pools without floor decking around the pool, and not constructed of concrete or fibreglass, are considered to be semipermanent structures that are able to be removed on request to enable access to the sewer. Above-ground pools with permanent decking are considered to be permanent structures and are subject to the conditions outlined in section 5.3.2.

Construction of above-ground demountable swimming pools within the easement area and above the sewer provided 600mm vertical clearance is maintained from the top edge of the sewer to the underside of the pool and subject to the following:

- There is no other location in which the pool can reasonably be sited having regard to safety (viewing and fencing), aesthetics and costs associated with alternative locations.



- Any special precautionary measures required by Council regarding the load transmitted to the sewers are met.
- Council is absolved from responsibility for any damage to the pool in the event of soil movement, or as a result of Council or its contractor's activities within the easement.
- Council or its contractor shall have the right to empty the pool in conjunction with its activities in the easement, and there shall be no compensation payable for the water so removed or the water used by the Owner or occupier in refilling the pool.

Construction of above-ground demountable swimming pools and spas over sewer access points such as maintenance structures, vent shafts, inspection opening and inspection points are not permitted.

#### 5.3.4 Demountable Structures

Demountable structures such as garages, carports, verandahs, pergolas, and prefabricated garden sheds, toolsheds, shade houses, aviaries and the like, may be constructed over an easement provided such structures are not located over any access points except as permitted in below.

Council cannot be held responsible for any damage to the structure and its contents as a result of Council activities within the easement. The costs associated with Council repairing damage to a sewer caused demountable structures over an easement will be at the expense of the owner.

#### 5.3.5 Carports and Verandahs

Carports or verandahs which are not fully enclosed may be constructed over an access point provided that:

- The riser is inspected by Council and the surface fitting or marker is adjusted to the correct level where necessary prior to the commencement of any building work and prior to the laying of any paving;
- The Owner is advised that the carport, pergola or verandah shall not be enclosed now or in the future unless the appropriate requirements are met; and
- An encumbrance certificate is issued over the property which includes a condition that the structure shall not be fully enclosed.

#### 5.3.6 Underground Cables and Pipes

Construction of sanitary drains (private property sewers), storm water drains  $\leq 300\text{mm}$ , gas and water mains, electricity and telephone cables within easements under the following conditions, where;

- Pipes, conduits and telecommunication cables are required to cross a sewer, lay at  $90 \pm 15^\circ$  to the sewer and maintain a minimum vertical clearance of 150mm from the outside edge of the sewer.
- Pipes, conduits and telecommunication cables are laid within an easement and parallel to the sewer, maintain a minimum horizontal clearance of 300mm from the outside edge of the sewer.





- Electricity conduits and telecommunication cables are required to cross a sewer, lay at  $90 \pm 15^\circ$  to the sewer and maintain a minimum vertical clearance of 225mm from the outside edge of the sewer.
- Electricity conduits and telecommunication cables are laid within an easement parallel to the sewer, maintain a minimum horizontal clearance of 500mm from the outside edge of the sewer.
- Pipes, conduits and telecommunication cables where they cross the sewer (e.g. by concrete or recycled plastic slabs) are protected, so that during any work on the sewer the likelihood of damage to the pipes conduits or cables and injury to Council or contractor personnel is reduced.
- The location of pipes, conduits and cables above-ground are marked with permanent visible markers.

### 5.3.7 Tennis Courts

Tennis courts, paved or otherwise improved areas and the like, may be constructed over a sewer and access points provided the Owner accepts that Council is not responsible for any damage caused to the court or surrounds in the event that access to the sewer is required.

The costs associated with Council repairing damage to a sewer caused by the construction of a tennis court will be at the expense of the owner.

### 5.3.8 Paved and Other Improved Surfaces

For paved surfaces and other improved surfaces such as tennis courts constructed over maintenance structures, surface fittings must be flush with the finished surface level.

In cases where the Owner does not want a surface fitting located in the paved area or other improved surfaces, subject to investigation to determine suitability, it may be possible to construct a new maintenance structure nearby at the Owner's cost.

### 5.3.9 Rainwater Tanks

Rainwater tanks that are to be constructed on concrete slabs, frames or other permanent bases, will for the purposes of this policy, be classified as permanent load bearing structures and will be subject to the provisions of this policy in regard to access and load bearing upon Council's sewers.

Rainwater tanks of a size 10,000 litres or less, constructed from plastic or other flexible material and to be situated upon natural ground or a base of sand, road base or similar material, and where it can be demonstrated that the tank can be readily emptied and moved (without damage to the tank) will be classified as demountable structures and not be subject to the provisions of this policy.

### 5.3.10 Filling Over Sewer Mains - Alteration of Surface Levels over Assets

The allowable depth of fill that can be placed over a sewer main depends on the material type and stiffness class, as well as the native soil and standard of backfilling.



Applications for significant filling to alter the original surface level over easements and above Council sewers must include certification from a suitably experienced qualified civil, structural or geotechnical engineer that the:

- Loading imposed will not adversely affect the underlying sewer; or
- Remediation work proposed will prevent any adverse loading on the underlying sewer.

Fill increasing the depth of fill to greater than 2.5 metres above the top edge of the sewer is considered significant.

The placing of fill in excessive depths over a sewer main is not permitted, even if there are no structural issues. A maximum depth to the sewer main, being 5 metres, is required for practical access. No fill is to be placed over maintenance structures, inspection openings and inspection points. These assets may need to be raised in conjunction with any site filling, any costs associated with this works will be at the applicant/owner's expense.

The costs associated with Council repairing damage to a sewer caused by alterations of surface levels by the owner will be at the expense of the owner.

#### 5.3.11 Excavations Over and Adjacent to Mains

Generally excavations over or adjacent to a sewer main are not to reduce the earth cover over the main to less than the minimum limits as detailed in Council's Technical Specifications.

Any proposal to reduce cover over a sewer to less than the limits imposed in these guidelines will require an application to Council and subsequent approval. Any application must include, amongst other things, certification from a suitably experienced qualified civil, structural or geotechnical engineer that the:

- Loading imposed will not adversely affect the underlying sewer, or
- Remediation work proposed will prevent any adverse loading on the underlying sewer.

On sloping sites there is potential that earthworks down slope of an existing sewer main could present a risk for land slip or erosion of soil providing cover and/or side support to an existing sewer main.

Any proposed regrading of land immediately down slope of an existing sewer main should be designed with a slope no steeper than 3 (horizontal) to 1 (vertical) to ensure future erosion and/or land slip does not reduce cover and/or support to the existing sewer main. Steeper embankments would be permitted where the embankment is certified by a suitably experienced qualified civil, structural or geotechnical engineer and approved by Council.

Retaining walls may be required to provide support down slope of existing sewer mains if substantial regrading is proposed.



### 5.3.12 Retaining Walls

The construction of retaining walls is subject to the following requirements:

- Where the footings of a wall would encroach on the zone of influence, the wall is to be designed in accordance with section 5.5.
- Generally walls more than 1metre in height would not be permitted within 1metre of the main.
- Minimum cover over the main is to be maintained or an Engineer's assessment is required for protection of the main.
- The wall is to be set back at a minimum of 1.5metre from the centre of a sewer maintenance structures.
- A retaining wall less than 1metre in height may be permitted over or within the zone of influence without the requirement for an Engineer's design provided that:
  - the wall is at least 3metre from an adjoining property or building/structure;
  - The wall would not be subject to vehicle loadings.
- Any retaining wall crossing a sewer main must be supported over the main with a reinforced concrete foundation designed in accordance with section 5.5 to ensure no loads from the wall are transferred to the sewer main i.e. bridging slab foundation.

### 5.3.13 Planting of Trees and Shrubs

Tree roots can penetrate into sewer pipes through joints or damaged sections of pipes, causing blockages and subsequent overflows. A list of high hazard species is provided in the Council's Building Over or Adjacent to Sewer Infrastructure Guidelines).

The costs associated with Council repairing damage to a sewer caused by trees, shrubs and plants, planted or maintained by the owner will be at the expense of the owner.

## 5.4 Clearances

To ensure all sewer infrastructure is protected from damage and to enable maintenance, minimum clearances are required to be maintained from proposed structures. **Any arrangements involving access to a sewer through the floor of any building is NOT permitted.**

### 5.4.1 Sewer Mains and Pipes

- Where a proposed building is permitted to be constructed over a sewer there shall be a minimum 250mm vertical clearance between underside of the foundations/beam and the top edge of the pipe concrete encasement. Where 250mm clearance cannot be achieved or in special circumstances alternative construction methods may be considered, upon application. Vertical clearances of less than 100mm will **not** be permitted.
- Where the zone of influence is 1H:1V and sewer trenches are less than 2.5 metres deep, the face of any foundations should be a minimum 1,200mm clear of the outside edge of the sewers. In special circumstances these clearances may be reduced to 600mm but only if the trench depth is less than 1.5 metres and in rock



or clay and the piers are constructed by open excavation. For deeper sewers greater than 2.5 metres deep; the horizontal clearance shall be a minimum of 2.0 metres.

- Where the zone of influence is greater (flatter) than 1H:1V horizontal clearances from the face of piers to the outside edge of sewer of less than 1,200mm will not be permitted.
- Where the zone of influence is 1H:1V and for sewer depths of between 2.5 metres and 3.0 metres minimum clearance from the outside edge of the sewer and shall vary on a pro-rata basis from 1200mm (2.5 metres deep) to 2,000mm (3.0 metres deep).
- Where the zone of influence is other than 1H:1V, for sewers at depths greater than 2.5 metres the minimum clearance from the outside edge of the sewer shall be 2.0 metres.
- See below table for minimum cover over sewer pipes:

Minimum Cover Requirements for Sewer	
Location of Pipe	Gravity Sewers – All Pipes
Areas not subject to vehicular loading	450mm
Areas Subject to vehicular loading;	
Not in a roadway	600mm
In a sealed roadway	750mm
In an unsealed roadway	750mm

Table 5-1 – Minimum cover for sewer pipes

#### 5.4.2 **Maintenance** holes, Lampholes, and Maintenance Shafts

Unrestricted access to all **maintenance** holes, junctions, lampholes and/or maintenance shaft to be provided and maintained at all times. The following minimum clearances from these access points are required.

- No building, wall or other improvement will be permitted within 1,200mm horizontal radius from the centre of a **maintenance** hole or maintenance shaft and within 750mm horizontal radius of a junction, lamphole or terminal maintenance shaft. It should be noted that these distances may be increased in certain circumstances.
- A minimum vertical clearance of 2,400mm is to be maintained for all structures.
- Where a building is proposed to extend across the whole frontage of the building block, provision will be made to ensure that access for machinery to the **maintenance** holes, lampholes, maintenance shafts and terminal maintenance shafts at the rear of the building is available at all times. Access from adjoining properties, unless they are public reserves, can only be relied on if an easement leads to the subject property to provide permanent access.

#### 5.5 Asset Protection Measures

Where construction of any heavy/permanent structures or lightweight/demountable structures will impose a load within an existing sewer asset's zone of influence (see section 5.5.3), Council may request the developer to carry out any combination of the following protection measures:



- Concrete encasement; and/or
- Piering of foundations

The protection measures may also be required due to other factors affecting the asset such as available cover.

#### 5.5.1 Concrete Encasement

Concrete encasement of the sewer main is required for the protection of the affected pipe and any associated infrastructure due to the vertical loads imposed by the works and as a result of loss of access. Concrete encasement is also required where the cover of the strata over the pipes does not meet the minimum cover requirements. Refer refer section 5.4.1.

Concrete encasement is to comply with the following specification:

- Only rubber ring jointed vitrified clay and PVC pipes may be encased in concrete. Permission may also be given to replace other types of pipes with PVC pipes prior to encasement depending upon the location and criticality of the lines.
- In trenches of material other than rock, encasing is to extend 150mm under, on both sides and on top of the pipe barrel. The maximum width of the encasement is not to exceed 600mm. For trenches in rock, encasing is to extend 100mm under the pipe barrel, 150mm on top of the pipe barrel and for the full width of the excavated trench.
- Unless otherwise specified, all flexible pipe joints are to be maintained. The minimum length of the encasement will be the total length of the sewer that is affected plus a minimum of 1000mm on each side plus any additional length to ensure encasement starts and finishes at a flexible joint. (Subject to soil conditions and depth of sewer this length may increase)
- If a maintenance hole is less than 2 metres from the end of encasement, as required above, the encasement is to be extended up to the second flexible joint from that maintenance hole.
- The applicant/developer will be required to locate the main, excavate the trench in accordance with Work Cover guidelines, identify the type of pipe to ensure encasement is possible, supply and construct any formwork required and supply and place the concrete (minimum 28-day strength of 20 MPa) in accordance with relevant standards and provide evidence of meeting this requirement. If the pipe has to be replaced in order to encase, the cost associated with these works are to be at the applicants' expense. Prior to any works commencing, Council's Water and Sewer Group need to be notified and allowed to inspect as required.
- If asbestos pipes are to be replaced, removal and disposal of the pipes and any other asbestos cement material is to be undertaken in accordance with WHS guidelines at the applicants' expense.
- Backfilling of the trench with suitable material as per specification must not commence until at least 48 hours after placing the concrete.
- Concrete encasement shall not be poured integral with any other foundation or structure.



- Sewer junctions that are permitted to be incorporated in proposed concrete encasement are to be upgraded to a rubber ring jointed junction in order to maintain flexibility at the junction branch.
- Where the encasing of sewers in adjoining properties is required, written approval from the adjoining owner to enter the property to carry out the works will be required prior to approval being granted for works to commence.

#### 5.5.2 Piering and Foundation Requirements

Design of a structure's foundations can be enhanced to transfer loads outside the sewer assets zone of influence. This approach can reduce the need to structurally strengthen the sewer main through measures such as encasement, and ensures the structure is self-supporting in the event of a collapse of the sewer main, or excavation of the sewer main. A certified design prepared by a suitably qualified and experienced Engineer will be required to accompany foundation designs. The plan shall show the design of all footings, beams and piers and clearly note required clearances, ground levels and nominated soil classifications.

Piering and/or foundations is to comply with the following specification:

- The foundations of any structure at/and within 1,200mm horizontal clearance from a sewer shall extend a minimum 150mm below the zone of influence of the sewer or on sound rock. Concrete encasement of the sewer is required in accordance with section 5.5.1.
- The foundations of any structure greater than 1,200mm horizontal clearance and within the zone of influence of the sewer shall be a minimum 150mm below the zone of influence relative to the trench.
- The building and its foundations are to be designed in such a way that no building loads are transmitted to Council's sewer and where possible, the pipe can be repaired or replaced at any time without affecting the stability of the building.
- Displacement piles or shoring will not be permitted within 5.0 metres of a sewer.
- A minimum horizontal clearance of 1 metre is required between any piers and the face of a sewer main.
- Screw piles will be permitted no closer than 2.0 metres to a sewer. Screw piles permitted to be located between 2.0 metres and 5.0 metres offset from the sewer are to be cored (min.  $\frac{3}{4}$  diameter of helix) to a level 300mm below the invert of the sewer.
- Certified Engineers design/construction details are required to show the design of footings, piers and beams with specified clearances, ground levels, together with soil classification.

#### 5.5.3 Zone of Influence

The 'zone of influence' is an area extending both horizontally and longitudinally along the alignment of an underground asset. This area is considered as that part of the ground where:

- Settlement or disturbance of the ground surrounding the pipe may cause damage to buildings or structures on the surface above.





- Loads from buildings or structures on the surface may have an impact on the buried pipe.

The zone of influence shall be determined by extending a line at an angle of 2 (Horizontal): 1 (Vertical) to the surface, starting from a point 150mm below the invert of the sewer main and half of the trench width measured horizontally from the pipes centreline. See figure below.

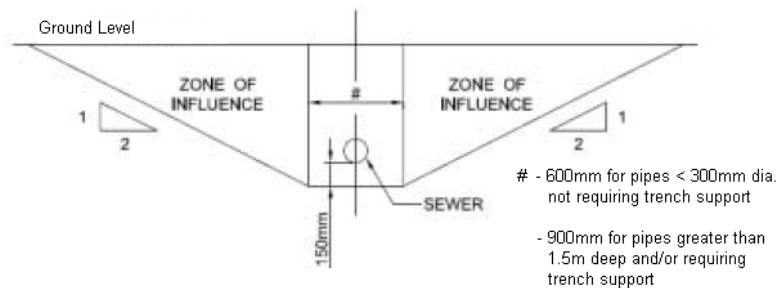


Figure 5-2 – Zone of Influence

A steeper angle of repose (max 1H:1V) for stiff soils (clays etc) considered subject to the approval of the Development Engineer Water and Sewer. Geotechnical investigations and a report from a suitably qualified and experienced Geotechnical Engineer need to be provided by the applicant to support such requests.

#### 5.5.4 General Considerations

- It is the applicant's/developer's responsibility to locate all services within the vicinity of any sewer infrastructure prior to excavation.
- Rebuilding of any premises is subject to the same conditions as would be imposed in respect of an entirely new building/structure or part thereof.
- Where satisfactory arrangements for building over a sewer cannot be provided, **realignment** of the sewer at the owner's expense where practicable, may be considered. Generally each case must be treated on its merits having regard to the type and importance of the sewer, the nature of the strata, feasibility of re-designing or relocating the existing sewer and/or the proposed building etc.
- Where excavation works for sewer encasement are likely to affect adjacent structures either on the subject property or on adjoining lands, underpinning or other approved methods of support of these structures will be required.
- Pressure sewer systems are to be treated in a similar fashion to normal gravity sewer in regard to building over sewer conditions. The zone of influence is to commence from a point 150mm below and 150mm horizontally away from the base of the pressure unit. No building, wall, foundations or other improvement will be permitted any closer horizontally than 1,200mm to the unit. Foundations at 1,200mm offset are to be founded a minimum 150mm below the base of the unit. A minimum vertical clearance over the unit of 2,400mm is to be maintained. Access to the unit for maintenance and repairs is to be maintained at all times. No structures are to be constructed over the sewer pressure mains running from the unit to the boundary kit. If required, and subject to application, relocation of the pressure main from the unit to the boundary kit may be approved.



**5.5.4.1 Costs**

The developer will be responsible for all costs associated with:

- Investigation and design and any costs associated with seeking approval
- Construction costs (in the event the approval is granted)
- Repairing any damage to a sewer main or associated sewer infrastructure caused by construction over or near an existing sewer.

The developer, applicant or owner must also pay for all works associated with the relocation of proposed buildings, existing assets and costs associated with any strengthening works or foundation enhancements required.

All costs associated with rectification works of damaged sewer infrastructure caused by building over or adjacent to sewers, or illegal building works over or adjacent to sewers will be at the expense of the developer, applicant or owner.

The developer will have no claim on Council for any costs incurred in the event that approval is not granted.

**5.5.4.2 Exceptions**

Some lightweight structures may be exempt from certain conditions set down in this policy, as noted below:

- If the proposed structure approved by Council is a readily demountable structure and can be easily dismantled by the owner at their own risk and expense, at any time, as requested by Council. The applicant may need to provide information confirming the above.
- If the proposed structure does not place a superimposed load on the sewer main and do not prevent reasonable access to the sewer main either at the stage of construction or in the foreseeable future (owing to alteration of the structure).

In general, each case will be assessed on its merits after lodgement of a development or other application with consideration being given (but not limited to) the loads imposed on the sewer, accessibility to sewer mains, the criticality and type of sewer.

**5.5.4.3 Audit inspections**

Audit inspections of all works to verify compliance with the conditions of approval will be mandatory. In the event of non-compliance Council will take appropriate action to minimise the impact on the asset, at the expense of the owner.

**5.5.4.4 Reinstatement**

Even though approval to encroach into an easement may state that Council cannot be held responsible for any damage caused to the encroachment, paths, etc. it is often in the best interests of Council and the Owner to minimise amount of damage that is likely to occur as a result of operation and maintenance within an easement.

Given that reasonable reinstatement works are sometimes carried out by Council or its contractor to concrete floors, paving, etc. that may be damaged as a result of its operations and maintenance, exercise caution when expensive or unusual surface



improvements, for example, concrete with special finishes, will require reinstatement because matching colour and/or texture between repaired and original finishes can be very difficult.

#### 5.5.4.5 Unused Easements

Instances sometimes arise where approval is sought to encroach into a Council easement wherein no Council asset presently exists.

Where an easement has been verified by Council as no longer being required, Council may agree to the easement being extinguished. The Owner would be responsible to pay all legal fees, Land Titles Office registration fees and, if required, survey costs.

### 5.6 Unapproved Encroachments

Unauthorised encroachments on easements where no approval has been granted by Council, will be investigated. The severity of the encroachment will determine the action to be taken.

Where approval would have been given had it been sought, approval is granted in retrospect subject to the normal conditions that would have applied if the correct procedure had been followed, including any additional requirements, and payment of associated costs and charges.

#### 5.6.1 Over a Maintenance Structure

If the encroachment is over a maintenance structure, the Owner must remove the encroachment at the Owner's expense within a specified time. Following a Council engineering assessment, if any appropriate courses of action are available, these may be considered at Council's discretion.

#### 5.6.2 Over an Inspection Opening

If the encroachment is over an inspection opening (used for inspection only), which is still partly accessible, approval can be granted in retrospect subject to the normal conditions that would have applied if the correct procedure had been followed, including any additional requirements, and payment of associated costs and charges. If the encroachment is to remain in place, the owner is to agree to accept all risks associated with operations and maintenance at the inspection opening.

#### 5.6.3 Outside Council's Requirements

If the positioning of the encroachment is not fully in accordance with Council requirements, for example, the side of the shed is too close to the centre line of the sewer, the encroachment is permitted to remain provided the Owner accepts the consequences and is prepared to accept all risk associated with operations and maintenance at encroachment. This acceptance must be in writing.

#### 5.6.4 Permanent Structures

Where a house, shop, unit, office, factory or other structure has been constructed over a sewer and/or access points within an easement, a risk assessment is to be



conducted to determine the most appropriate remedy. Any costs incurred in this process are at the owners cost.

Remedies at the Owner's expense may include:

- Rehabilitating of the sewer,
- Construction of a new **maintenance** hole, main shaft or other access point clear of the offending structure,
- Relaying the sewer clear of the offending structure,
- Enlarging the easement to allow for future maintenance or construction.

## 6 Part 2 – Building in the Vicinity of Trunk Water Mains

### 6.1 Procedural Statement

Building over or adjacent to **trunk** water **mains** by residents, commercial or industrial business' can be problematic for Council and the land owner, especially when water **main** maintenance or repairs are required.

Building in the vicinity of pumped sewer mains may also be assessed in line with the requirements of Part 2 – Building in the Vicinity of Trunk Water Mains at the discretion of the Development Engineer Water and Sewer.

### 6.2 Consideration of Build Over Water Main Requests

Each case will be assessed on its merits after lodgement of a development or other application with consideration being given, but not limited to the loads imposed on the water main, accessibility to water mains, the criticality and type of the water main. On application Council will consider the following in the below order:

- Relocation of the proposed building/structure;
- Relocation of services; or
- Building over or adjacent to the water.

It is the responsibility of the developer, applicant or owner to investigate and document the above options in consultation with Council.

Refer sections 5.2.1 and 5.2.2 for additional information.

#### 6.2.1 Construction Not Permitted

Council does not allow building over or adjacent to trunk water mains. A trunk water main is deemed to be a main of greater than or equal to 200mm diameter and some 150mm watermains.

Buildings are also not permitted within 4 metres of reticulation water mains and are not permitted within a water main easement. Refer sections 5.2.1 and 5.2.2 for additional information regarding asset protection that may need to be taken in the event that a building/structure imposes a load within an existing water main's zone of influence.



**6.3 Building in the Vicinity of Water Mains**

Council will only consider a building/structure in the vicinity of a trunk main in exceptional circumstances and then only if the applicant can demonstrate that relocating the building/structure and/or relocation of the trunk water main is not feasible.

The developer shall consider an integrated approach and demonstrate that all associated risks can be managed with marginal costs if building in the vicinity of a trunk water main is to be considered and accepted by Council. All costs associated with the works are to be funded by the developer.

**6.3.1 Risk Assessment**

Given that failure of a water main, particularly a trunk water main, has the potential to cause significant damage to structures and assets of all kinds (including destruction) and potentially injury to residents/occupants, a thorough risk assessment should be carried out, in considering the safety and integrity of structures/assets (whether existing or proposed) in the event of a main bursting. This may require consideration by specialist consultants (Structural Engineers and/or Hydraulic Specialists).

As well as an appraisal of the impacts discussed above, such a risk assessment should also consider the condition of existing pipes and nearby structures.

**6.3.2 Clearances**

Where water mains are located within private property the generally accepted clearance criteria for water mains is a minimum of 2.4 metres from the property boundary and a clearance of 6 metres from other structures. This clearance may be varied at the discretion of the Development Engineer Water and Sewer based on guidelines provided in Table 6-1.

Operating Pressure	Clearance
< 60m,	5m
60m to 80m	10m
> 80m	20m

Table 6-1 – Clearances for Water Assets

**6.3.3 Asset Protection Measures**

Refer to section 5.5 of this policy.

**6.3.4 Zone of Influence**

Refer section 5.5.3 of this policy.

**6.3.5 General Considerations**

Refer section 5.5.4 of this policy.



#### 6.4 Existing Structures in the Vicinity of Existing Mains

The options to be considered where an historic situation applies; that is an existing main in the vicinity of an existing structure are:

**Reroute, replace or relocate the water main in easements or road reserves.**

**Wherever possible and feasible, this is considered the best option, but noting that this may be very expensive.**

**Purchase, relocate and/or demolish the existing building.**

This may be difficult and would require extensive consultation with the property owner(s) and may be a very costly and/or undesirable choice. Where there is sufficient land, consideration could be given to relocation of the dwelling or structure. This may also include the acquisition of land and/or creation of an appropriate width easement.

- **Expose main and concrete encase (where possible)**

This will need to be designed by an experienced, competent Structural Engineer. Depending on the Risk Assessment, this may need to be reinforced concrete encasement. Concrete encasement is considered undesirable where pipe(s):

- are old cast iron pipes with internal corrosion;
- joints are mechanical couplings, lead joints or flanged joints;
- are in an instable area, are externally damaged or have external corrosion; and/or
- are too deep (cost prohibitive).

- **Expose main and build reinforced bridging slab over main**

This will need to be designed by an experienced, competent Structural Engineer. The zone of influence will dictate the width of the slab. Council may require the slab be constructed over a layer of compressive material

- **Lining of main**

This involves installation of an internal lining to prevent pipe wall deterioration by corrosion. Consideration could be given to installation of a structural lining. This is to be designed by an appropriately qualified and experienced Structural Engineer.

**Piering of foundations**

Where there is sufficient clearance, consideration could be given to piering, to protect both the water main and the affected structure. This will need to be designed by an experienced, competent Structural Engineer.

## 7 Relevant Legislation

This policy is to be made available for public viewing as required under the *Government Information (Public Access) 2009, NSW*.





## 8 Document Information

Related documents and reference information in this section provides a single reference point to develop and maintain site compliance information.

### 8.1 Related Documents

Related documents, listed below, are external documents directly related to or referenced from this document.

- Water Directorate Guidelines Building in the Vicinity of Sewer and Trunk Water Mains Guidelines 2019
- WSA 02-2014 Gravity Sewerage Code of Australia
- WSA 03-2011 Water Supply Code of Australia
- Plumbing Code of Australia 2016
- Australian Standard AS/NZS 3500 – Plumbing and Drainage Set
- NSW Guidelines for Best Practice Management of Water Supply and Sewerage 2007

Related documents, listed in **Table 8-1** below, are internal documents directly related to or referenced from this document.

Number	Title
POL/26030	Policy – Sewer Services
POL/26031	Policy – Water Supply Services
21/25692	Technical Specification – Design and Construction – Water Infrastructure – November 2020
21/25693	Technical Specification – Design and Construction – Sewer Infrastructure – November 2020
19/16792	Building in the Vicinity of Sewer & Trunk Water Mains Guidelines

Table 8-1 – Related documents

## 9 Responsible Officer / Policy Owner

The implementation and ownership of this policy rests with the Manager Water and Sewer, unless appropriately delegated to another officer.

The Development Engineer Water and Sewer is responsible for the adherence to this Policy. The following officers may provide support and advice on this policy:

- Manager - Water and Sewer
- Development Engineer – Water and Sewer
- Coordinator Strategy and Compliance



- Coordinator Water and Sewer Delivery; and
- Coordinator Utilities Engineering.

## 10 Responsibilities

Parties or Persons	Responsibilities
Manager Water and Sewer	<ul style="list-style-type: none"> <li>• Ensure compliance of policy and all relevant procedures and supporting documents are current and communicated to all relevant stakeholders.</li> <li>• Review policy regularly to ensure currency of principles.</li> </ul>
Manager Development and Environment	<ul style="list-style-type: none"> <li>• Ensure all Development and Environment staff understands the principles of the policy and all relevant procedures and supporting documents applicable to the development process.</li> </ul>
Development Assessment Planners and Health and Building Surveyors	<ul style="list-style-type: none"> <li>• Consider principles of the policy when assessing development applications and providing advice to customers.</li> <li>• Refer all relevant applications or enquiries to Utilities Engineer - Projects and Development when need identified.</li> </ul>
Water and Sewer People Leaders	<ul style="list-style-type: none"> <li>• Provide direction to staff and ensure compliance with the policy.</li> <li>• Provide expert knowledge of the policy and its principles to Council staff, its customers and other stakeholders.</li> </ul>
Water and Sewer Staff	<ul style="list-style-type: none"> <li>• Ensure understanding of principles of the policy and all relevant procedures and supporting documents.</li> <li>• Undertake all duties in accordance with the policy and supporting procedures in a safe manner.</li> </ul>
GIS Business unit	<ul style="list-style-type: none"> <li>• Ensure accurate mapping available, showing all relevant sewer infrastructure.</li> </ul>
Frontline Staff	<ul style="list-style-type: none"> <li>• Awareness and understanding of principles of the policy.</li> <li>• Consider implications when discussing or dealing with customers or Council matters relating to building, renovating or developing land and sewer services.</li> </ul>

It is the responsibility of all Council employees and any person contracted to or acting on behalf of Council to have knowledge of, and to ensure compliance with this policy.



**11 Approval**

As per cover sheet.

**12 Monitoring**

This policy will be monitored by the Manager – Water and Sewer and the Water and Sewer Groups' Utilities Engineer to ensure compliance.

**13 Review Date**

This policy, once adopted, is to remain in force until it is reviewed by Council. This policy is to be reviewed approximately every two (2) years to ensure that it meets legislative requirements.

In accordance with section 165 (4) of the *Local Government Act 1993*, this policy will be reviewed within one year of the election of every new Council.

**14 Last Review Date**

April 2022

**15 Record Keeping, Confidentiality and Privacy**

All records received, created or supporting this policy will be kept on Council's Corporate Computer Systems in accordance with *State Records Act 1998, NSW* and will retain confidentiality and privacy in accordance with *Privacy and Personal Information Protection Act 1998, NSW* and Council Policy. Council is required to release certain information in accordance with *Government Information (Public Access) 2009, NSW*.

This policy is to be made available for public viewing as required under the *Government Information (Public Access) 2009, NSW*.

**16 Breaches and Sanctions**

Any breaches of this Policy will be referred to the General Manager for appropriate action.

**17 Document History**

The below table provides a summary of changes and amendments to this document.

Version	Date Amended	Author	Comment (e.g. reasons for review)
4		Development Engineer – Water and Sewer	<ul style="list-style-type: none"> <li>• Biennial review</li> <li>• Added document history</li> </ul>



Policy

Building in the Vicinity of Sewer and Trunk Water Mains

Version	Date Amended	Author	Comment (e.g. reasons for review)
	April 2022		<ul style="list-style-type: none"> <li>Document references updated from Council Development Specifications to Council Technical Specifications</li> </ul>
			<ul style="list-style-type: none"> <li>Maintenance Hole used to replace the traditional term Manhole.</li> </ul>
			<ul style="list-style-type: none"> <li>Requirement for CCTV inspection by qualified personnel and in accordance with the Water Services Association of Australia Conduit Inspection Reporting Code WSA 05-2013 - Version 3.1.</li> </ul>
			<ul style="list-style-type: none"> <li>Requirement for additional subgrade preparation, compaction and engineering input into designs for driveways over sewers</li> </ul>





# Drought and Emergency Response Management Plan

## Report

Upper Hunter Water Utilities Alliance (UHWUA)

21 April 2022


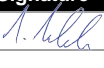
→ The Power of Commitment

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**Document status**

Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
S4	0	T Cook	N Malcolm		N Malcolm		21/04/2022

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➔ The Power of Commitment



## Executive summary

This Drought and Emergency Response Management Plan (DERMP) has been developed for the Upper Hunter Water Utilities Alliance (UHWUA) consisting of Singleton Council, Muswellbrook Shire Council and Upper Hunter Shire Council in order to:

- Provide Guidance to staff when managing drought and emergency incidents.
- Inform the community of the issues associated with drought and emergency management and the community's role during drought and emergency incidents.
- Having a sound DERMP in place is part of the NSW Government best- practice management requirements for water supply.

This DERMP has the following uses with relation to drought and emergency management:

- Operational plan
- Resourcing strategy
- Authorised approach, that is, staff have the confidence that the actions in this plan have been authorised in advance
- Basis for government grant applications
- Basis of a public awareness and community communication program

This plan gives authority to Council's General Manager to declare local drought conditions and implement the actions herein described, including implementing water restrictions.

The DERMP has been prepared with a view to providing the UHWUA Councils' with a clear water restriction regime and a comprehensive drought and emergency management strategy. This plan has been developed as an update of the previous plans from Singleton Council, Muswellbrook Shire Council and Upper Hunter Shire Council developed in 2010, 2014 and 2014 respectively. The plan had been prepared in accordance with the NSW Government Best-Practice Management of Water Supply and Sewerage Guidelines Drought Management Checklist, NSW Water Directorate Drought Management Guidelines and aligns with the Integrated Water Cycle Management Strategies that have been developed or are currently being developed by the Councils'.

The NSW Local Government PPRR (prevention, preparation, response and recovery) emergency management approach has been applied. This approach provides a strategic and systematic drought management process to reduce risk to the community and the environment.

The PPRR is a continuous process that involves implementing strategies before, during and after drought and emergency incidents. An overview of the four phases is provided below:

### **Drought and Emergency Prevention Strategy**

Drought and emergency prevention actions are the measures that the Councils' will undertake in order to increase the water supplies coping capacity before and during a drought and reduce or eliminate the likelihood or effects of emergency incidents. These actions are provided in Section 2.

### **Drought and Emergency Preparedness Strategy**

Drought and emergency preparedness actions are the actions that the Councils' will undertake to prepare for drought and emergencies, such as training, system monitoring and community consultation. These actions are provided in Section 3.

### **Drought and Emergency Response Strategy**

Drought and emergency response strategy includes the actions that the Councils' will undertake to respond to emergencies, reduce water consumption, match the demand with the diminishing water resources, how the Councils' may supplement existing water resources if required and the continuous monitoring the Councils' will implement. The implementation and review of these actions will be the responsibility of the UHWUA Drought and Emergency Management Team. These actions are provided in Section 4, with some actions summarised below.

### Drought and Emergency Triggers

Drought triggers have been developed that provide the situations that will activate staged response strategies in accordance with the severity of the drought. These triggers shown in the table below) are determined from monitoring the UHWUA Councils' water supply systems and restrictions implemented across the three Council LGA's, according to these triggers. The actions are described in detail in Section 4.1.2.

Table E-1 Water restriction triggers

Level	Storage trigger
<b>Level 1 Restrictions</b>	50% storage availability Target Daily Usage: – SC – 10 ML/d (minus 10%) – MSC – Seasonal targets <ul style="list-style-type: none"> <li>• Winter: 4-5 ML/d</li> <li>• Spring: 6-7 ML/d</li> <li>• Summer: 9-10 ML/d</li> <li>• Autumn: 6-7 ML/d</li> </ul> – UHSC – 6 ML/d (minus 10%)
<b>Level 2 Restrictions</b>	40% storage availability Target Daily Usage: – SC – 10 ML/d (minus 20%) – MSC – Seasonal targets <ul style="list-style-type: none"> <li>• Winter: 3.5-4.5 ML/d</li> <li>• Spring: 5.5-6.5 ML/d</li> <li>• Summer: 8-9 ML/d</li> <li>• Autumn: 5.5-6.5 ML/d</li> </ul> – UHSC – 6 ML/d (minus 20%)
<b>Level 3 Restrictions</b>	30% storage availability Target Daily Usage: – SC – 10 ML/d (minus 30%) – MSC – Seasonal targets <ul style="list-style-type: none"> <li>• Winter: 3-4 ML/d</li> <li>• Spring: 5-6 ML/d</li> <li>• Summer: 7-8 ML/d</li> <li>• Autumn: 5-6 ML/d</li> </ul> – UHSC – 6 ML/d (minus 30%)

Key water supply emergency triggers include:

- Injuries, fatality, or significant ongoing threat; serious supply or service problem; serious infrastructure damage (whether owned by LWU or others); investigation by statutory authorities; recurring related incidents.
- Serious injuries, affecting the operation of a local water facility asset, depot or office; minor building fire; short-term localised health issues, e.g. high turbidity in raw water.
- Significant or widespread impact on supply and service operations; bomb threat / search, significant asset failure or vandalism.
- Spill / emission which requires external resources to mitigate; high volume spill impacting the environment; contamination / failure of a depot storage system.
- Disruption requiring corporate / external resources to address; limited industrial action; telemetry / SCADA / IT communications failure; significant power outage.

**Demand-Side Actions**

Demand-side actions are those actions that Councils' implement to reduce water consumption, to match the demand with the diminishing water resources. Implementing water restrictions is the main action, and these details are provided in Section 4.4.3.

**Supply-Side Actions**

Supply-side actions are those actions that Councils' implement to supplement the existing water resources, to match the demand. These details are provided in Section 4.5.

**Drought and Emergency Management Team**

A Drought and Emergency Response Management Team will be set up for the UHWUA as part of the drought and emergency response and will be responsible for managing the activities implemented during drought and emergencies. Section 4.3 provides the details of the roles and responsibilities of the team.

**Drought and Emergency Recovery Strategy**

The drought and emergency recovery strategy sets out the actions UHWUA Councils' will undertake to support the affected community and the restoration actions required to return the Council water supply operations to normal and restore community wellbeing. These actions are provided in Section 5.

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Appendix B	Failure Modes, Effects and Criticality Analysis (FMECA)
Appendix C	Template Water Efficiency Management Plan (WEMP)

# 1. Introduction

## 1.1 Context

This Drought and Emergency Response Management Plan (DERMP) has been developed for the Upper Hunter Water Utilities Alliance (UHWUA) consisting of Singleton Council, Muswellbrook Shire Council and Upper Hunter Shire Council in order to:

- Provide guidance to staff when managing drought and emergency incidents
- Inform the community of the issues associated with drought and emergency management and the community's role during drought and emergency incidents

The DERMP has been prepared with a view to providing the UHWUA Councils' with a clear water restriction regime and a comprehensive drought and emergency management strategy. This plan has been developed as an update of the previous plans from Singleton Council, Muswellbrook Shire Council and Upper Hunter Shire Council developed in 2010, 2014 and 2014 respectively. The plan had been prepared in accordance with the NSW Government Best-Practice Management of Water Supply and Sewerage Guidelines Drought Management Checklist, NSW Water Directorate Drought Management Guidelines and aligns with the Integrated Water Cycle Management Strategies that have been developed or are currently being developed by the Councils'. A copy of the Best-Practice Guidelines Drought Management checklist is included in Appendix A.

## 1.2 DERMP objectives

This DERMP provides an outline of the actions that the UHWUA Councils' will undertake to prevent, prepare for, respond to and recover from drought and emergency incidents. The objective of the plan is to:

- Ensure that timely warning can be provided to the appropriate authorities and other stakeholders (including customers) in drought and emergency incidents.
- Provide relevant information for use in response to a situation when water availability becomes a concern.
- Implement Best Practice Management to determine the drought and emergency triggers and demand responses to water restrictions.
- Provide procedures to Council staff, for how to respond to and mitigate drought and emergency incidents.
- Document how each Council will manage the water supply schemes during water shortages and emergency incidents.
- Provide clear guidance to customers (residential and commercial/industrial) on their responsibilities when the Councils' implement water restrictions.
- Key components of this plan and guidance for implementation are shown in Figure 1.1.



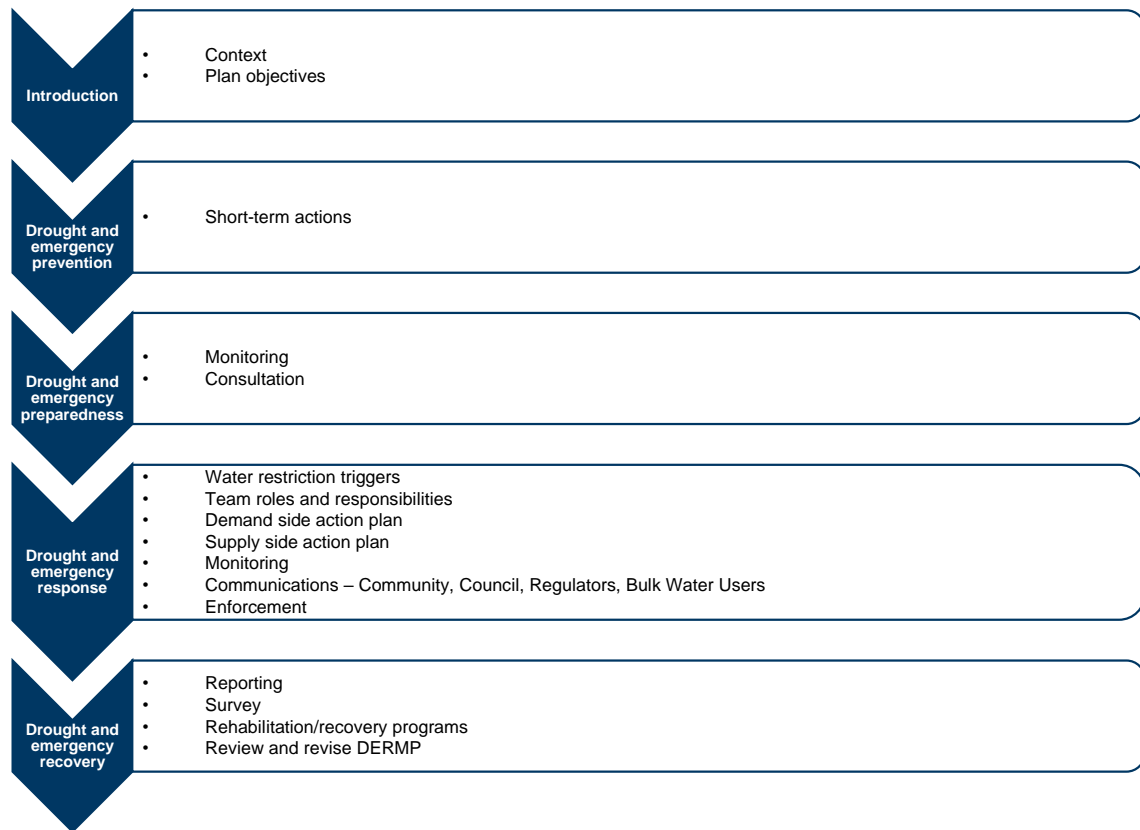


Figure 1.1 UHWUA DERMP implementation

### 1.2.1 The PPRR approach

This DERMP is based on a four-step approach, referred to as the PPRR (Prevention, Preparation, Response and Recovery) approach. The PPRR is a continuous process that involves implementing strategies before, during and after drought and emergency incidents. An overview of the four phases is provided below:

- **Drought and emergency prevention strategy** – Actions to reduce or eliminate the likelihood or effects of drought and emergency incidents. These include understanding and analysing climate, water availability and past drought and emergency events and also implementing upgrade actions through capital investment.
- **Drought and emergency preparedness** – Developing strategies to be implemented before a drought and emergency situation occurs, to ensure effective response and recovery.
- **Drought and emergency response strategy** – Actions to control and/or minimise the impacts of the drought and emergency incidents, including implementing demand side and supply side actions, such as water restrictions.
- **Drought and emergency recovery strategy** – Actions to assist the Councils' to return to normal supply conditions and assist the Councils' and community to recover from the impacts of drought and emergency incidents.

### 1.3 Scope and limitations

This plan has been prepared by GHD for Upper Hunter Water Utilities Alliance (UHWUA) and may only be used and relied on by UHWUA for the purpose agreed between GHD and UHWUA as set out in this report.

GHD otherwise disclaims responsibility to any person other than the UHWUA arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this plan were limited to those specifically detailed in the plan and are subject to the scope limitations set out in the plan.

The opinions, conclusions and any recommendations in this plan are based on conditions encountered and information reviewed at the date of preparation of the plan. GHD has no responsibility or obligation to update this plan to account for events or changes occurring subsequent to the date that the plan was prepared.

The opinions, conclusions and any recommendations in this plan are based on assumptions made by GHD described in this plan. GHD disclaims liability arising from any of the assumptions being incorrect.

## 2. Drought and emergency prevention strategy

### 2.1 Overview

Drought and emergency prevention actions are proactive measures that Councils' can undertake in order to prevent or delay water shortages due to drought. Preventative actions may be implemented prior to drought and emergencies or during drought-declared periods. This is determined at Council's discretion.

This section provides a summary of the key activities and strategies that the Councils' are undertaking to manage water emergencies and demand prior to and during a drought, and the improvements being undertaken to improve water security and reduce the risk of emergency incidents for the future.

### 2.2 Short-term actions

#### 2.2.1 Water conservation measures

The UHWUA Councils' have implemented water conservation measures which provide simple and practical measures that residents can implement to reduce water consumption and reduce their water bill.

At times of drought, these also serve to focus the community on water conservation and help prepare the community for Councils' drought response, should it be required.

The UHWUA Councils' promote their water conservation campaigns to the communities through the UHWUA Councils' websites and initiatives as shown below.

#### 2.2.2 Demand management

The UHWUA Councils' incorporate demand management activities as an ongoing initiative to encourage efficient water use and ensure a secure water supply. These measures encourage common sense water use practices that develop a culture of water efficiency.

The UHWUA Councils' regulatory and planning controls support the Building Sustainability Index (BASIX) as implemented under the Environmental Planning and Assessment Act. This program aims to deliver equitable and effective water reductions across the state and applies to all residential dwelling development applications. This program also supports the Water Efficiency labelling and standards (WELS) scheme. Under this scheme all water using devices are rated according to AS/NZ 6400:2016, and this rating contributes to the BASIX water target savings requirements.

The implementation of a program such as the Smart Water Choices campaign undertaken by Hunter Water is another option for the UHWUA to promote short-term actions for the management of water demand throughout the region. This program includes demand management strategies for both residential and commercial water uses. The Smart Water Choices program includes a comprehensive set of online resources with detailed strategies on how water use can be reduced. The adoption of a program of this style through advertisements and the development of online resources may assist the UHWUA to support the residential and major water users in the region to improve drought security through reduced water demand.

The implementation of a Water Efficiency Management Plan (WEMP) is another strategy utilised by Hunter Water to that could be adopted by UHWUA to manage efficient water use by businesses throughout the region. A template WEMP is provided in Appendix C.

### 2.2.2.1 Singleton Council

Council's water saving strategies are summarised below and detailed on Council's website at:

<https://www.singleton.nsw.gov.au/588/Water-Saving-Strategies>

- Blue House:
  - Interactive animation including questions and tips on saving water in various locations around the house
- Saving Water in the House:
  - Bathroom
  - Kitchen and cooking
  - Laundry
  - Leaks
- Saving Water in the Garden and Yard:
  - Watering the garden and outdoors
  - Mulching and compost
  - Washing cars and other vehicles
  - Pools and spas
- Fact sheets and additional information
- Council's short-term works consist of implementing a water loss management plan 2021 – 2025 to address non-revenue water issues

### 2.2.2.2 Muswellbrook Shire Council

Council currently has the following demand management initiatives in place:

- Separate metering of existing multi-unit developments is encouraged – each unit is levied individual access charges
- Separate metering of new multi-unit developments
- Rainwater tanks are encouraged – required on new subdivisions. A rainwater tank rebate applies
- Water restrictions imposed when necessary
- Media and web site notices
- Public education program
- Implementation of Building Code program (including BASIX)
- Customer billing 3 times a year
- Full pay-for-use pricing

Council has completed a Demand Management Strategy (adopted in 2011) which assessed the feasibility of a range of initiatives, including:

- Water use efficiency
- Pricing policy
- Use of rainwater tanks
- Residential greywater reuse
- Reuse of reclaimed water
- Water sensitive urban design

Council has implemented an appropriate pricing policy and is actively encouraging the use of rainwater tanks.

This Drought Plan should be read in conjunction with Council's Demand Management Strategy.

Council's water conservation campaigns are summarised below:

- Pamphlets available including useful tips for rethinking water including:
  - Rethink water in the garden
  - Rethink water in the home
  - Rethink water about your water meter
  - Rethink grey water
  - Rethink water in the Pool
  - Rethink water to onsite sewage management system (OSSM)
  - Rethink water pollution
  - Rethink water – bottled versus tap

### 2.2.2.3 Upper Hunter Shire Council

Council's water saving strategies are summarised below and detailed on Council's website at:

<https://upperhunter.nsw.gov.au/our-services/water-and-sewage/blue-house.aspx>

- Blue House:
  - Interactive animation including questions and tips on saving water in various locations around the house
- Water efficiency audit:
  - A home audit form for residents to complete a self-assessment on their water use to encourage a reduction in water use
- Smart water advice portal:
  - Saving water in the home
  - Saving water outdoors
  - Saving water in business
  - Additional water efficiency information videos

Council has implemented a rebate strategy for residents who install a rainwater tank (≥9000 L) on their property in addition to BASIX requirements.

## 2.2.3 Recycled water

### 2.2.3.1 Singleton Council

The Recycled Water Reuse Scheme from the Singleton Sewage Treatment Plant (STP) is planned but is not yet operational. Excess effluent is discharged to Doughboy Hollow following UV treatment.

### 2.2.3.2 Muswellbrook Shire Council

The Muswellbrook Recycled Water Treatment Works (RWTW) was commissioned in late 2019. RWTW effluent is chlorinated and reused at two sites, Mt Arthur Coal Mine and Muswellbrook Golf Club. The Muswellbrook Golf Club has been receiving recycled water for irrigation since 1992. The Mount Arthur Coal Mine receives approximately 80% of the treated effluent from the RWTW. The current contract between Muswellbrook Shire Council and HVEC/BHP Billiton expires 30 June 2022.

### 2.2.3.3 Upper Hunter Shire Council

Effluent from the Scone STP is routinely delivered to a sites including the Scone Racecourse, Bhima Dam, Golf Course and Bill Rose Sports complex for irrigation or discharged to Kingdon Ponds during wet weather.

### 2.2.4 System operating rules

Efficient operation of the Councils' water supply systems is an important preventative strategy for managing droughts. Due to the difficulty in predicting future drought conditions, it is important that the Councils' manage their water supply storages, either surface or groundwater, to ensure they are not drawn down excessively during non-drought periods. Water extraction allowances are determined by Water NSW and have been developed as part of the NSW Water Sharing Plans.

The Hunter River is regulated by two major headwater storages, Glenbawn Dam on the upper Hunter River and Glennies Creek Dam on Glennies Creek, as well as a number of minor dams. The volume and pattern of flows in the Hunter River system have been significantly altered by the construction and operation of these storages, which are operated to supply water for irrigation, town water, stock and domestic supplies, and industries.

The *Water Sharing Plan for the Hunter Regulated River Water Source Background Document* details the 2016 Plan Rules for the Hunter Regulated River consisting of the following:

- High Security Access Licences (21,740 ML/year) consisting of the following zones as shown in Figure 2.1:
  - Zone 1A: 5,182 ML/year
  - Zone 1B: 5,218 ML/year
  - Zone 2A: 2,809 ML/year
  - Zone 2B: 6,971 ML/year
  - Zone 3A: 1,650 ML/year

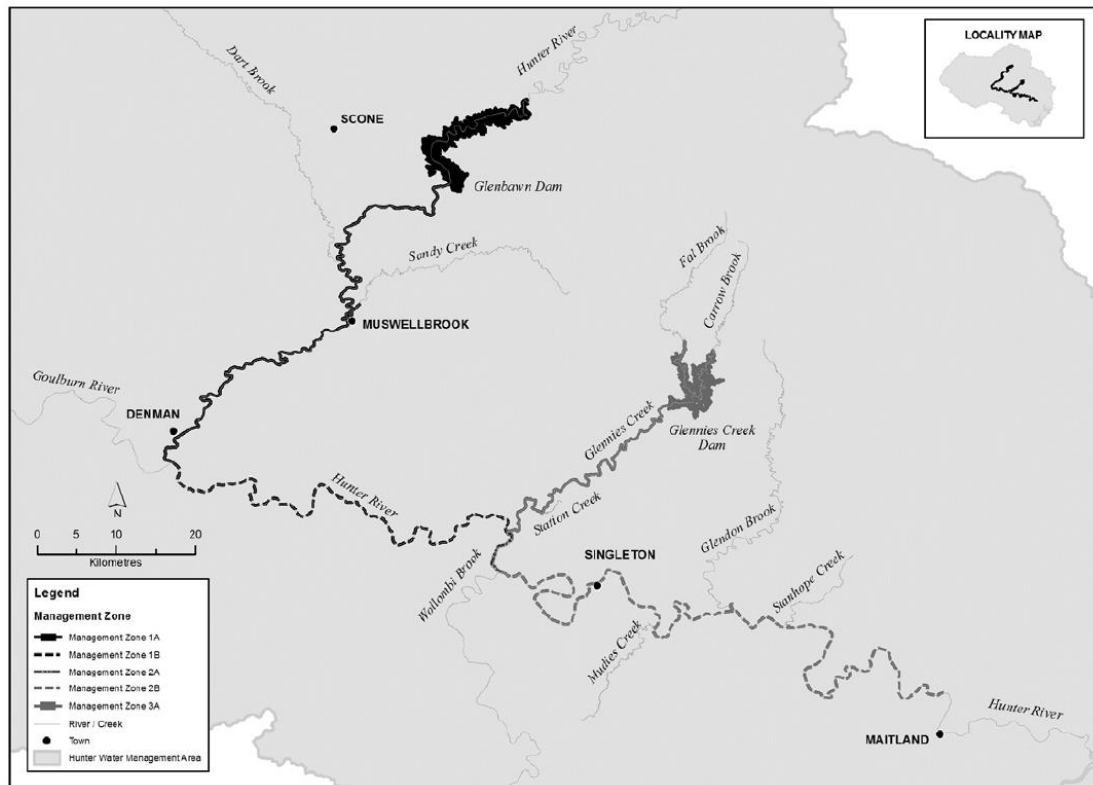


Figure 2.1 Hunter Regulated River

- Available Water Determinations (AWD):
  - Local Water Utility:
    - An AWD of 100% of the share component is made unless there is insufficient water, in which case a percentage is given. Further AWDs may be made to a total of 100% share in the year.
- Priority for extraction:
  - The order of priority for extraction:
    1. Domestic and stock
    2. Local water utility
    3. Major utility (Barnard)
    4. Major utility
    5. High security access
    6. General security

The Councils' continue to undertake secure yield analysis of their numerous water supply systems (via the IWCM process), to improve understanding of the systems, and hence improve the efficiency with which each manage these resources (noting that Water NSW manage the major dams).

#### 2.2.4.1 Singleton Council

Singleton Council (SC) has two potable water supply schemes, Singleton water supply scheme and Jerrys Plains water supply scheme. The town of Branxton is supplied by Hunter Water. Singleton Council also has a number of non-potable water supply schemes.

Singleton Council has agreements with the following stakeholders:

- The Hunter – Central Rivers Water Sharing Plan – water supply entitlements and allocations
- AGL Macquarie Agreement – supplies Jerrys Plains
- Singleton Army Camp Agreement
- Mount Thorley Joint Venture Agreement (JVA)
- Abattoir – contract to supply water
- Deed of the agreement of the UHWUA – provides a unified approach to the sustainable delivery of water supply and sewerage services
- Hunter Water – scope of service area

The Singleton water supply scheme supplies the areas of Singleton, Mount Thorley and Broke with potable water. The Scheme is supplied from Glennies Creek Dam (Lake St Clair).

The Jerrys Plains scheme is subject to an agreement between Council and AGL Macquarie. AGL Macquarie draws raw water from the Hunter River and stores it in Plashett Dam prior to treatment. AGL Macquarie supplies treated water to the delivery point, where Council takes ownership and is responsible for distribution of water to its customers in Jerrys Plains.

The key obligations of AGL Macquarie and Singleton Council under the agreement, are provided below:

- AGL Macquarie's Obligations – Supply of Water:
  - AGL Macquarie will use its best endeavours to supply water in accordance with the agreement at no more than the Flow Rate of 4.5 L/s to the Delivery Point during the Term.
  - AGL Macquarie is not required to supply water to the Delivery Point at any specific pressure, rate or speed or time but will use its best endeavours to make water available at the Flow Rate at the same times as water is available for the use in the Bayswater Power Station.
  - Unless otherwise agreed by the parties, AGL Macquarie is required to use its best endeavours to supply no more than 32 ML of water to the Delivery Point in any 12-month period.



- Singleton Council's obligations – treated water allocation:
  - Council must, during the term, hold a high security treated water supply allocation of Hunter River water of at least 32 ML/annum.
  - For the purposes of obtaining and maintaining all necessary Approvals, Council must ensure the extraction point for water is nominated as AGL Macquarie's water pumping station on the Hunter River near Jerrys Plains.
  - On termination or expiry of the Agreement, Council must immediately do all things reasonably necessary to change the location for extraction of Water to a location other than AGL Macquarie's water pumping station.

The operation of the AGL Macquarie owned Jerrys Plains WTP will cease once AGL Macquarie stops operating the Liddell (past 2022) and Bayswater (past 2035) power stations. The options to maintain the supply to Jerrys Plains are to extract and treat river water, extract, and treat groundwater, or connect Jerrys Plains to the Singleton water supply at Apex reservoir.

Singleton Council's non-potable water supply schemes include:

- Glennies Creek non-potable water supply scheme – an irrigation and stock supply for property owners between Glennies Creek Dam and Council's Obanvale Water Treatment Plant. Customers of the Glennies Creek non-potable water supply scheme are covered by Council's Customer Service Plan with the exception that the water supplied will not meet the drinking water quality service standard.
- Mount Thorley non-potable water supply scheme – Council manages the bulk water supply of untreated water to three mines (Bulga Coal Mine, Mount Thorley Operations and Warkworth Mine) and Gromor Enterprises (mushroom composters). Council has entered into a Joint Venture Agreement (JVA) with Warkworth Mining Ltd, Bulga Coal management Mount Thorley Operations Pty Ltd, and Gromor Enterprises Pty Ltd for project management of the Mount Thorley Raw Water Supply Scheme. Customers of the Mount Thorley scheme are covered by Council's Customer Service Plan.
- Broke Fordwich Private Irrigation District pipeline – community funded and constructed irrigation water supply system serving members in the Broke Fordwich, Bulga and Milbrodale areas.

#### **2.2.4.2 Muswellbrook Shire Council**

The Muswellbrook Shire Council (MSC) water supply system currently provides potable water to Muswellbrook, Denman, and Sandy Hollow. Muswellbrook is supplied from regulated Hunter River downstream of Glenbawn Dam (750 GL). Denman also sources water from the Hunter River. Sandy Hollow is supplied from 2 borefields close to the unregulated Goulburn River. Muswellbrook Shire Council has plans to connect a pipeline from Denman to Hollydeen Abattoir and Sandy Hollow to improve security of supply.

#### **2.2.4.3 Upper Hunter Shire Council**

The Upper Hunter Shire Council (UHSC) water supply system currently provides drinking water to Aberdeen, Scone, Merriwa, Murrurundi and Cassilis. The water supply schemes for Aberdeen, Scone, Murrurundi are provided with chlorinated unfiltered water. The township of Merriwa has the Council's only water treatment plant. Aberdeen sources water from intakes on the Hunter River which is supplied by Glenbawn Dam. The Scone water supply is directly connected to Glenbawn Dam. The township of Cassilis extracts water from ground bores, while Murrurundi sources water from an off-river storage filled from intakes on the Pages River.

Scone and Aberdeen were originally supplied by the river intake from the Hunter River at Aberdeen from Glenbawn Dam releases into the river. A pipeline connection direct from Glenbawn Dam to the Scone Reservoirs was constructed in 2012 to be the primary supply to both towns, with the Aberdeen river-offtake as the backup. Scone also has back-up groundwater bores that are rarely used to supply water into the Scone network. The groundwater bores do not have adequate contact time and UHSC is only permitted to use the bores with special permission granted from NSW Health. In the 2019 – 2020 drought, the bores were unusable as the aquifer dropped below the intake level.

The original supply for Murrurundi is from a small weir on the Pages River. Murrurundi can be supplied from three river offtakes on the Pages River. Due to supply security concerns (including restrictions and water carting for a significant period), the Scone to Murrurundi pipeline was constructed and has now been in operation since June 2020. The towns of Parkville, Wingen and Blandford along the pipeline alignment may possibly be connected to this system in the near future.

Cassilis and Merriwa are supplied by three local groundwater bores, with capacities ranging from 13 L/s to 21 L/s, with the treatment plant capacity limiting total bore flow.

## 2.2.5 Water supply emergencies

An emergency is any unplanned event that can cause deaths or significant injuries to employees, customers or the public; or that can shut down your business, disrupt operations, cause physical or environmental damage or threaten your financial standing or public image.

Water supply emergency incidents for the UHWUA Councils' to consider include the following:

- Contamination of supply
- High raw water turbidity
- Blue-green and other harmful algae bloom alerts in raw water supply
- Algae, suspended material or other contaminants causing substantial loss of filtration capacity
- Fire / explosion
- Natural disaster – Flood, storm, earthquake
- Dam failure
- Hazardous materials spill or emission
- Widespread power failure affecting supply
- Major system failure – distribution mains, reservoirs, water pumping stations, water treatment plant
- Telemetry / SCADA / IT communications
- Criminal acts / security threats
- Pressure group action

A local water utility may need to increase the maximum volume of water it is permitted to take from the water source, or obtain water from a different water source, in situations where the amount of water available at the location of the nominated water supply has decreased, for reasons such as drier and hotter conditions, drought, or compromised water quality as a result of blue-green algae and other harmful algae blooms. This additional extraction must be authorised by a water access licence. Local water utilities may potentially access additional water by seeking to increase the extraction amount authorised by their existing water access licence, or by obtaining an additional water access licence, such as a high security water licence.

Council can apply for a new water access licence with the category 'local water utility' or sub-category 'town water supply' under s 61(1)(a) of the Water Management Act which states that:

*A person may apply to the Minister for an access licence if:*

- (a) *the application is for a specific purpose access licence in circumstances where:*
  - (i) *the regulations provide, or a relevant management plan provides, that an application for the licence may be made, and*
  - (ii) *the application does not contravene any restriction on the making of such an application contained in a relevant management plan.*

### 2.2.5.1 Singleton Council

The Rose Point Park bore that is attached to this groundwater access license can be developed to supplement the water supply during drought. If this option is pursued further investigations into the quality of the bore water will be required. The water could be blended with the water from the Singleton water supply scheme by connecting this water supply to Gowrie reservoir.

Emergency improvement actions from IWCM's include:

- Develop a drinking water quality specific incident and emergency response plan, including staff de-brief and learning and improving from the experience
- Formalise a communication protocol with Water NSW

### 2.2.5.2 Muswellbrook Shire Council

Emergency improvement actions from the IWCM include:

- Developing a documented strategy for public and media communication.
- Preparing communications protocols, nominate the staff members responsible in certain incidents, and communication methods and mobile phone numbers to contact them.
- Developing incident and emergency response protocols in consultation with NSW Health, Water NSW and water supply Stakeholders.
- Documenting a process for investigating incidents, evaluating emergency response plans in that incident and implementing improvements if necessary.

Groundwater can be considered as a water supply source during drought to make-up any shortfall in the event that surface water allocations are reduced. A desktop study has indicated that any bores within the area would yield a flow rate of about 10 L/s, however extensive further investigation needs to be undertaken to confirm the sustainability and resilience of this yield and the quality of the groundwater which is expected to be high in hardness. If found to be sustainable, this yield would still not meet the shortfall.

Council also has a groundwater entitlement of 830 ML/year with a bore at Denman. However, the water quality from the bore is very poor with high salinity and high hardness, and hence this source has not been considered as an option for emergency water supply. The sustainability and resilience of the bore yield is also unknown. Further investigation is required to determine the potential to use the bore water during periods of drought or high turbidity water events in the Hunter River.

### 2.2.5.3 Upper Hunter Shire Council

Emergency improvement actions include:

- Develop a drinking water quality specific incident and emergency response plan, including staff de-brief and learning and improving from the experience.
- Formalise a communication protocol with Water NSW.
- Developing a documented strategy for public and media communication.
- Preparing communications protocols, nominate the staff members responsible in certain incidents, and communication methods and mobile phone numbers to contact them.

A source options study completed in 2020 indicates potentially deepening of the existing groundwater bores could be considered to improve security when there are poor water quality events simultaneously in Glenbawn Dam and the Hunter River. Council has investigated a proposed site for a future bore for Merriwa to address the issue that extraction capacity is significantly below the peak day demand.

The Scone groundwater bores do not have adequate contact time and UHSC is only permitted to use the bores with special permission granted from NSW Health.

## 2.2.6 Funding strategy

The costs associated with managing the water supply during a drought and emergencies can have a significant impact on the Councils' finances, due to some of the following factors:

- Reduced revenue due to reductions in water consumption, especially during the later stages of water restrictions.
- Additional costs to the Councils' to manage community awareness campaigns, increased monitoring, increased liaison with government agencies and policing of the restrictions.
- Increased expenditure associated with investigations and emergency works associated with managing the demand and reduced water availability.

To assist in the administration of the costs associated with drought and emergencies, the Councils' will need to ensure that sufficient funds are set aside to manage the drought and emergency management activities. All costs will also need to be tracked and available to be reported to Council and other stakeholders as required. This will also be required if any of the Councils' are looking to apply for Drought emergency funding or to justify the implementation of capital works programs for future drought security.

## 2.2.7 Improved monitoring

Implementation of online water depth monitoring in each of the groundwater aquifers extracted from by each relevant Council could be considered. Dams managed by Water NSW that supply the towns are monitored well.

## 2.2.8 Water security studies

### 2.2.8.1 Singleton Council

In the event of a repeat of critical drought, e.g. if the allocation were to be reduced by 25 percent, the unrestricted annual demand at Singleton past 2032, would not be met.

The Greater Hunter Regional Water Strategy (GHRWS) outlines policy infrastructure options to improve water security within the Greater Hunter. The infrastructure options identified for further investigation are construction of a two-way pipeline between Lostock Dam and Glennies Creek Dam and construction of a potable pipeline from Hunter Water Corporation (HWC) to Singleton. Gateway 0 and Gateway 1 reviews of the business case for the two-way pipeline between Lostock Dam and Glennies Creek Dam have been completed. This project is progressing to a Gateway 2 review for the Final Business Case. These options will improve the drought reliability of the Hunter regulated river system.

In addition to the above, at a local level, Singleton Council can develop the Rose Point Park bore water source to supplement the Singleton water supply and provide the reliability during drought.

### 2.2.8.2 Muswellbrook Shire Council

In the event of a repeat of critical drought, e.g. if the allocation were to be reduced by 25 percent, the unrestricted annual demand at Muswellbrook would not be met by 2030. Water security risk can be addressed through the following options:

- Construction of a pipeline to obtain water from Glenbawn Dam, with or without supplementing from the Hunter River source during peak demand periods.
- Increase the amount authorised by the existing license or apply for a new access licence under s 61(1)(a) of the Water Management Act 2000.

### 2.2.8.3 Upper Hunter Shire Council

Council's IWCW Issues Paper completed in 2019 identified the potential future scheme supplying water to Scone, Satur, Aberdeen, Murrurundi and villages (with the exception of Merriwa and Cassilis) from Glenbawn Dam. However, a source options study completed in 2020 indicates that greater groundwater monitoring, refurbishment and potentially deepening of the existing groundwater bores could be considered to improve security when there are poor water quality events simultaneously in Glenbawn Dam and the Hunter River. Considering the Merriwa source, extraction capacity is significantly below the peak day demand. Council has investigated a proposed site for a future bore for Merriwa.

A source options study completed in 2020 indicates that greater groundwater monitoring, refurbishment and potentially deepening of the existing groundwater bores could be considered to improve security when there are poor water quality events simultaneously in Glenbawn Dam and the Hunter River (which has occurred several times and incurred boil water alerts or Scone relying on the town's reservoir storage only for supply). These events have led to Council calling tenders for Stage 1 of the Scone WTP, to provide dosing improvements, with Stage 2 proposed for the future to provide full filtration to allow Glenbawn Dam water (identified as a relatively secure supply) to be accessed more reliably to a suitable quality standard.

## 3. Drought and emergency preparedness

### 3.1 Overview

The Councils' have developed action plans to ensure they are prepared to cope with the consequences of drought and emergencies and minimise the effect on their communities. These action plans include implementation plans as well as ongoing activities to prepare Council's staff for drought and emergency situations. The benefits of being prepared for a drought and emergencies include:

- Having a pre-determined and agreed list of actions to be taken in case of drought and emergencies
- Allow Councils' to promptly obtain drought relief funding as available
- Have well defined protocols for restriction activation and escalation

This DERMP documents the Councils' preparedness in regard to managing drought and emergency impacts on its water supply systems. The actions described in this plan have been endorsed by the Councils', therefore the appointed staff can quickly implement the predetermined drought and emergency response actions (as outlined in Section 4) and acquire the resources necessary to manage the drought and emergencies. The following sections describe some of the ongoing actions that the Councils' will undertake to ensure they are prepared for drought and emergency situations.

### 3.2 Exercising drought and emergency management

In order to ensure the ongoing effectiveness of this plan, Councils' will develop a periodic program of exercising this drought and emergency response management plan. This will be incorporated along with other emergency training programs, to prepare staff for emergency situations. As a minimum, Councils' will ensure that an exercise that incorporates drought and emergency management actions, will occur biennially.

### 3.3 Water supply emergencies

Water supply emergency prevention strategies for the UHWUA Councils' to prepare/update and implement include:

- FMECA in Appendix B
- Water infrastructure risk management plans
- Dams safety plans
- Fire protection and evacuation plans
- Safety and health programs
- Environmental policies
- Security procedures
- Site induction procedures
- Employee manuals
- O&M procedures
- Material Safety Data Sheets (MSDS)

### 3.4 Data availability

All technical information relevant to the water supply system has been provided in the Sections 6 & 7 of this plan. This ensures that in case of an emergency, all relevant key information, and links to more detailed information, are available to facilitate a prompt response. This information will be updated as part of the ongoing review of the DERMP.

## 3.5 Monitoring

Continuous monitoring of the water supply schemes is undertaken by each Council, to monitor and understand the performance of the water sources and manage the supply demand (along with monitoring provided by Water NSW for both major dams for several key parameters including level). Daily treated water production data for each source is monitored and recorded. Water quality is regularly monitored at each water source, water treatment plant and throughout the distribution network as part of each Council's Drinking Water Quality Management Plan and operational requirements. The following routine monitoring is undertaken for each of the Councils' water supply systems:

- Stream flows
- Total water production
- Groundwater bore level
- Water quality

Algae monitoring for the two major dams is undertaken by Water NSW, with an alert sent to the relevant Councils' if unacceptable levels are recorded.

During drought, the Councils' continue the routine monitoring and data is used to balance the supply from the available water sources and determine the need for restrictions. Regular monitoring of dam levels, stream flows, water extraction, treated water production and monitoring of actual water consumption compared to target demands are critical during drought periods. The data obtained from this monitoring provides important feedback on the effectiveness of the various drought response levels.

The following monitoring actions will also be implemented during drought:

- Daily water production for all sources will be compared to the respective target water production of the current restriction level.
- Additional water quality sampling and testing will be carried out depending on the source of water and the identified risks.
- Algae testing to be undertaken independently by UHSC (in addition to weekly algae testing/reporting conducted by WaterNSW) if amber alert levels are maintained for an extended period.
- MSC to implement similar process to UHSC, implementing additional independent testing if unacceptable algae levels are recorded for a prolonged period.
- SC to undertake weekly algae testing, regardless of water restriction levels.

## 3.6 Consultation

### 3.6.1 Community engagement

Engagement with the community is a critical element of an effective DERMP, as it ensures customer acceptance and encourages the behavioural changes required to reduce water demand.

This DERMP has been developed with future revisions to align with the development of IWCs. During the development of the IWCs, Project Reference Groups will be (were) established to inform and obtain community input to the strategies. As part of this process, Council will inform (informed) the community about the DERMP and the drought action plans in place. This will assist the community to understand the critical importance of drought and emergency management actions and the need to conserve water.

For the DERMP, community engagement consists of the follow:

- Individual workshops to brief Councillors from each Council on the Draft DERMP and to receive comments to incorporate into the Final DERMP.
- Final DERMP public exhibition and community consultation.



### 3.6.2 Government consultation

During the development of the IWCMS, the government regulatory departments in NSW will be engaged as the key stakeholders providing direction and input to the strategies developed. The DERMP and the drought action plans will form a part of the development of these strategies.

Consultation with the government departments, during the development of this plan has been undertaken in the following way:

- DPE Water for review and approval of the DERMP and will also be involved in decision making during restrictions.
- Local Public Health Unit for review of the DERMP and will be involved in decision making during restrictions, when alternative or emergency supplies are considered that may impact on the water quality of the drinking water.

## 4. Drought and emergency response strategy

### 4.1 Drought and emergency strategy activation plan

#### 4.1.1 Overview

The drought and emergency response strategy will normally be activated in an event when the water supply is affected due to natural climate conditions or an emergency incident. The main scenario that would activate a drought and emergency management response, including the introduction of supply restrictions, is water scarcity, and emergency incidents.

#### 4.1.2 Drought triggers

The drought restriction regime consists of 3 restriction levels.

Triggers are the situations that will activate the drought response strategy. The triggers are based on progressive reductions in water availability. The drought triggers for the region managed by UHWUA have been based on the Upper Hunter water supply system. The objective of these triggers is to ensure there is always sufficient water availability for the basic needs of the community. The regional approach for the implementation of drought restrictions provides uniformity and consistency between Councils' and allows for flexibility in implementation.

The triggers for implementing drought restrictions are provided in Table 4.1. These triggers initiate demand-side actions which are expected to reduce the demand to a target daily demand.

Restrictions will be lifted when the dam levels reach 10% or greater than the current restriction level e.g. Level 1 restrictions will be lifted once dam levels return to 60% as shown in Table 4.1. The easing of water restrictions will not be implemented where it is likely that the revised restriction will not be sustained for more than one month before tighter restrictions need to be re-imposed.

**Table 4.1** Water restriction triggers

Level	Storage trigger (to impose restrictions)	Storage trigger (to lift restrictions)
Level 1 Restrictions	50% storage availability Target Daily Usage: <ul style="list-style-type: none"> <li>– SC – 10 ML/d (minus 10%)</li> <li>– MSC – Seasonal targets <ul style="list-style-type: none"> <li>• Winter: 4-5 ML/d</li> <li>• Spring: 6-7 ML/d</li> <li>• Summer: 9-10 ML/d</li> <li>• Autumn: 6-7 ML/d</li> </ul> </li> <li>– UHSC – 6 ML/d (minus 10%)</li> </ul>	60% storage availability
Level 2 Restrictions	40% storage availability Target Daily Usage: <ul style="list-style-type: none"> <li>– SC – 10 ML/d (minus 20%)</li> <li>– MSC – Seasonal targets <ul style="list-style-type: none"> <li>• Winter: 3.5-4.5 ML/d</li> <li>• Spring: 5.5-6.5 ML/d</li> <li>• Summer: 8-9 ML/d</li> <li>• Autumn: 5.5-6.5 ML/d</li> </ul> </li> <li>– UHSC – 6 ML/d (minus 20%)</li> </ul>	50% storage availability

Level	Storage trigger (to impose restrictions)	Storage trigger (to lift restrictions)
Level 3 Restrictions	30% storage availability Target Daily Usage: <ul style="list-style-type: none"> <li>– SC – 10 ML/d (minus 30%)</li> <li>– MSC – Seasonal targets               <ul style="list-style-type: none"> <li>• Winter: 3-4ML/d</li> <li>• Spring: 5-6 ML/d</li> <li>• Summer: 7-8 ML/d</li> <li>• Autumn: 5-6 ML/d</li> </ul> </li> <li>– UHSC – 6 ML/d (minus 30%)</li> </ul>	40% storage availability

## 4.2 Emergency triggers

Key water supply emergency triggers for activating Drought and Emergency Response Management Team (DERMT) are:

- Injuries, fatality, or significant ongoing threat; serious supply or service problem; serious infrastructure damage (whether owned by LWU or others); investigation by statutory authorities; recurring related incidents.
- Serious injuries, affecting the operation of a local water facility asset, depot or office; minor building fire; short-term localised health issues, e.g. high turbidity in raw water.
- Significant or widespread impact on supply and service operations; bomb threat / search, significant asset failure or vandalism.
- Spill / emission which requires external resources to mitigate; high volume spill impacting the environment; contamination / failure of a depot storage system.
- Disruption requiring corporate / external resources to address; limited industrial action; telemetry / SCADA / IT communications failure; significant power outage.

When emergencies occur, action must be taken to mitigate the effects on the water supply and to ensure that a reliable water supply is available to meet the health and safety needs of the community. Emergency response documentation to refer to include:

- Business Continuity Plan
- Local Emergency Management Plan (EMPLAN)
- Dams Safety Plan
- Standard Operating Procedures (SOPs)
- Communication Plan

## 4.3 Drought management team roles and responsibilities

### 4.3.1 Activation and setting restriction levels

Each Council's General Manager (GM) can proclaim this drought and emergency response management plan to be in force once the GM determines that Trigger Level 1 has been reached. The GM has the authority to change the restriction levels, on the advice of the Chair of the DERMT.

### 4.3.2 Drought and emergency response management team

The appointed DERMT is outlined in Table 4.2.

**Table 4.2** DERMT roles and preliminary responsibilities

Role	SC Staff Responsible	MSC Staff Responsible	UHSC Staff Responsible	Responsibilities
Chair	Director Infrastructure Services / Operations and Planning	Director Infrastructure Services / Operations and Planning	Director Infrastructure Services / Operations and Planning	<ul style="list-style-type: none"> <li>– Coordinate the activities of the team</li> <li>– Communicate with each GM and Councils</li> <li>– Organise regular DERMT meetings</li> <li>– Communicate with government agencies – high level</li> <li>– Determine completion of the response phase and commenced recovery, in conjunction with DERMT</li> </ul>
Incident Manager	Manager Water and Sewer	Manager Water and Sewer	Manager Water and Sewer	<ul style="list-style-type: none"> <li>– Monitor and assess data</li> <li>– Provide an assessment of the situation</li> <li>– Brief the DERMT chair</li> <li>– Allocate roles to team members</li> <li>– Prioritise tasks and response actions</li> <li>– Ensure adequate resources available</li> <li>– Communicate with government agencies and major customers – operational level</li> <li>– Stand in as Chair if Chair unavailable</li> <li>– Monitor effectiveness of actions</li> <li>– Coordinate review of incident and update of the DERMP as required</li> </ul>
Communications Manager	Manager Community Partnerships	Manager Community Partnerships	Manager Community Partnerships	<ul style="list-style-type: none"> <li>– Support the DERMT with all customer communications</li> <li>– Prepare communications material as appropriate</li> <li>– Issue media statements and interviews as appropriate</li> <li>– Maintain media database including social networks</li> <li>– Monitor and manage social networks communication</li> <li>– Develop and Implement DERMP Communications Strategy</li> </ul>
Technical Administrative Support	Water and Sewer Engineer – Treatment / Water Quality Officer	Water and Sewer Engineer – Treatment / Water Quality Officer	Water and Sewer Engineer – Treatment / Water Quality Officer	<ul style="list-style-type: none"> <li>– Update all appropriate data on a daily basis once the DERMP is activated by the GM of each Council.</li> <li>– Support the Incident Manager in the provision of technical data required to monitor and assess</li> <li>– Support the Incident Manager by providing the technical information required to assess the situation</li> </ul>
Restrictions Compliance Officer	TBD by Chair	TBD by Chair	TBD by Chair	<ul style="list-style-type: none"> <li>– Compliance and enforcement monitoring</li> <li>– Community advice and warnings</li> <li>– Issuing fines for violation of water restrictions</li> </ul>

Role	SC Staff Responsible	MSC Staff Responsible	UHSC Staff Responsible	Responsibilities
Administrative Support	Water and Sewer Administration Officer	Water and Sewer Administration Officer	Water and Sewer Administration Officer	<ul style="list-style-type: none"> <li>Attend and maintain meeting minutes for all meetings of the DERMT</li> <li>Prepare weekly progress report for distribution to DERMT members and Customer First team.</li> <li>Provide all general administrative support to the DERMT, first line of contact</li> <li>Maintain Water Restriction approval/exemption records</li> </ul>
Support Team	Varied	Varied	Varied	<ul style="list-style-type: none"> <li>Support the Incident Manager and chair as required</li> <li>Would normally include the following people but would be determined by the Chair or Incident Manager as required.</li> <li>Team Leader Water Treatment</li> <li>Water and Sewer Process Engineer</li> </ul>

## 4.4 Demand-side action plan

### 4.4.1 Water restrictions

Water restrictions are an effective and low-cost strategy for responding to drought. Water restrictions aim to reduce water demand of Council's customers through regulating the type and duration of water-using activities. If not specifically mentioned, the restrictions of each level apply to all the higher levels. As outlined in Section 4.1.2 water restriction triggers are determined by levels in the two major storage dams. Water restrictions will generally be imposed on a UHWUA shire-wide basis to ensure equity across a unified customer base and for ease of understanding and administration of the restrictions. At Level 3, variations to this may be considered by the General Manager, in exceptional circumstances.

### 4.4.2 Demand targets

The demand targets, as listed in Table 4.3, have been provided by each Council.

Table 4.3 Demand reductions during water restrictions

Level	Singleton	Muswellbrook	Upper Hunter
Permanent	0	0	0
1	10 ML/d minus 10%	Winter 4-5 ML/d Spring 6-7 ML/d Summer 9-10 ML/d Autumn 6-7 ML/d	6 ML/d minus 10%
2	10 ML/d minus 20%	Winter 3.5-4.5 ML/d Spring 5.5-6.5 ML/d Summer 8.5-9.5 ML/d Autumn 5.5-6.5 ML/d	6 ML/d minus 20%
3	10 ML/d minus 30%	Winter 3-4 ML/d Spring 5-6 ML/d Summer 8-9 ML/d Autumn 5-6 ML/d	6 ML/d minus 30%

#### 4.4.3 Demand side activities

Council will implement a number of activities to plan for and implement water restrictions, and to ensure each Council meets the demand targets. These actions, as well as the customer water use restrictions, are summarised in Table 4.4. If not specifically mentioned, the restrictions of each level apply to all higher levels. For example, sprinklers and spray irrigation systems of any kind are prohibited for Level 1, they are also prohibited for all higher levels.

Failure to achieve the target demand at a particular restriction level within three weeks, may require adoption of the next more stringent levels, even if a trigger level is not reached. The decision to introduce more stringent levels will be made by the DERMT using the information available at that time.

Severe water restrictions will only occur in very rare circumstances, due to the potentially high costs this can impose on residential amenities and commercial businesses.

During these restrictions all outdoor watering will be banned, and this will have a major impact on lawns and gardens. Commercial businesses may also be impacted as some activities have higher level restrictions imposed. Cattle producers that rely upon potable water for stock watering will also have restrictions on consumption implemented at Level 3.

*In the event that emergency water restrictions do not sufficiently reduce demands, water rationing will be considered by the Councils', to limit usage to only essential uses. For residential properties, a minimum essential supply requirement of 120 L/p/day or less may be achievable. Commercial businesses and industries may be required to reduce water consumption to minimal essential use and cattle producers supply of potable water use for all stock watering will also be rationed.*

Table 4.4 Residential water restriction demand side activities

Trigger Level	Level	Demand Side Activity
50%	Level 1 Restrictions	No washing down walls or paved surfaces Washing cars with bucket and rinse with trigger hose on lawn only Topping up private swimming pools/spas only permitted between 0700-0900 and 1800-2000 hrs First fill of private and public swimming pools/spas only with Council permission Large water (>10ML/year) users must prepare a WEMP
40%	Level 2 Restrictions	Watering of lawns not permitted for residential, and non-residential Large water users must implement their WEMP

Trigger Level	Level	Demand Side Activity
		All non-residential business (>5ML/year) must prepare WEMP Hosing of vehicles, boats, or buildings not permitted
30%	Level 3 Restrictions	No filling of private swimming pools or spas or garden water features, including first fill No washing of vehicles, boats or buildings permitted Inflatable or temporary children's pools not permitted Public car and truck wash facilities not permitted All non-residential business's (>5ML/year) must implement their WEMP

A template Water Efficiency Management Plan (WEMP) is provided in Appendix C.

## 4.5 Supply-side action plan

When drought occurs, actions must be taken to mitigate the effects of water shortage and to ensure that a reliable water supply is available to meet the health and safety needs of the community. These actions aim to support the restrictions as well as prepare for worsening situations.

### 4.5.1 Staged action-plan

Drought management supply-side actions should be implemented by the Councils' while the community takes action to reduce water demand, during water restrictions. The supply actions are proposed to be implemented within a timeframe so that water supply is sufficient to sustain the estimated water demand at the particular water restriction level. Table 4.5 provides a list of the actions that the Councils' can consider to sustain the estimated water demand.

**Table 4.5** Supply-side action plan

Level	Supply side activity
Water Conservation Measures	<ul style="list-style-type: none"> <li>Continued implementation of drought preparedness activities, short- and long- term projects and education (Blue House).</li> <li>Review DERMP and ensure it is up to date</li> <li>Exercise DERMP and update as required</li> <li>Prepare Community Awareness Campaign</li> </ul>
Level 1 Restrictions	<ul style="list-style-type: none"> <li>Preparatory measures that activate the DERMP and its components</li> <li>Establish the DERMT</li> <li>Commence regular (2 monthly) liaison with regulators</li> <li>Commence community awareness and education campaign</li> <li>Increase monitoring of stream flows, dam levels, aquifer levels etc daily</li> </ul>
Level 2 Restrictions	<ul style="list-style-type: none"> <li>Increase liaison with key government stakeholders</li> <li>Step-up community awareness and education campaign with regular reminders</li> <li>Commence policing of water restrictions and issuing warnings and fines for violations</li> <li>Applications to DPE Water regarding water carting funding assistance, as required</li> <li>Water carting from sustainable supply to smaller water supply areas, if required</li> <li>Implement procedures for effluent recycled water carting for all non-essential potable water uses (e.g., dust suppression, road construction)</li> </ul>
Level 3 Restrictions	<ul style="list-style-type: none"> <li>Focus on policing of water restrictions and issuing warnings and fines for violations of water restrictions</li> <li>Regular (monthly) liaison with Regulators</li> <li>Step-up community awareness and education campaign with weekly reminders</li> <li>Commence discussion about water reductions in consumption with large commercial users</li> <li>Discuss options for exemption from Water Sharing Plans with DPE Water and NRAR if Dams offline due to water quality.</li> </ul>



Level	Supply side activity
Emergency Water Conservation Measures	<ul style="list-style-type: none"> <li>– All out communications program to reduce all usage to absolute minimum levels, including residents reducing shower time, washing and evaporative cooling.</li> <li>– Increased focus on discussions with and policing of water restrictions for commercial businesses and continue regular (weekly) meeting with these users</li> <li>– Further rationing of potable water for stock watering and continue regular (weekly) meeting with these users</li> <li>– Regular (weekly) liaison with Regulators</li> <li>– Implement emergency response / supply options in liaison with DPE Water</li> <li>– Closure of non-essential and high-water dependent services</li> <li>– Water carting from sustainable supply to smaller water supply areas, if required</li> </ul>

### 4.5.2 Water carting

Water carting may be necessary to provide basic town water needs during an emergency. It is anticipated that such arrangements will only be for a short period and water rationing will also be implemented in line with restrictions.

Singleton Council has water carters that access their supply (under Water Carters Policy POL/10066.1). A register of water carters is maintained by the Trade Waste Officer and the Environmental Health Officer. Databases for water carters servicing the Muswellbrook and Upper Hunter Shire Councils' are maintained by the individual Councils'.

UHSC has developed an online application procedure for water carting. It is recommended that Singleton and Muswellbrook Shire Councils' also implement an online application procedure.

During drought, it is likely that these water carters will be heavily utilised for topping up of rainwater tanks for residential domestic use and they may not all be available for use. The Councils' have a number of towns with existing reticulated supplies that have a normal population of less than 1000 people, with a demand that could possibly be sustained through water carting. These are listed below.

- Singleton Council:
  - Jerrys Plains
- Muswellbrook Shire Council:
  - Sandy Hollow
- Upper Hunter Shire Council:
  - Murrurundi
  - Parkville, Wingen and Blandford (if connected in the future)
  - Cassilis

DPE Water have historically provided assistance toward the costs for water cartage (i.e. Murrurundi). DPE Water can provide assistance with the initial assessment of options for water carting and an application will need to be made by Council to DPE Water to receive funding. This should be included as an agenda item in regular meetings with the regulators to ensure Council is prepared for obtaining financial assistance, prior to undertaking any carting.

## 4.6 Monitoring during drought

All monitoring during a drought will be carried out as per the monitoring listed in Section 3.5.

## 4.7 Communications

A Communications action plan should be developed to provide guidance to the DERMT on what communications are to be undertaken prior to and during water restrictions and emergency incidents.

One of the most important aspects of emergency response is communications, which are required with a wide variety of internal and external parties. The handling of this aspect can have a major bearing on the effectiveness of the response, and perceptions about the UHWUA Councils', and so needs to be tightly controlled.

The key principles of communication during an emergency response include:

- Check adequacy of facilities and resources
- Gather, assess and check facts
- Inform key stakeholders at an early stage
- Develop communications strategy and key messages

The emergency response and communications are to be undertaken with consideration of the individual Council Business Continuity Plans (if available).

#### 4.7.1 Community

A comprehensive Drought and Emergency Management Communications Strategy (DEMCS) should be developed by the Councils'. The purpose of this communications strategy is to:

- Communicate the restriction levels, expected water use behaviours at each restriction level, any enforcement measures and relevant emergency information
- Provide general information on how to use water wisely and implement everyday water conservation measures
- Provide general information to the community on what each Council is doing to conserve water and specific actions during drought and emergency situation

The communications strategy would also provide the details to be communicated at each level of water restrictions, such as:

- The channels of communication to be utilised, such as website, media releases etc.
- The target audience
- The specific messages and issues to be communicated

The specific messages that would be developed within the DEMCS are listed below:

- Restriction levels and what they mean, for residential or commercial business users
- Background and the need for conservation or restrictions
- What is each Council doing to manage the water supply
- What requires exemptions and how to obtain an exemption
- How to obtain further information, such as Customer First Contact or FAQ on website

The Councils' would maintain all contact details, including contact lists, for all community communications requirements.

The Water and Sewer Section of each Council will ensure that town centre entrance signs advertise the correct level of restrictions, and electronic notice boards will be established at the entry of each town centre, for 1 week, after a change in restriction levels.

#### 4.7.2 Council

Each Council will undertake the following communication activities, within each Council, to ensure that staff and Council are aware of the requirements during water restrictions and emergencies and to ensure each Council is demonstrating compliance to the public:

- Communications through internal media such as intranet, staff newsletters and email.
- Detailed and regular briefings to the Customer Service Centre and the provision of information prompts for managing Customer enquiries.
- Liaison with Infrastructure Delivery Section to ensure awareness of restrictions and emergencies and their particular application (e.g. irrigation of sporting fields, water for road construction etc.).

- Priority 1 attendance upon customer reported water leaks.
- Enforcement of restrictions in response to customer complaints.
- Water carting from mains flushing, once into higher restrictions categories if operationally possible.

### 4.7.3 Regulators

Advanced notifications are provided to the following relevant agencies in respect of impeding and implementing restrictions:

- DPE Water – regarding progress through restrictions, emergency supply options, technical advice and attendance through teleconference to regular meetings throughout the implementation of restrictions.
- NSW Health, Local Public Health Unit – regarding health impacts upon residential and commercial business customers, water quality, restriction levels and monitoring of water quality for emergency supply options.
- Water NSW – regarding water access licences and regulations. land management of borefield sites.

Contact details are maintained as part of Council's Drinking Water Quality Management Plan contact list for all stakeholders, including the regulators.

### 4.7.4 Large water users

A number of larger water users will be contacted and, in some cases, engaged through regular meetings, during water restrictions. These are listed below:

- Approved drinking water carters – will be contacted on an individual basis, upon the implementation of water restrictions, and as restrictions levels increase. This will ensure they understand the appropriate use of drinking water during restrictions.
- Large commercial consumers – will be engaged initially on an individual basis upon implementation as per the restrictions table, to discuss opportunities to reduce water consumption and further engagement will occur upon implementing increasing levels of restrictions.
- Agricultural users – will be engaged through a working group upon implementation of Level 3 restrictions, to discuss opportunities to reduce water consumption and further engagement will occur upon implementing increasing levels of restrictions and the potential to impose water rationing at emergency levels.

Contact details are maintained as part of Council's Drinking Water Quality Management Plan contact list for all stakeholders.

## 4.8 Enforcement

The *Local Government Act 1993* and *Local Government Regulations 2005* confer on Councils' the authority to prevent waste or misuse of water generally and specifically to prevent water use "contrary to a Council notice restricting the use of water" (Section 637 of the Act and Sections 159-160 of the Regulation). A water authority has a number of legal avenues available for the misuse of water, including formal warnings, fines, installation of flow restriction devices and cut off of supply (Clause 144 of the *Local Government (General) Regulation 2005*). It is recommended that the UHWUA Councils' develop an agreed methodology for consistent enforcement of restrictions and tools to be used across the region.

To ensure compliance of daily usage targets implemented by the UHWUA, it is recommended that Councils' improve the level of communication to all users. Possible communication strategies include:

- Increased advertising, with an emphasis on what the daily usage targets in the region are to establish greater awareness
- Additional online resources that highlight regional usage compared to set daily targets
- Greater correspondence with major water users (top 20) to ensure compliance of daily targets

Singleton Council adopted a Water Restriction Enforcement Policy in 2021.

## 5. Drought and emergency recovery strategy

The drought recovery process will be implemented only when Level 3 or emergency measures have been lifted by the Councils'. The process will commence when the General Manager's agree to remove all water restrictions and hence have revoked drought conditions. A Drought Recovery Coordinator (DRC) will be appointed by the DERMT to oversee the recovery process, and the DERMT will cease to operate. The DERMT members will however assist the DRC, as required.

The DRC will be responsible for:

- Preparing a response report, including recommended actions, to be submitted to the GM and Council for endorsement, within 8 weeks of the drought conditions being revoked.
- Assessing the remaining drought impacts and determining the appropriate personnel to coordinate the recovery activities.
- Implement a drought recovery and emergency survey, detailed below, following a drought that implemented water restrictions at Level 3 or emergency measures.
- Develop rehabilitation/recovery programs based on the drought recovery strategy, including determining areas appropriate for government financial assistance.
- Review of the DERMP.

### 5.1 Drought and emergency recovery survey

The drought recovery survey will be implemented following the implementation of water restrictions at Level 3 or emergency measures. This survey will be developed to evaluate the physical, emotional, social, and economic impact of the drought and determine the recovery process required to restore the community to normal operations. The survey will assess the following criteria in order to determine the recovery actions required:

- **Ownership:** Determine the ownership of private and public assets and the source of assistance that may be available.
- **Severity of impact:** Develop a scale that measures the severity of social, economic, and financial impact of the drought or emergency.
- **Time to recover:** Determine a timeframe required to recover from the drought or emergency impact.
- **Cost of Impact:** Determine the financial loss due to the drought or emergency impact.
- **Resources required:** Determine all resources required to complete the recovery process.

With the outcomes of the survey, Councils' will be able to identify appropriate resources to address the recovery needs to restore the community to normal social and economic activities.

Councils' will not compensate private customers for costs for financial losses caused by the drought.

Emergency recovery documentation includes:

- UHSC IT Disaster Disaster Recovery Plan

## 6. Water supply schemes

### 6.1 Location

The UHWUA includes the Singleton, Muswellbrook Shire, and Upper Hunter Shire Council areas. The region being managed by the UHWUA covers approximately 16,400 square kilometres and has a population of 53,185 people (2016 census). All Council areas are located in the Hunter Valley and the area of interest spans from Singleton in the southeast to Murrurundi in the northwest (approximately 115 km between these towns).

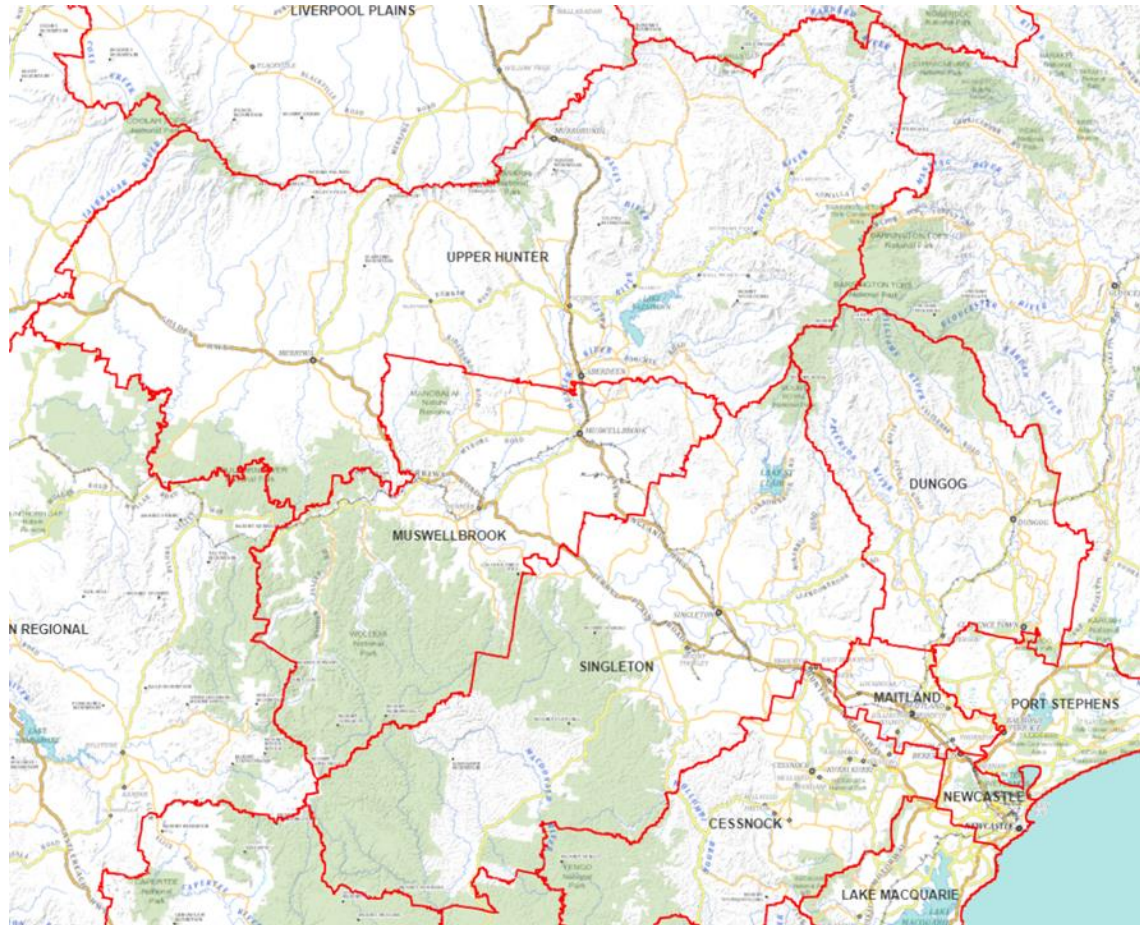


Figure 6.1 Singleton, Muswellbrook Shire, and Upper Hunter Shire LGAs

Singleton Council supplies water to the Singleton township and surrounding areas. Muswellbrook Shire Council supplies water to the towns of Muswellbrook, Denman, and Sandy Hollow. Upper Hunter Shire Council supplies water to Aberdeen, Merriwa, Murrurundi, Scone and Cassilis.

## 6.2 Existing water supply schemes

Singleton Council's water supply is sourced from Glennies Creek Dam and includes a series of eight reservoirs and five water pumping stations across the network. Water runs under gravity from the Glennies Creek Dam offtake to the Obanvale Water Treatment Plant, where it is treated and pumped to the various storage reservoirs in the region.

Muswellbrook Shire Council owns/operates three water treatment plants that supply treated water to the towns in the region. The towns of Muswellbrook and Denman both source water from the Hunter River downstream of Glenbawn Dam. Two borefields close to the unregulated Goulburn River are utilised to supply water to Sandy Hollow. The Muswellbrook water supply network includes six storage reservoirs, with Denman and Sandy Hollow both having one storage reservoir each.

Upper Hunter Shire Council has a variety of water supply schemes given the distance between towns within the council region. The water supply schemes for towns within the Upper Hunter Shire Council region are summarised below:

- Aberdeen: Water is sourced from the Hunter River or Glenbawn Dam, with one high level reservoir and 3 low level reservoirs providing storage. One supplementary bore is always used when Hunter River supplies Aberdeen. Chlorination is used for treatment prior to distribution.
- Merriwa: Three bores are used for supply, with three storage reservoirs available. Water is passed through the Merriwa Water Treatment Plant prior to distribution to customers.
- Murrurundi: Water is supplied from three river inlets on the Pages River, Murrurundi Dam and from the Scone to Murrurundi pipeline which includes three water pumping stations. Two reservoirs are used for storage. A membrane WTP with dosing lagoon is used for treatment prior to distribution. Note the dosing lagoon and WTP is not used when the Scone to Murrurundi pipeline is in use.
- Scone: Water is supplied from Glenbawn Dam and three river inlets from Pages River. Four low level reservoirs and one high level reservoirs are used for storage. Chlorination is used for treatment prior to distribution.
- Cassilis: Water is supplied from two bores, with four storage reservoirs available and a chlorinator used for treatment.

## 6.3 Water sources

### 6.3.1 UHWUA Water Sources

Raw water for the Singleton Council area is sourced from Glennies Creek Dam. Singleton town supply consists of a gravity system from the Glennies Creek Dam offtake. There is a pumping station available at the site however it is only required if dam storage level drops below 25% of capacity. Glennies Creek Dam has a storage capacity of 283,000 ML, with a major use of regulating flows for the Hunter River downstream. An additional eight reservoirs provide 25 ML of storage for the Singleton region. In a significant drought event, Singleton Council has the opportunity to develop the Rose Point Park bore water source as a supplementary option to the existing Singleton water supply to improve supply reliability.

Raw water delivery for Singleton is at a maximum 500 L/s (under high storage conditions). The Obanvale Treatment Plant can process up to 30 ML/day. Treatment is undertaken via a filtration process in which alum and other filter aids are added to the water to cause flocculation of suspended particles. Chlorination also occurs to remove bacteria, with fluoride and lime also being added.

Water supply to the Muswellbrook and Denman townships is sourced from the regulated Hunter River flows downstream of Glenbawn Dam. Glenbawn Dam has a capacity of 750,000 ML with an additional 120,000 of flood storage available. There are six reservoirs across the town of Muswellbrook providing an additional storage capacity of 23 ML. The Denman supply scheme includes one storage reservoir with a capacity of 5 ML. The township of Sandy Hollow sources raw water from two bore fields in close proximity to the unregulated Goulburn River. There is one storage reservoir in this region with a capacity of 0.2 ML.

Muswellbrook supply is treated in a water softening and filtration plant, with Denman water supply undergoing initial sand filtration followed by treatment in a membrane filtration Water Treatment Plant. Supply for the township of Sandy Hollow is treated by ozone-oxidisation with macrolite and carbon filtration.

The Hunter Regulated River Water Source is treated as a surface water source in the Water Sharing Plan. The Hunter River is divided into five management zones as follows:

- Zone 1A: Hunter River from Glenbawn Dam to Goulburn River Junction
- Zone 1B: Hunter River from Goulburn River Junction to Glennies Creek Junction
- Zone 2A: Hunter Rive from Glennies Creek Junction to Wollombi Brook Junction
- Zone 2B: Hunter River from Wollombi Brook Junction to downstream extent of the Hunter Regulated River
- Zone 3A: Glennies Creek

Aberdeen raw water supply is sourced from the Hunter River or Glenbawn Dam. One supplementary bore is always used when the Hunter River supplies Aberdeen. There is one high level reservoir and 3 low level reservoirs providing storage with a combined capacity of 7.5 ML. The town of Cassilis sources raw water from two groundwater bores, with four reservoirs providing an additional 4 ML of storage capacity for the region. Merriwa supply is sourced from three groundwater bores. Merriwa has 2.7 ML of additional storage capacity from three reservoirs. Raw water for the township of Murrurundi is sourced from the Scone to Murrurundi pipeline as well as the Pages River which is stored in Murrurundi Dam. The dam is a storage reservoir with no catchment area. Murrurundi dam has a capacity of 150 ML and there is an additional storage reservoir within the supply network providing another 1.4 ML storage capacity.

Water supplied for Aberdeen, Scone, Murrurundi (including Scone to Murrurundi pipeline) and Cassilis is treated through chlorination only. The Merriwa water supply is treated by a conventional filtration process and the Murrurundi water supply is treat by an ultra-filtration (UF) membrane WTP prior to distribution.

### 6.3.2 Other water supply sources

The only other water source in the region that could be reinstated relatively quickly is the existing groundwater bores at Scone.

### 6.3.3 Potential sources

The three Councils' have engaged consultants to assess water supply opportunities throughout the region with a variety of potential water sources being identified. The Singleton groundwater access license is associated with the Rose Point Park bore and is classed as a Hunter unregulated and alluvial water source (emergency). The current entitlement is 4,090 ML/year, meaning this bore could be utilised to supplement the existing water supply network in drought conditions.

A potential pipeline transfer system between the existing Lostock Dam and Glennies Creek Dam provides another opportunity for improving water security in the Singleton region through increased storage capacity. Preliminary investigations are also being undertaken regarding connecting the Singleton supply network to the Hunter Water Supply Scheme at Branxton. This connection would reduce the draw on Glennies Creek Dam. A river offtake supply for Jerrys Plains, to replace the current supply from AGL's Bayswater plant that will be decommissioned in coming years, is currently being investigated.

For the Muswellbrook Shire region, a potential source that has been investigated is utilising Glenbawn Dam as the primary raw water source for Muswellbrook Shire. This option would involve maintaining the existing Hunter River intake for the region as a supplementary supply which can used during emergencies. Other options for Muswellbrook include utilising Glenbawn Dam only as a supplementary supply and a combination of the Hunter River and Glenbawn Dam both as primary raw water sources.

The purchasing of additional high security entitlements may provide increased water security for Muswellbrook Shire during drought periods. However, these entitlements are not guaranteed during extreme drought periods as they are not the same priority as 'Local Water Utility' licenses. Another potential supply source for Muswellbrook is connection to Hunter Water supply through an extension of the potential potable pipeline from Singleton through to Muswellbrook. This source would require the construction of an additional 50 km of pipeline.



Groundwater provides another potential source for the Muswellbrook Shire region. A desktop study has indicated that bores within the Muswellbrook area would yield a flow rate of approximately 10 L/s. Further investigation is required to assess the quality of this water, however even if it were appropriate for potable use the yield would not meet the required shortfall. Muswellbrook Shire Council does hold groundwater entitlements of 830 ML/year from a bore in Denman. Water quality from this bore is also unknown therefore it cannot be confirmed if it would be appropriate for use during drought events.

In Upper Hunter Shire:

- Groundwater investigations at Murrurundi (undertaken during Level 6 restrictions and prior to the pipeline from Scone being completed) only yielded very low flows from test bores, less than 2 L/s. Therefore, development of a back-up supply was not investigated further.
- If the Denman to Sandy Hollow Pipeline is installed, the design is understood to allow for future connection for an approximately 35 km long pipeline to Merriwa.

## 6.4 Water demand

### 6.4.1 Water pricing

The Councils' have implemented water supply pricing structures in line with the Best-Practice Management of Water Supply and Sewerage Guidelines. Customers in all Councils' are subject to an annual access charge. The access charge applied to customers in Upper Hunter Shire Council is dependent on water meter size for all user types. Each Council utilises a two-tiered usage pricing system where residential customers are subject to a step price increase when usage exceeds the high-water consumption threshold. The Singleton Council high-water consumption threshold is 450 kL/yr. Muswellbrook and Upper Hunter Shire Councils' adopt a high-water consumption threshold of 350 kL/yr. Non-residential customers in Muswellbrook Shire are subject to a flat-rate usage charge. Upper Hunter Shire Council applies variable step allocation for water consumption periods, with 75 kL per quarter allocated for the winter/autumn seasons and 100 kL per quarter allocated for the spring and summer seasons.

Water rates are sent out quarterly and include average consumption data to provide effective consumption and pricing information to customers.

### 6.4.2 Water users

The non-residential sector is quite significant in the UHWUA water supply zone. Several large industrial and institutional water customers operate in the region.

The defence force base in the Singleton Council region is a major institutional user, with a daily use of approximately 10,709 kL/day. Agricultural connections are mostly used for domestic and stock watering purposes. Extended dry periods and seasonal temperature and rainfall patterns do result in peaks in demands occurring in the rural supply areas. Agricultural consumption increases during drought as potable water reliance increases where other cattle watering supplies may have dried up. As the drought worsens, water supply to local saleyards and Shelliden's abattoir may also increase as property owners start to de-stock properties.

Many of the commercial businesses, such as the abattoir in Singleton and the abattoir in Scone, will need to continue to utilise potable water to ensure they continue to operate business as usual. The correctional services are a large consumer, and it may be possible to reduce consumption through reduced internal consumption, during a drought event.

A summary of projected occupied dwellings by reservoir zone and towns within the Singleton, Muswellbrook and Upper Hunter Shire Council water supply systems is provided in Table 6.1, Table 6.2 and Table 6.3 respectively.

**Table 6.1** *Growth in residential connections by pressure zone in Singleton Council area*

Zone	2021	2026	2031	2036	2041	2046	2047
Rixs Creek and CWT Reservoir Zone	97	192	269	325	411	523	551
Apex Reservoir Water Supply Area	140	266	392	522	605	646	646
Retreat Reservoir Water Supply Area	17	34	49	62	75	86	88
Rural, No Water Supply	5	9	14	17	21	24	25
<b>Total</b>	<b>260</b>	<b>501</b>	<b>723</b>	<b>927</b>	<b>1,112</b>	<b>1,278</b>	<b>1,309</b>

**Table 6.2** *Growth in residential connections by town in Muswellbrook Shire Council area*

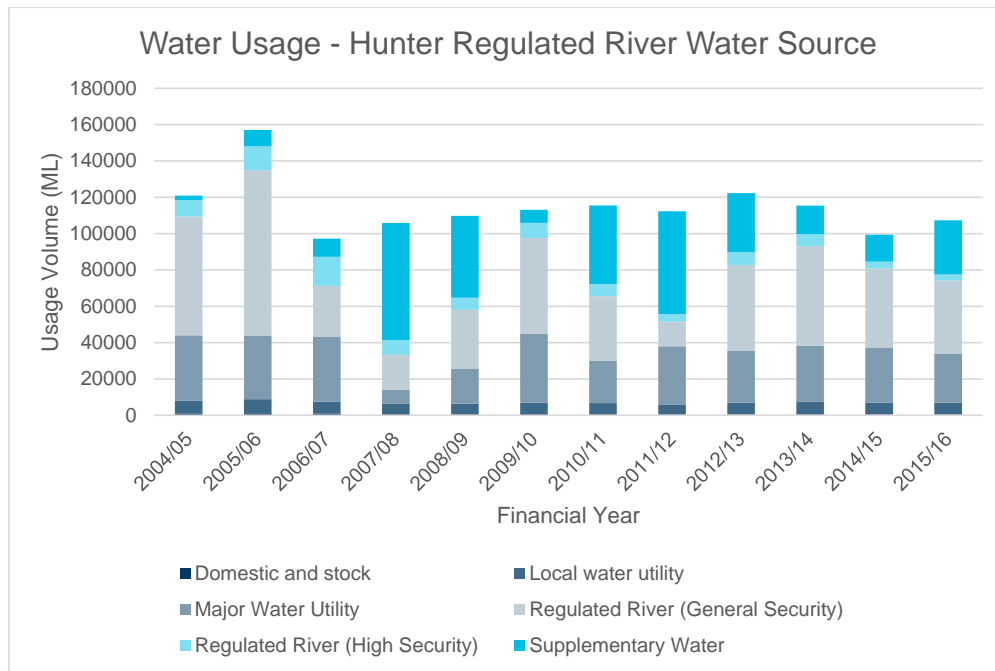
Town	2021	2026	2031	2036	2041	2046
Muswellbrook	302	85	87	89	90	92
Denman	86	11	12	12	12	12
Sandy Hollow	2	1	1	1	1	1
<b>Total</b>	<b>390</b>	<b>97</b>	<b>100</b>	<b>101</b>	<b>104</b>	<b>106</b>

**Table 6.3** *Growth in residential connections by town in Upper Hunter Shire Council area*

Town	2021	2026	2031	2036	2041	2046
Aberdeen	22	21	19	9	9	9
Cassilis	0	0	1	0	0	0
Merriwa	24	21	19	11	12	12
Scone & Satur	60	54	46	22	37	37
Murrurundi and Villages	15	14	13	4	4	4
<b>Total</b>	<b>121</b>	<b>110</b>	<b>98</b>	<b>46</b>	<b>62</b>	<b>62</b>

### 6.4.3 Current water usage

Water usage for the Hunter River catchment area is provided in the Water Sharing Plan for the Hunter Regulated River Water Source Background Document (2017). Water usage under each license entitlement varied significantly between 2004/05 to 2015/16. The highest license usage in this period was from regulated river (general security) license holders followed by major water utility and supplementary water use. A summary of water usage by license type between 2004/05 to 2015/16 is provided in Figure 6.2.



**Figure 6.2** Water Usage by License Type (Water Sharing Plan for the Hunter Regulated River Water Source Background Document - 2017)

Average consumption for the Hunter Regulated River Water Source over this period was 114,675 ML/yr. Water usage has been relatively stable in the region since 2007/08.

#### 6.4.4 Current water usage by sector

The average water usage data for each council between 2016/17 to 2020/2021 is provided in Table 6.4.

**Table 6.4** Water usage per Source and Type of Use

Source	Residential	Commercial	Industrial	Rural	Institutional	Parks	UFW	Total (ML)
Singleton	1,608	607	265	-	97	-	240	2,817
Muswellbrook	1,418	335	44	-	118	76	262	2,253
Upper Hunter	1,001.2	233	423.2	8.3	293.8	125	431.4	2,405
Total (ML)	4,027	1175	732.2	8.3	293.8	201	933.4	7,475

Based on available data for the Upper Hunter catchment water supply system, residential use accounts for approximately 65% of water consumption. Water usage by sector is highlighted in Figure 6.3.

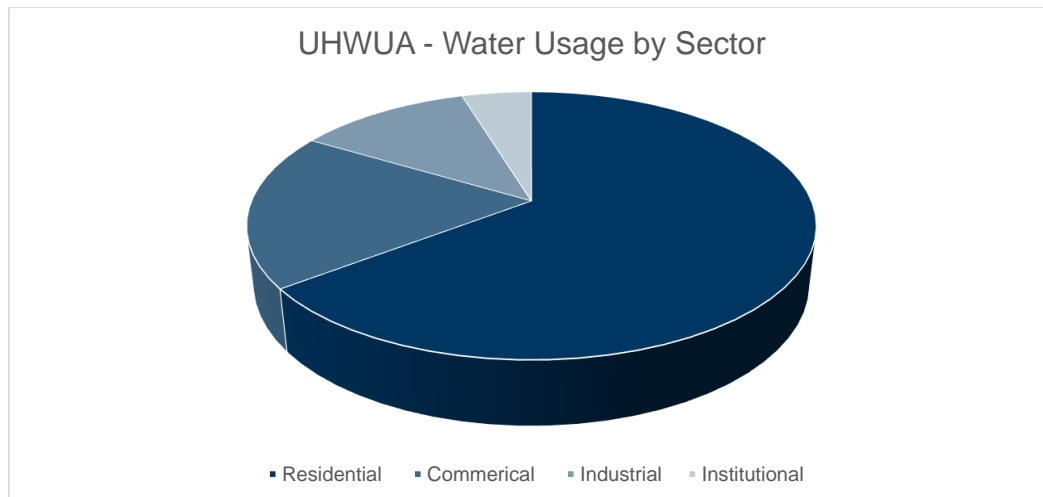


Figure 6.3 Water Usage by Sector

### 6.4.5 Residential end use

The estimated average residential consumption for the Singleton and Muswellbrook Shire Council water supply systems in 2020-21 was 230 kL/yr and 235 kL/yr respectively. The estimated average residential consumption for the Upper Hunter Shire Council from the 2015-2016 NSW Water and Sewerage Benchmarking Report is 225 kL/yr.

### 6.4.6 Highest non-residential consumers

The most significant water dependent non-residential consumers in the Singleton, Muswellbrook, and Upper Hunter LGAs are listed in Table 6.5.

Table 6.5 Highest Non-Residential Users

Business	Supply System
DEFENCE FORCE	Singleton
ABATTOIR (SHELLDEN PTY LTD)	Singleton (separate supply agreement)
BLAKEFIELD WATER VENDOR	Muswellbrook Shire
CORRECTIONAL FACILITY	Muswellbrook Shire
SWIMMING POOLS	Singleton/Muswellbrook Shire
HUNTER WINES	Muswellbrook Shire
HOSPITALS	Singleton/Muswellbrook Shire/Upper Hunter Shire
CARAVAN PARK	Muswellbrook Shire
PRIMO MEATS ABATTOIR (NOW NAMED JBS AUSTRALIA SCONE)	Upper Hunter Shire
SALEYARDS	Upper Hunter Shire
SCONE RSL	Upper Hunter Shire

### 6.4.7 Rural demands

Some of the towns across the council areas provide water for limited agricultural use such as stock watering but this volume is relatively small.

### 6.4.8 Unaccounted for water

The UFW has been estimated for the Upper Hunter catchment supply by determining the difference between the volume of water produced and the total consumption. This may be due to leakage or illegal connection of unbilled data. The previous DERMPs for each council region indicate that approximately 11% of water produced in the UHWUA managed region is unaccounted for. Water loss management in the UHWUA system provides an opportunity for Councils' to improve future secure yield capacity as well as improve drought response management.

## 6.5 Rainfall and temperature

Typically, the climate zone is temperate (no dry season) with an average annual rainfall of 620mm to 1600mm (depending on location within catchment). The Upper Hunter experiences extended periods of below average rainfall, while the Lower Hunter is influenced more by coastal rain and shorter drought periods.

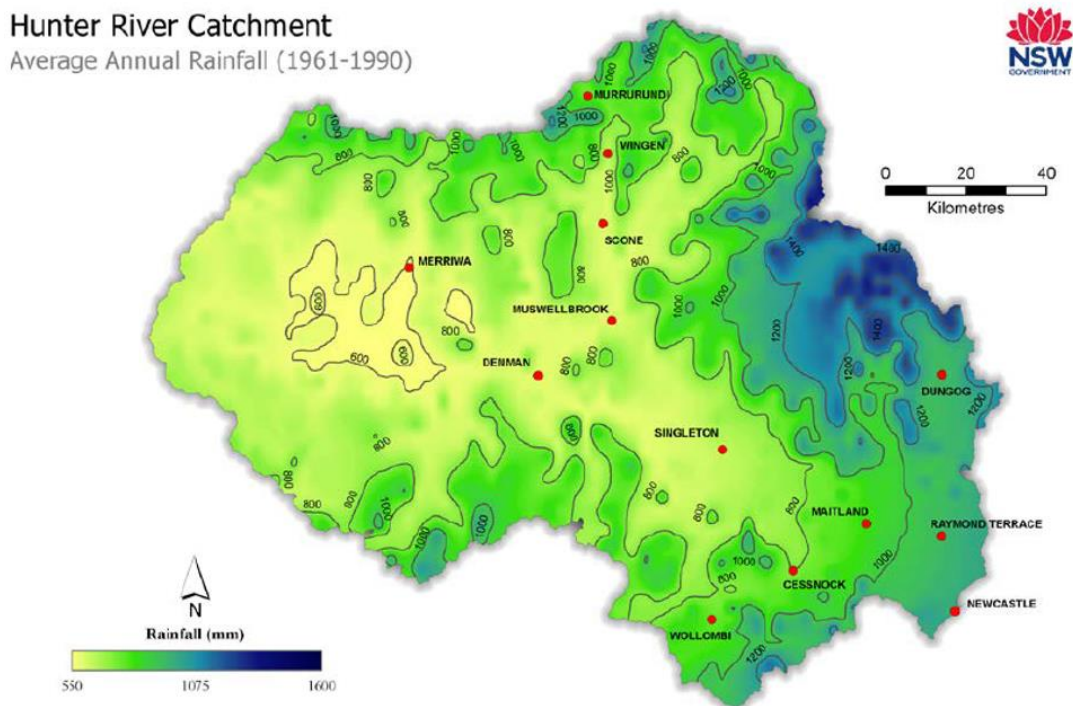


Figure 6.4 Average Annual Rainfall: 1961-1990 (Water Sharing Plan for the Hunter Regulated River Water Source Background Document 2017)

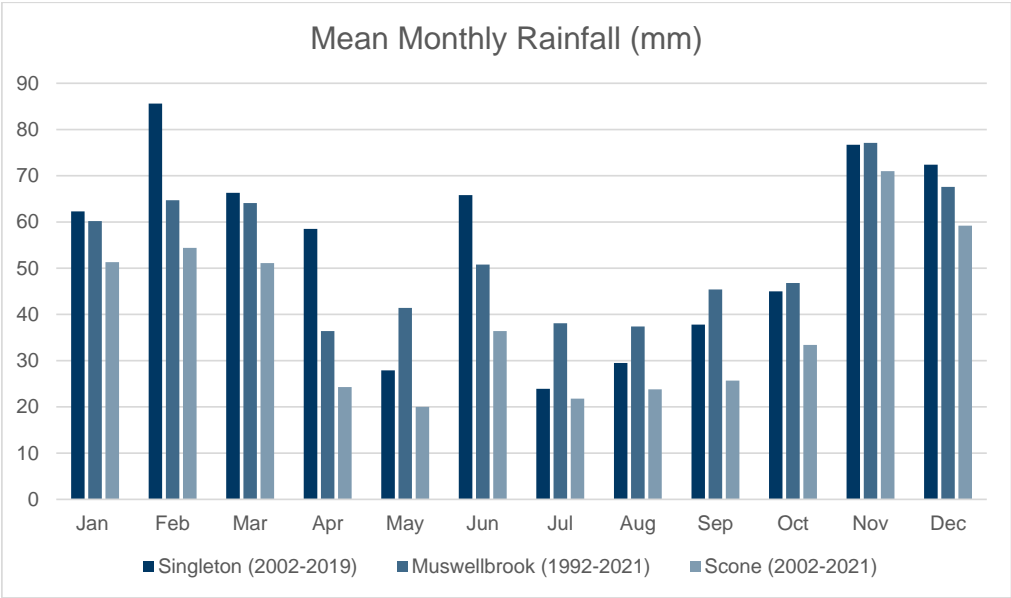


Figure 6.5 Mean Monthly Rainfall (BOM)

Typically, the temperature across the region varies from a mean maximum of 32 °C and a mean minimum temperature of 4 °C. The mean maximum and minimum temperatures for Singleton are shown in Figure 6.6 and Figure 6.7 respectively.

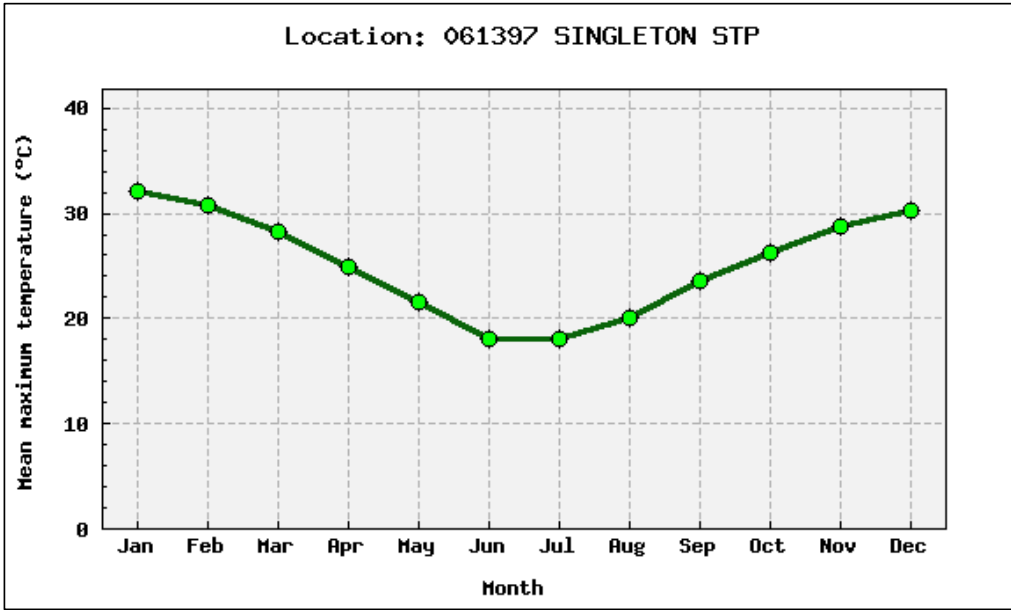


Figure 6.6 Singleton Mean Maximum temperature 2002 to 2019 (BOM)

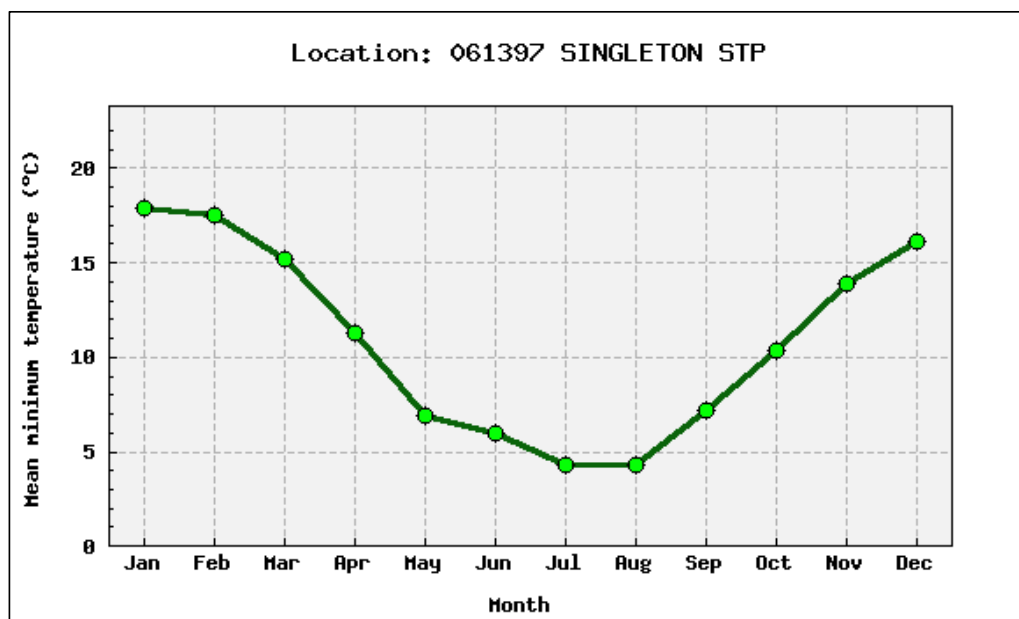


Figure 6.7 Singleton Mean Minimum temperature 2002 to 2019 (BOM)

## 6.6 Climate change

The Hunter catchment's climate is highly variable with periods of severe drought and flood. The catchment is situated within a transitional zone between winter dominated rainfall in the south and summer dominated rainfall in the north. Annual rainfall in the region ranges from 620 mm to 1600 mm depending on location. The Upper Hunter region experiences long periods of below average rainfall.

The key climatic changes from the NSW and ACT Regional Climate Modelling (NARClIM) climate projections for the Hunter Catchment include the following:

- Average temperatures will continue to increase in all seasons (very high confidence).
- Decreases in summer, winter, and spring rainfall are projected. Autumn rainfall is projected to increase significantly in the near future (to 2039).
- An increase in high fire danger days throughout summer.
- A significant increase in days of extreme temperature (>35 °C) – an additional 5.77 days in summer projected in the future.
- On annual and decadal basis, natural variability in the climate system can act to either mask or enhance any long-term human induced trend, particularly in the next 20 years and for rainfall.

These factors, along with increasing rainfall variability, will result in an increase in per capita demands for potable water in the Singleton, Muswellbrook Shire, and Upper Hunter Shire regions for all outside end-uses.

## 6.7 Drought restrictions history

Historical records for previous drought restrictions have not been maintained in detail. The details that are available are provided in Table 7.1. Records that the worst drought for the Singleton region was experienced between 1937-1949. During this period the Hunter River ceased to flow at Singleton for longer than 6 months. It should be noted that the towns of Merriwa and Cassilis in the Upper Hunter Shire have been less impacted by drought as they are supplied by groundwater.



Table 6.6 Drought restrictions history

Muswellbrook Shire Council	Upper Hunter Shire Council	Singleton Council
<b>Muswellbrook:</b> Level 1 restrictions briefly in 2006 <b>Sandy Hollow:</b> Level 1 restrictions between Aug 2002 and Feb 2003 <b>Denman:</b> Interrupted level 1 restrictions between 2003 and 2006 Currently under level 1 restrictions, experienced level 2 restrictions during 2020	<b>Murrurundi:</b> Level 1 restrictions Dec 2009 and Jan 2014, dam level fell to 75%. Restrictions increased to Level 5 in Feb 2014, due to high algal concentrations (water was trucked into Murrurundi from Scone) Level 1- restrictions May 2021 to the foreseeable future Level 2- restrictions October 2017, June 2021 Level 4- restrictions November 2017, February to May 2018 Level 5- restrictions December to January 2017, May 2018 Level 6- restrictions July 2018, July 2019, March 2020 <b>Scone:</b> Summer 2002/03 – four months of level 1 restrictions Summer 2003/04 – three months of level 1 and two weeks of level 2 restrictions Autumn 2004 – two day of level four restrictions due to pump failure Summer 2004/05 – three months of level 1 restrictions December 2009 – level 1 restrictions <b>Merriwa/Cassilis/Scone/Aberdeen/Murrurundi:</b> Level 1 - restrictions July 2019 Level 1 - restrictions March and June 2020 (Merriwa and Cassilis) Level 1 - restrictions May to June 2021 Level 2 – restrictions March and June 2020 (Scone and Aberdeen)	Restrictions imposed for six months during a severe drought in 1981 - 1982. Prior to 1992, several short-term restrictions due to reduced supply capability. Summer 2008-2009 - Singleton Level 3 restrictions - Glennies Creek Dam down to 30% March 2020 Level 2 water restrictions reduced to Level 1 restrictions from May 2021.

## 6.8 Effects of restrictions on water demand

It has been anecdotally advised that restrictions have previously reduced demand but data has not been provided to demonstrate this.

## 6.9 Failure modes, effects, and criticality analysis

A failure modes, effects, and criticality analysis (FMECA) is a process used to determine the critical maintenance or renewals required for assets in a water distribution network. The determination of critical failure modes in the water supply systems allow Councils' to target and refine maintenance plans, capital expenditure plans, and investigative activities to address the potential failures. A FMECA Workshop was undertaken by GHD on 29 October 2021 for each of the network supply schemes managed by the UHWUA. The results of the analysis provides the Councils' with a detailed register of the consequences of asset failure throughout the networks and identifies the corrective actions required to control the risks.

The risk of asset failure was assessment used the risk priority number (RPN). The RPN for each asset is a measure of design/process risk and is calculated using the following inputs:

- Likelihood of failure Occurrence
- Consequence of failure Severity
- Predictability of failure Detectability

A RPN > 33 suggests that Councils' investigate the possibility to renew or replace the asset based on:

- Condition (Poor grade 4)
- Total Maintenance cost in last 5 yrs > than 60 % of replacement value
- Remaining Life less than 5 yrs
- Spares availability (long lead time, obsolescence)

A summary of the most critical assets for each supply network in the UHWUA based of the FMECA (noting some with RPN's below 33 were added to the list for various reasons) is provided in Table 6.5 below.

**Table 6.7**      *Summary of FMECA results*

Council	Supply Scheme	Asset	RPN
Singleton	Glennies Creek	Rix's Reservoir	36
	Jerrys Plains	Sodium Hypochlorite Dosing	32
Muswellbrook Shire	Muswellbrook	Common Reservoir Acasia Reservoir	18
	Denman	Denman Reservoir	36
	Sandy Hollow	Sandy Hollow Reservoir	24
Upper Hunter Shire	Aberdeen	Aberdeen Chlorine Dosing Plant	60
	Merriwa	Transfer Mains	30
	Murrurundi	Transfer Mains to Murrurundi Pages River Offtakes (1 & 2)	32
	Scone	Chlorination for Scone to Aberdeen/Scone (Gundy Road)	60
	Cassilis	Chlorine Analyser	60

Refer to Appendix B for the FMECA for the UHWUA Councils'.

## 7. Regulatory framework

Legislative requirements relating to management of water supplies during drought include:

- *Local Government Act, 1993* - provides the legal framework for the system of local government in NSW. The Act confers service functions on Council's including the provision, management and operation of water supply facilities. Section 637 of the Act permits Council to apply a penalty to a person who wilfully or negligently wastes or misuses water from a public water supply. From s637, the maximum penalty for a person who wilfully or negligently wastes or misuses water from a public water supply or causes any such water to be wasted is 20 penalty units. At the time of this report, one penalty unit is equivalent to \$110.
- Part 6 Division 1 Clause 137 of the *Local Government (General) Regulation, 2005* permits Council to restrict water supply (by public notice published in a newspaper circulating within the council's area) if Council considers that the available stored water is insufficient to allow unrestricted consumption. Schedule 12 of the Regulation details the penalty notice offences applicable under the Local Government Act, 1993. At the time of this report breaches of section 637 of the Local Government Act, 1993 attract a penalty notice of \$220.
- *Water Management Act 2000* - the key NSW water legislation for the sustainable management of water. The Act promotes the sharing of responsibility for the sustainable and efficient use of water between water users.
- Public Health Act 2010 and Regulations - The main objectives are to promote, protect and improve public health, to control the risks to public health, to promote the control of infectious diseases and to prevent the spread of infectious diseases.
- *Work Health and Safety Act, 2011 and Regulation.*

The NSW Best Practice Management of Water Supply and Sewerage Framework were developed by the NSW Government to demonstrate compliance with the Australian Government's National Competition Policy and the National Water Initiative. The framework and guidelines have been developed to aid Local Water Utilities to achieve best-practice management. Complying with the guidelines is mandatory to be considered "Fit for the Future" and provides incentives. The framework requires six main criteria, of which those listed below are relevant to the RWMS:

- Strategic Business Planning
- Pricing (including Liquid Trade Waste Policy)
- Water Conservation
- Performance Reporting
- Integrated Water Cycle Management

In 2021, Singleton and Muswellbrook Councils' finalised their IWCMS (Upper Hunter Shire pending), as required by the DPE Water. In developing the IWCMS, issues and options for future demand management of the water supply were (will be) addressed.

Other related guidelines and standards include:

- Water Supply and Sewerage Strategic Business Planning and Financial Planning Checklist (NSW Office of Water, 2014)
- Drought Management Guidelines (Water Directorate, 2003)
- AS NZS ISO 31000-2009 Risk management - Principles and guidelines
- Australian Drinking Water Guidelines (NHMRC/NRMMC, 2004)
- NSW Health Guidelines for Water Carters (NSW Health, 2005)
- Backflow and Cross Connection Prevention Guidelines (NSW Water Directorate, 2010)
- Penalty Notices – Fixed Penalty Handbook for Local Council's (Infringements Processing Bureau, NSW Police Service)

## 7.1 Local water utility

Councils' deliver water under the provisions of the *NSW Local Government Act 1993*. Some aspects of the water business are carried out under the provisions of the *NSW Water Management Act 2000*. Councils' are empowered to restrict water supply (e.g. by public notice published in a newspaper circulating within the LGA) under the *Local Government (General) Regulation 2005*.

The *NSW Local Government Act 1993*, Section 637 identifies that "a person who wilfully or negligently wastes or misuses water from a public water supply, or caused any such water to be wasted, is guilty of an offence" of which a maximum penalty of 20 units applies.

Consumers who are identified breaching water restrictions may have their supply restricted or cut off by any of the Councils' in accordance with Clause 144 of the *Local Government (General) Regulation 2005*.

This plan is administered by the UHWUA Councils'. During drought periods, this plan will be overseen by the Drought and Emergency Response Management Team (see Section 4.2).

## 7.2 Department of Planning and Environment

### 7.2.1 General

Under the *Local Government Act 1993*, the Minister is responsible for approving local water utilities operating water and sewerage schemes. The Minister has delegated this function to the NSW Government Department of Planning and Environment, Water (DPE Water).

DPE Water regulates and supports regional NSW's local water utilities in their provision of safe, secure and sustainable water supply and sewerage services. Their role includes setting policy, planning, infrastructure and regulatory priorities across regional NSW. They also provide expert strategic advice and technical support for local water utilities and other stakeholders.

DPE Water monitor the performance of local water utilities and are the approval authority for water supply dams and Water treatment works. The Councils' will work closely with DPE Water when implementing and managing ongoing Water Restrictions.

DPE Water provides a management framework for local water utilities to ensure the effective delivery of essential water services. The NSW Best Practice Management of Water Supply and Sewerage Framework is administered by DPE Water. DPE Water also manages and implements significant water infrastructure programs, such as the Safe and Secure Water Program.

### 7.2.2 Water sharing plans

The Department of Planning and Environment (DPE Water) is responsible for planning, policy development, and regulatory frameworks for regional water in NSW. It develops, assesses, and recommends changes to NSW's water legislation, water sharing/water resource plans and water management rules. These plans, rules and legislation form the regulatory framework that all water users and operators must work within.

DPE ensures equitable sharing of surface and groundwater resources through the development of Water Sharing Plans. Water Sharing Plans are developed by DPE and in conjunction with community. They determine the environmental needs for a water system and allocate water volume licences to users. These plans provide the licence extraction allowances for Council's Water Supply.

By setting the rules for how water is allocated for the next 10 years, a water sharing plan provides a decade of security for the environment and water users. This not only ensures that water is specifically provided for the environment through a legally binding plan, but also allows licence holders, such as irrigators, who require large volumes of water to plan their business activities.

In accordance with the *Water Management Act 2000*, which is administered by DPE, the Councils' can apply to the minister for an exemption to the water sharing plan.

Councils' manage their water supplies according to the following Water Sharing Plans:

- Water Sharing Plan for the Hunter Regulated River Water Source.

The Natural Resources Access Regulator (NRAR) is directed by an independent board and sits within DPE. The NRAR is responsible for compliance with and enforcement of the regulatory framework for water including water management rules, and licence and approval conditions.

## **7.3 NSW Health**

The Minister for Health has responsibility for the administration of health legislation within NSW. The Minister for Health has powers to issue orders and direct public authorities to take action to prevent public health risks in drinking water supplies.

NSW Health is the NSW state government agency responsible for monitoring and managing public health and improving public health through regulation and promotion. Its major role is to provide public health guidance and advice to other state and local government authorities.

## **7.4 Fire fighting requirements**

In spite of the water restriction actions, preference will be provided to accommodating firefighting requirements.

In the event that the emergency conditions last for more than 3 days, fire services will be directed to arrange alternate water source (e.g. water tankers) if appropriate.

## 8. Recommendations

To improve the success of the DERMP implementation, the following actions are recommended:

- It will be necessary to develop clear, consistent guidelines supported by tools and resources.
- Further improvements to FMECA include distinguishing assets/procedures relating to drought and emergency supply.
- There may be a need to consider exemptions or lower reduction in water use where it is not possible to achieve the target reductions (e.g. for health and/or safety reasons).
- Businesses will be encouraged to develop and build cooperative personal relationships with their respective Councils' (through ongoing demand management programs).
- Reporting requirements to be streamlined where possible.
- Recognition of businesses achieving water savings.
- Enforcement actions to be agreed between all Councils' and enforced equally across the region.
- Develop an agreed methodology for consistent enforcement of restrictions and tools to be used across the region.
- Develop a Drought Management Communications Strategy (DMCS) for each Council.
- Develop/update Communications Action Plan for each Council.
- Develop/update Water Restriction Enforcement Policy for each Council.
- Develop/update Business Continuity Plan for each Council.
- Develop/update Standard Operating Procedures (SOP's) for emergency incidents
- Develop/update water restriction webpages and social media pages.
- Develop online application procedure for water carters.
- Review after periods of water restrictions and emergencies to assess the effectiveness and identify areas for improvements.
- Continually review the effectiveness of the drought management procedures within this plan, while considering alternative measures that may be more effective.
- Further investigation needs to be undertaken by Muswellbrook Shire Council to confirm the sustainability and resilience of groundwater yields and quality
- Improve monitoring by implementation of online water depth monitoring in each of the groundwater aquifers

## 9. References

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- DPE 2017. Water Sharing Plan for the Hunter Regulated River Water Source Background Document
- DPI Water 2003. Draft Guidelines, Assuring future urban water security, Assessment and Adaption guidelines for NSW local water utilities
- DPI Water 2016. 2015-2016 NSW Water and Sewerage Benchmarking Report
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- NHMRC/NRMMC 2011. Australian Drinking Water Guidelines
- NSW Office of Water 2014. Water Supply and Sewerage Strategic Business Planning and Financial Planning Checklist
- NSW Office of Water 2015. 2013-14 NSW Water Supply and Sewerage Performance Monitoring Report
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- NSW Public Works 2015. Upper Hunter Shire Council Drinking Water Management System, NSW Public Works
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- Singleton Council 2019. Business Continuity Sub Plan - Water & Sewer Telemetry, Singleton Council
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- Singleton Council 2021. Water Restriction Enforcement Policy
- Singleton Council 2022, Singleton Local Emergency Management Plan (EMPLAN)
- Singleton Council 2022. Singleton Local Emergency Management Plan, Singleton Council
- Water Management Act 2000 (NSW) from <https://legislation.nsw.gov.au/view/html/inforce/current/act-2000-09>
- Upper Hunter Shire Council 2013. UHSC IT Disaster Recovery Plan, Upper Hunter Shire Council



# Appendices

# Appendix A

## **DPI Water Best Practice Management Guidelines – Drought Management Plan checklist**



## Appendix D - Drought Management

### Check List – August 2007

A comprehensive drought management plan details the demand and supply issues to be addressed during drought conditions and includes adoption of a schedule of trigger points for the timely implementation of appropriate water restrictions. Appropriate drought management planning will ensure that town water supplies with significant storage do not fail in times of drought.

Drought management planning includes documenting basic data on water demands, rainfall, evaporation, records of past droughts, the existing water supply system, and its water resources, and strategies to achieve the objective of having sufficient water to satisfy the basic needs of the community.

This check list is essentially a road map to assist LWUs to quickly implement sound drought management planning. LWUs should have a sound drought management plan in place and be ready to implement their plan when drought conditions arise.

### Drought Management – Check List

Topic	Outcome Achieved
1. Executive Summary	<input checked="" type="checkbox"/> Covers all major issues, objectives, planning, strategies and monitoring for existing essential supplies of water to the service area(s).  <input checked="" type="checkbox"/> Includes a summary of the drought management plan and an adopted schedule of trigger points for timely implementation of appropriate water restrictions.
2. Background	A. <input checked="" type="checkbox"/> Includes the existing water supply system(s) in the service area(s) and a locality map.  B. <input checked="" type="checkbox"/> Includes history of past droughts.  C. <input checked="" type="checkbox"/> Includes information on the impact of past droughts on water services, eg. restrictions, effect of restrictions on demands, any emergency sources identified, etc.
3. Objectives	A. <input checked="" type="checkbox"/> Identifies key objectives required to maintain a basic/restricted supply to all users. There is a need to consider social and environmental impacts.  B. <input checked="" type="checkbox"/> Tailor strategies relevant to the service areas.  C. <input checked="" type="checkbox"/> Endorse and implement a plan that minimises the risk of the community running out of water.



## Drought Management – Check List

Topic	Outcome Achieved
4. Data	<p>A. <input checked="" type="checkbox"/> Identification of all communities served by the LWU's reticulated water supply, those with private reticulated water services and those with no reticulated water services within the service area(s).</p> <p>B. <input checked="" type="checkbox"/> Identification of any properties, businesses, other LWUs etc. that may seek water in times of drought.</p> <p>C. <input checked="" type="checkbox"/> Identification of all water requirements. Identify the normal and minimum potable and non-potable water requirements.</p> <p>D. <input checked="" type="checkbox"/> Identify water dependent industry/businesses, any fire fighting requirements and opportunities for recycled water use.</p> <p>E. <input checked="" type="checkbox"/> Includes a description and plan of all water supply schemes in the service area(s).</p> <p>F. <input checked="" type="checkbox"/> Includes height/storage volume and height/surface area graphs for all water supply dams and weirs.</p> <p>G. <input checked="" type="checkbox"/> Historical performance of rivers, dams, weirs and bores in previous droughts.</p> <p>H. <input checked="" type="checkbox"/> Includes the average rainfall figures and evaporation rates.</p> <p><b>Note:</b> All data to be specified on a daily basis.</p>
5. Plan	<p>A. <input checked="" type="checkbox"/> Demand management options.</p> <p>B. <input checked="" type="checkbox"/> Restriction strategies including means and methods for the enforcement of restrictions and the expected results of imposing restrictions.</p> <p>C. <input checked="" type="checkbox"/> Adopted schedule of trigger points for the timely implementation of appropriate water restrictions in order to minimise the risk of failure in times of drought.</p> <p>D. <input checked="" type="checkbox"/> Availability of alternative water sources (including estimated costs and times to implement).</p> <p>E. <input checked="" type="checkbox"/> Water cartage options.</p> <p>F. <input checked="" type="checkbox"/> Identify legislation, local laws and council policies affecting the contingency arrangements.</p> <p>G. <input checked="" type="checkbox"/> Links to water sharing plans/committees, water management plans/committees, irrigators, etc.</p>



## Drought Management – Check List

Topic	Outcome Achieved
	H. <input checked="" type="checkbox"/> Impact of extraction on downstream stakeholders. I. <input checked="" type="checkbox"/> Impact of reduced flows in watercourses. J. <input checked="" type="checkbox"/> Level of prediction and intervention. K. <input checked="" type="checkbox"/> Identify human resource requirements.
6. Monitoring During Drought	A. <input checked="" type="checkbox"/> Daily monitoring of demands. B. <input checked="" type="checkbox"/> Daily monitoring of water supply sources (dams, bores and streams). C. <input checked="" type="checkbox"/> Monitoring impact of restrictions on consumption D. <input checked="" type="checkbox"/> Monitoring the electrical conductivity, alkalinity and algae levels in the water sources.
7. Consultation	<input checked="" type="checkbox"/> Comprehensive media strategy and public consultation. <input checked="" type="checkbox"/> Regular consultation with appropriate government agencies (DWE, DECC, NSW Health etc).
8. Operation of Drought Management Plan (DMP)	A. <input checked="" type="checkbox"/> DMP should discuss, analyse and identify any impact on other regions and localities ie. upstream, downstream or conjunctive water users. B. <input checked="" type="checkbox"/> DMP should demonstrate a sustainable strategy that considers all other stakeholders. C. <input checked="" type="checkbox"/> DMP documents an agreed procedure for progressive implementation of water restrictions.

## REFERENCE



*Drought Management Guidelines*, NSW Local Government Water Directorate, December 2003.

For further information and assistance, please contact Stephen Palmer, Manager Planning on 8281 7331 or [Stephen.Palmer@dwe.nsw.gov.au](mailto:Stephen.Palmer@dwe.nsw.gov.au)

# Appendix B

## Failure Modes, Effects and Criticality Analysis (FMECA)

Refer to 12554712-PMD\_FMECA lconnect.xlsm

		Failure Modes, Effects and Criticality Analysis (FMECA) - Upper Hunter Shire Council (UHSC) Water Systems																							
Job Name:		UHWUA - Drought and Emergency Response Management Plan										Client		Upper Hunter Shire Council (UHSC)											
Workshop Attendees:		Irene Chetty MSC, Tegan Annas UHSC, Karen Davies UHSC, Alexander McKeown SC, Clayton Mischel SC, Brian Oberdorf SC, Andres Munoz GHD, Tyrone Cook GHD, Nathan Malcolm GHD, Brie Fisher GHD																							
Ref.	Site	Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S*O*D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S*O*D)	Comments				
								Severity	Occurrence	Detectability							Severity	Occurrence	Detectability						
		Aberdeen Bore Pump	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source No SCADA alarm for failure	Not wired to telemetry	2	5	5	50	Back up power - Modify for 'hardwired' generator connection and connect to SCADA	Back up power source would need to be hard wired in	UHSC				2	5	1	10	No direct notification via SCADA is received if pump is not working. In direct notification will occur from the high lift pumps cutting out due to not enough water being received in the wet well. (The low lift pumps and aberdeen bore pump both run into the wet well and flowrate from both is needed to keep up with high lift pumps pumping out of wet well)			
		Aberdeen Bore Pump	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and-tear)	Pumps unable to effective function and/or unable to switch on/off correctly.	Standard maintenance procedure and operations procedures. No SCADA alarm for failure	Standby pump not available. Pump not off the shelf model, typically taking 12 weeks to arrive. Pump has been replaced twice in the last 18 months.	3	4	2	24	Install a reliable pump. Connect to SCADA	Keeping critical spare too expensive	UHSC				3	4	1	12	We don't get a notification that the pump itself isn't working but as it runs with the low lift pump the wet well will not receive enough water and the high lift pumps will stop running due to not enough water			
		Aberdeen Wet Well	Structural damage to the Collection well	Deterioration of well due corrosion or otherwise.	Collection Well leaking and/or rupture. Well required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.		4	2	1	8	Maintenance change - establish preventative maintenance program	No structural assessment completed	UHSC				4	2	1	8				
		Low Lift Pumps (Aberdeen)	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effective function and/or unable to switch on/off correctly.	Standard maintenance procedure and operations procedures.	Standby pump available (future marked for duty/standby arrangement)	3	2	2	12	Design review - assess system under current conditions and modify design if required		UHSC				2	2	2	8	Current valve arrangement only allows for one of the duty/standby pump to be used. Upgrade to fix this likely to occur next year (2022)			
		Low Lift Pumps (Aberdeen)	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	No back up power source	Switchboard so old repairs are not an option. It is unlikely an electrician would hardwire a back up power supply to pumps due to age of switchboard	3	2	2	12	Renew switchboard	Switchboard and electrics due for upgrade next year (2022)	UHSC				3	2	2	12				
		Aberdeen High Lift Pump Station	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effective function and/or unable to switch on/off correctly.	Standby pump available, but currently not working on telemetry Standard maintenance procedure and operations procedures.	Aberdeen may drawdown the 3 reservoirs and High Level Tank, however pumps must be back online before tanks can no longer supply the end user demand	2	4	1	8	Maintenance change - keep critical equipment spare	Duty standby arrangement for pumps, no other spare.	UHSC				1	3	1	3	Aberdeen reservoir system will have 1.5 days of water before pumps are required to be running again			
		Aberdeen High Lift Pump Station	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	SCADA alarm for failure	SCADA would send a fault alarm notifying operators	3	3	1	9	Renew switchboard	Slightly newer than Low Lift PS. Has duty/standby. Is a critical asset to deliver to Aberdeen reservoirs. Electrical system becoming outdated, not as bad as low lift. On SCADA. Backup power can be hardwired in	UHSC				1	3	1	3	High lift pump has VSD			
		Aberdeen Chlorine Dosing Plant	Dose system fault	Low / high chlorine levels outside of CCP / OCP	Unable to treat system to a drinking water standard	Back up power source to be hardwired in	No SCADA alarm present to alarm dosing outside of parameters (system not shown on SCADA). System relies on operator to check chlorine levels at reservoir (checks occur once per day). Alarm for leak detection only	4	3	5	60	Install chlorine analyser. Connect to SCADA	1 chlorine dosing pump, 2 pumps, one to Aberdeen, one to Scone. No duty/standby arrangement. Spares are available.	UHSC				2	3	1	6	Severity reduced due to monitoring and SCADA alarm			
		Aberdeen Chlorine Dosing Plant	Failure to activate dosing process	Electrical, mechanical, or otherwise	Unable to treat system to a drinking water standard	Standard maintenance procedure and operations procedures. Spare pumps available	No SCADA alarm for failure. System relies on operator to check chlorine levels at reservoir (checks occur once per day)	2	4	5	40	Install No. 2 pump for chlorine dosing. Connect pumps to SCADA	1 chlorine dosing pump, 2 pumps, one to Aberdeen, one to Scone. No duty/standby arrangement. Spares are available.	UHSC				2	4	1	8	Severity reduced due to monitoring and SCADA alarm			
		Aberdeen Reservoir No.1, 2, 3	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.	Bidirectional flow between reservoirs, each can supply the end users. No way of isolating res 1 (old res) isolation valves not operational	2	3	3	18	Maintenance change - establish preventative maintenance program	Structural assessment done a couple years ago, to be confirmed.	UHSC				2	3	1	6				
		Aberdeen Reservoir No.1, 2, 3	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Bidirectional flow between reservoirs, each can supply the end users.	1	2	2	4	Maintenance change - keep critical equipment spare		UHSC				1	1	2	2				
		High Level Tank	Structural damage to the Tank	Deterioration of Tank due corrosion or otherwise.	Tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.	Due for replacement	4	3	2	24	Maintenance change - establish preventative maintenance program	Structural assessment done a couple years ago, to be confirmed.	UHSC				2	3	1	6				
		High Level Tank Pumps 1 & 2	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source Assume SCADA alarm for failure	Back up pump available	2	3	1	6	Back up power - Modify for 'plug in' or 'hardwired' generator connection as needed	In process of installing new VSD. Duty/standby arrangement	UHSC				2	3	1	6				



Ref.	Site	Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S*O*D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S*O*D)	Comments
								Severity	Occurrence	Detectability							Severity	Occurrence	Detectability		
		High Level Tank Pumps 1 & 2	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch on/off correctly.	Standby pump available, however if the Hatten inline pump that was installed in 1988 has not been replaced, can assume the pump is not useable. Standard maintenance procedure and operations procedures.	Back up pump available	2	3	1	6	Maintenance change - keep critical equipment spare		UHSC			2	3	1	6	
		Rotork Valve between Res 1 and 3	Failure of valve (Mechanical)	Damage to valves	Valve unable to open/close	Isolation valve either side of the the rotork valve	Rotork valve has recently been replaced (2019)	2	3	2	12			UHSC			2	3	2	12	
		Rotork Valve between Res 1 and 3	Failure of valve ( Electrical)	Power failure to site	Valve unable to open/close	Turn off valve manually	Valve not on telemetry but notification for high level in the reservoir 2 full overflow inground res(2) before it overflows new res(3))	1	3	2	6			UHSC			1	3	2	6	
		Transfer Mains to Aberdeen Reservoir/network	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to Aberdeen (reservoir provides back-up for certain period)	Standard maintenance procedure and operations procedures.		3	2	2	12	Maintenance change - establish preventative maintenance program	Main in good - fair condition	UHSC			3	1	2	6	
		Bore 1, 2 & 3 Pumps	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source	Not on SCADA. Generator can be hardened in. Ausgrid have planned shut down 4x a year for 6hrs each	2	3	4	24	Back up power - Modify for 'hardened' generator connection and connect to SCADA	SCADA to be put online in future (early next year for whole township). Back up elect hardware	UHSC			2	3	1	6	
		Bore 1, 2 & 3 Pumps	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch on/off correctly.	Standby pump available. Standard maintenance procedure and operations procedures.	Not on SCADA. 12 weeks to obtain backup. Fault light at WTP showing WTP is not receiving water from Bore pump	2	2	3	12	Connect to SCADA	Critical spare too expensive and not practical	UHSC			2	2	1	4	
		Merriwa WTP	Power failure	Power failure to site	Loss of water production	Back up power source. No SCADA alarm for failure	Assuming back up power source such as a generator is available and can be hardened in. Not on SCADA. yet	3	2	3	18	Back up power - Modify for 'hardened' generator connection and connect to SCADA	Halls Rd transfer pump supplied by electricity on WTP site. Cemetery tank will run out in half a day	UHSC			3	2	1	6	SCADA should be available for Merriwa WTP by May 2022
		Merriwa WTP	Failure to activate Sodium Hypochlorite Dosing	Electrical, mechanical, or otherwise	Unable to treat system to a drinking water standard	Standard maintenance procedure and operations procedures.	Not on SCADA. Manual dosing in system is possible in emergency situations	3	3	3	27	Maintenance change - keep critical equipment spare. Connect to SCADA	1 pump for chlorine dosing. Spare dosing pump available	UHSC			2	3	1	6	SCADA should be available for Merriwa WTP by May 2022
		Merriwa WTP	Tank structural failure	Deterioration of tank due corrosion or otherwise	Balance tank leaking and/or rupture	Standard maintenance procedure and operations procedures.	Not on SCADA	2	2	3	12	Maintenance change - establish preventative maintenance program		UHSC			2	2	3	12	
		Merriwa WTP	Failure of Chlorine analyser	Mechanical, electrical, or otherwise.	Loss of CCF monitoring		Not on SCADA. Manual testing available	2	2	3	12	Maintenance change - keep critical equipment spare		UHSC			2	2	1	4	SCADA should be available for Merriwa WTP by May 2022
		Merriwa WTP	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch on/off correctly.	Standby pump available. Standard maintenance procedure and operations procedures.	Not on SCADA	2	2	3	12	Maintenance change - keep critical equipment spare	Standby pumps available	UHSC			2	2	1	4	SCADA should be available for Merriwa WTP by May 2022
		Reservoir No. 1 & 2	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline/ for repairs.	Standard maintenance procedure and operations procedures.	Not the only water storage providing supply to Merriwa. Not on SCADA	2	2	3	12	Maintenance change - establish preventative maintenance program		UHSC			2	2	1	4	
		Reservoir No. 1 & 2	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow insteud of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Not the only water storage providing supply to Merriwa. Not on SCADA	2	2	3	12	Maintenance change - keep critical equipment spare		UHSC			1	2	3	6	
		Cemetery Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline/ for repairs.	Standard maintenance procedure and operations procedures.	Supply to garbage depot. Not on SCADA	3	3	3	27	Maintenance change - establish preventative maintenance program		UHSC			3	2	2	12	
		Cemetery Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow insteud of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Inlet/outlet valve	1	2	2	4	Maintenance change - keep critical equipment spare		UHSC			1	1	2	2	
		Transfer Mains	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to Merriwa	Standard maintenance procedure and operations procedures.	Mains being upgraded in February 2022	3	2	5	30	Maintenance change - establish preventative maintenance program	Old AC mains due for renewal in February 2022. No known main breaks.	UHSC			2	1	5	10	
		Boyd St Intake Pump	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Standard maintenance procedure and operations procedures.	Not set up for generator	2	3	1	6	Maintenance change - establish preventative maintenance program	New pump installed 2021				2	2	1	4	
		Boyd St Intake Pump	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch on/off correctly.	Standard maintenance procedure and operations procedures.	No back up available, 3-4 weeks for new pump	2	2	1	4	Maintenance change - establish preventative maintenance program	New pump installed 2021				2	1	1	2	
		Pages river offtake 1&2	Valves (mechanical failure)	Typical wear and tear	Valve unable to open/close	Standard maintenance procedure and operations procedures.	Valves not used for 4 years now.	2	3	5	30	Maintenance change - establish preventative maintenance program					2	2	5	20	
		Pages river offtake 1&2	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life		Alternate supply via Boyd St Intake and Score to Murrumbidgee Pipeline	Not regularly inspected	2	4	4	32	Maintenance change - establish preventative maintenance program					2	3	4	24	
		Alum dosing	Dose system fault	No aluminium supply for dosing.	Unable to treat system to a drinking water standard	Standard maintenance procedure and operations procedures.	Supply reserves are kept in storage in case supply isn't able to arrive in time for routine dosing. Not on SCADA	2	3	2	12	Design review - assess system under current conditions and modify design if required		UHSC			2	2	2	8	Dosing has not occurred for 4 years (since pages river offtake last used).
		Alum dosing	Failure to activate dosing process	Electrical, mechanical, or otherwise	Unable to treat system to a drinking water standard	Standard maintenance procedure and operations procedures.	Not on SCADA	2	3	3	18	Maintenance change - keep critical equipment spare	Dosing pump used. Dosing rate set m	UHSC			1	3	3	9	

~~Appendix D - 1255124.D MID\_FINEO41~~

Ref.	Site	Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S*O*D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S*O*D)	Comments
								Severity	Occurrence	Detectability							Severity	Occurrence	Detectability		
		Score to Wingen Pumps	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Generator can be hard wired in	Duty/assistant arrangement.	2	3	1	6			UHSC			2	3	1	6	
		Score to Wingen Pumps	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch 'on/off' correctly.		Back up supply when WTP off-line	3	2	2	12	Back up power - Modify for 'plug in' or 'hardwired' generator connection as needed		UHSC			2	2	2	8	
		Score to Murrumbidgee Chlorinator	Dose system fault	Low / high chlorine levels outside of CCP / OCP	Unable to treat system to a drinking water standard	Back up supply when WTP off-line.	Back up supply when WTP off-line. No SCADA alarm for dosing parameters, alternative source available	4	1	4	16	Maintenance change - establish preventative maintenance program	SCADA Alarm for analyser reaching high high level	UHSC			4	1	2	8	
		Transfer Mains to Murrumbidgee	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.		Loss of supply to Murrumbidgee			2	4	4	32		Had a few main breaks over past few months. Possible pressure related breaks when reservoir is at TWL. Spare replacement pipe etc available.	UHSC			2	2	2	8	
		Brushy Hill Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline for repairs.	Alternative feeds via Hunter River. Standard maintenance procedure and operations procedures.	Visual inspection is conducted Mon-Fri	4	1	2	8	Maintenance change - establish preventative maintenance program	No known conditions	UHSC			3	1	2	6	
		Brushy Hill Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Alternative feeds via Hunter River. Routine maintenance, system control alerts, and standard operation procedures followed.		2	3	2	12	Maintenance change - keep critical equipment spare		UHSC			1	3	2	6	
		Halcomb Hill Surge Tank (between togar and aberdeen)	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Surge tank leaking and/or rupture. Tank required to be taken due corrosion or otherwise.	Not on SCADA	Galvanised steel surge tank	3	4	4	48	Maintenance change - establish preventative maintenance program	Undertake condition assessment	UHSC			3	3	3	27	
		Halcomb Hill Surge Tank	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Incorrect operation of the tank.	Not on SCADA		3	2	4	24	Maintenance change - keep critical equipment spare		UHSC			2	2	4	16	
		Dan line surge tank	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Surge tank leaking and/or rupture. Tank required to be taken offline for repairs resulting in risk of pipeline failure from water hammer	Not on SCADA	Concrete surge tank	3	2	4	24	Maintenance change - establish preventative maintenance program	Undertake condition assessment	UHSC			3	2	3	18	
		Dan line surge tank	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Incorrect operation of the tank.	Not on SCADA		3	2	4	24	Maintenance change - keep critical equipment spare		UHSC			2	2	4	16	
		Togar Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline for repairs.	Alternative feeds via Glenbawn Dam. Standard maintenance procedure and operations procedures.	Roof in poor condition	4	4	3	48	Design review - assess system under current conditions and modify design if required	Assess potential for reservoir to be contaminated by birds/version entering through roof defects - Circular 18 assessment	UHSC			3	1	2	6	
		Togar Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Alternative feeds via Glenbawn Dam. Routine maintenance, system control alerts, and standard operation procedures followed.		2	3	2	12	Maintenance change - keep critical equipment spare		UHSC			1	3	2	6	
		Chlorination for Score from Aberdeen	Dose system fault	Low / high chlorine levels outside of CCP / OCP	Unable to treat system to a drinking water standard	Back up power source. SCADA alarm for failure	Levels not on SCADA	4	3	5	60	Install chlorine analyser. Connect to SCADA		UHSC			4	3	1	12	
		Chlorination for Score from Aberdeen	Failure to activate dosing process.	Electrical, mechanical, or otherwise.	Unable to treat system to a drinking water standard		Back up pump available	2	4	5	40	Connect to SCADA		UHSC			2	4	1	8	
		Chlorination for Score (Gundy Road)	Dose system fault	Low / high chlorine levels outside of CCP / OCP	Unable to treat system to a drinking water standard	Back up power source. SCADA alarm for failure (if pump doesn't not operate, no alarm, turned on for dosing outside perimeters)		4	3	5	60	Install chlorine analyser. Connect to SCADA		UHSC			4	3	1	12	
		Chlorination for Score (Gundy Road)	Failure to activate dosing process.	Electrical, mechanical, or otherwise.	Unable to treat system to a drinking water standard		Back up pump available	2	3	5	30	Connect to SCADA		UHSC			2	4	1	8	
		Score Intake Pump (ABN)	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	No back up power source. Assume SCADA alarm for failure	No generator can be hard wired in (contains VSD) switchboard too old. Can be led from Glenbawn (back up site)	4	4	1	16	Renew switchboard	HR intakes have 1 pump in old condition, part of 'Non-teen intake upgrade' Switchboards are oldest ones Council have. Need to confirm if genset could be hardwired into this arrangement.	UHSC			1	3	1	3	Pumpset part of upgrades to take place next year (2022)
		Score Intake Pump (ABN)	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch 'on/off' correctly.	No standby pump is available. Standard maintenance procedure and operations procedures.	Currently no standby pump available	2	2	1	4	Maintenance change - keep critical equipment spare		UHSC			1	2	1	2	
		Glenbawn Dam Pumps	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume alarm to SCADA	Provisions to hardwire a generator	4	2	1	8	Maintenance change - establish preventative maintenance program		UHSC			4	2	1	8	
		Glenbawn Dam Pumps	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch 'on/off' correctly.	Assume alarm to SCADA	Duty/standby arrangement	3	3	1	9	Maintenance change - establish preventative maintenance program		UHSC			3	3	1	9	
		Togar Reservoir Pump	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume SCADA alarm for failure	Duty/standby arrangement. Pump refurbished 2016. No generator can be hardwired in.	2	5	1	10	Maintenance change - establish preventative maintenance program	Duty/standby arrangement.	UHSC			2	5	1	10	
		Togar Reservoir Pump	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and tear)	Pumps unable to effective function and or unable to switch 'on/off' correctly.	Duty/standby arrangement. Standard maintenance procedure and operations procedures.		2	2	1	4	Maintenance change - establish preventative maintenance program	Duty/standby arrangement.	UHSC			2	2	1	4	
		Score Reservoirs 1, 2 and 3	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline for repairs.	Standard maintenance procedure and operations procedures.		3	1	2	6	Maintenance change - establish preventative maintenance program	No known issues	UHSC			2	3	1	6	
		Score Reservoirs 1, 2 and 3	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	All valves left in open position, if failure occurs it will fail on close. Still have 2 other reservoirs	1	2	2	4	Maintenance change - keep critical equipment spare		UHSC			1	2	2	4	
		High Zone Res pump station	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	No back up power source. SCADA alarm for failure		2	3	1	6	Maintenance change - establish preventative maintenance program		UHSC			1	3	1	3	

Ref.	Site	Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S'O'D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S'O'D)	Comments
								Severity	Occurrence	Detectability							Severity	Occurrence	Detectability		
		High Zone Res pump station	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and-tear)	Pumps unable to effectively function and/or unable to switch on/off correctly.	No standby pump is available. Standard maintenance procedure and operations procedures.		2	3	1	6	Maintenance change - keep critical equipment spare		UHSC			1	2	1	2	
		Satur Reservoirs	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline for repairs.	Standard maintenance procedure and operations procedures.		2	1	3	6	Maintenance change - establish preventative maintenance program	No known issues	UHSC			2	1	2	4	
		Satur Reservoirs	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		2	1	3	6	Maintenance change - keep critical equipment spare		UHSC			2	1	2	4	
		High Scone Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline for repairs.	Standard maintenance procedure and operations procedures.		2	2	2	8	Maintenance change - establish preventative maintenance program		UHSC			2	2	2	8	
		High Scone Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		2	2	2	8	Maintenance change - keep critical equipment spare		UHSC			2	2	2	8	
		Transfer Main Aberdeen to Scone	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to Scone	Alternative supply to Scone via Hunter River	Only notified when a member of the public calls in	4	4	3	48	List pipeline as a priority on mains renewal program	Aberdeen to Scone is extremely high risk pipe, old AC main has broken multiple times and runs through farmers properties.	UHSC			3	3	1	9	
		Transfer Main Glenbawn to nest of reservoirs	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to Reservoirs	Alternate supply to Scone via Hunter River	Alternate supply to Scone available via Hunter River	4	2	3	24	Maintenance change - establish preventative maintenance program	Glenbawn to Nest of reservoirs, has no known issues. Pipeline implemented in 2012 DN600 main.	UHSC			3	2	2	12	
		Transfer Mains Nest of reservoirs into Scone township	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to Scone township		Majority of trunk mains have been replaced still some old ones (70+ years)	2	2	2	8	Maintenance change - establish preventative maintenance program	Nest of reservoirs into Scone township, condition to be confirmed	UHSC			2	2	2	8	
		Bore Pumps 1 & 2	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source.	No spares, small pumps. Generator can be hardware'd in.	3	3	5	45	Back up power - Modify for 'hardware'd generator connection and connect to SCADA.	One small bore is not able to feed Cassilis if the other fails.	UHSC			3	3	1	9	
		Bore Pumps 1 & 2	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and-tear)	Pumps unable to effectively function and/or unable to switch on/off correctly.	Standby pump available. Standard maintenance procedure and operations procedures.	No spares, small pumps. Generator can be hardware'd in. If one bore fails other can still be used	3	3	5	45	Connect to SCADA	One small bore is not able to feed Cassilis if the other fails.	UHSC			3	3	1	9	
		Chlorine dosing	Failure of chlorine dosing pumps	Mechanical, electrical, or otherwise.	Low / high chlorine levels outside of CCP / OCP	SCADA alarm for failure. No SCADA alarm for low/high level alarms	Dosing present, standby pump available	4	2	5	40	Install No. 2 pump for chlorine dosing. Connect pumps to SCADA	1 pump with a spare available	UHSC			4	2	1	8	
		Chlorine dosing	Supply shortage	Unable to source chemical supply	Unable to dose the system	Storage of chemical on-site or with system authority	Enough chemical is stored on-site or with the system authority in case this scenario arises	2	1	2	4	Maintenance change - keep critical equipment spare		UHSC			1	1	2	2	
		Reservoir No.1, 2, 3, 4	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken offline for repairs.	Standard maintenance procedure and operations procedures.	Routine weekly maintenance checks	2	2	4	16	Maintenance change - establish preventative maintenance program	No known issues, to be confirmed with operator	UHSC			2	2	3	12	
		Reservoir No.1, 2, 3, 4	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Outlet valves have been replaced in 2021	2	1	4	8	Maintenance change - keep critical equipment spare		UHSC			2	1	3	6	
		Chlorine analyser	Failure of Chlorine analyser	Mechanical, electrical, or otherwise.	Loss of CCP monitoring	No SCADA alarm for low/high level alarms or analyser failure		4	3	5	60	Connect to SCADA		UHSC			4	3	1	12	
		Transfer Mains	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to Cassilis		Usually detected by member of public calling to notify of water leaking	2	2	5	20	Maintenance change - establish preventative maintenance program	No known issues	UHSC			2	2	4	16	

# Appendix C

## Template Water Efficiency Management Plan (WEMP)



# Water Efficiency Management Plan

## Template

Singleton Council

21 April 2022

→ The Power of Commitment

<b>Project name</b>		UHWUA - Drought and Emergency Response Management Plan					
<b>Document title</b>		Water Efficiency Management Plan   Template					
<b>Project number</b>		12554712					
<b>File name</b>		Document8					
Status Code	Revision	Author	Reviewer		Approved for issue		
			Name	Signature	Name	Signature	Date
[Status code]							
[Status code]							
[Status code]							
[Status code]							
[Status code]							

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# 1. Introduction

Everyone in the Upper Hunter Water Utilities Alliance (UHWUA) Region are being asked to reduce the amount of drinking water they use to help secure the regions precious water supplies.

Large industrial, commercial and institutional organisations play a significant role in improving water efficiency across the region.


All organisations using more than 5ML per year, must complete a Water Efficiency Management Plan (WEMP) in partnership with the UHWUA Councils.

The WEMP is a key input into strategic water planning for the region and assists with water supply contingency planning to respond to shocks and extreme variations (eg. major storm events, earthquake, drought, act of terrorism or unexpected asset failure).

The WEMP aims to continually improve water efficiency and identifies water saving actions in the short, medium and long term.

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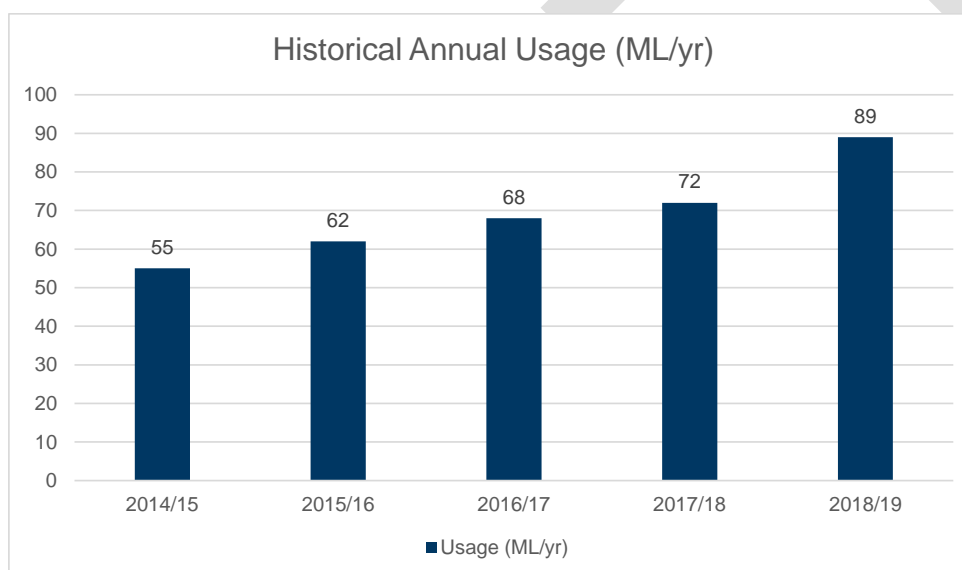
## 2. Customer Details

<b>Organisation name</b> Please show the business name as you would like it represented in marketing and communication materials		
<b>Operating name</b> If different from above		
<b>Account number (on bill)</b> If you do not have access to your bills, email 		
<b>Site address</b>		
<b>Core business operations at this site</b> What is your core business? What facilities are on site?		
<b>Details of existing water saving initiatives</b>		
<b>Organisation contacts</b>	Name:	
	Position:	
	Phone:	
	Email:	
<b>Water Management Team</b> To ensure your WEMP is a success, it is a good idea to establish a Drought and Emergency Response Management Team (DERMT). Decide who your appropriate contact(s) are and involve key staff members who may influence or have an understanding of how water is used at your site.	Name:	Position:
<b>Operational changes that may impact on water use over the next 5 years</b> Are you planning on expanding or contracting operations over next 5 years?		
<b>Peak industry body membership</b> Are you part of a relevant peak industry body? Who are they?		
<b>NABERS or Green Star Rating</b> Is your building NABERS or Green Star rated?		

### 3. Historical Water Usage from UHWUA Councils Supply

Year	Water Use (ML/yr)	Identify Water Use Increase or Decrease	Reason e.g. nothing changed, days of operation, production rate, plant shutdown, site construction

The water use from the above table is displayed in a graph format below:



Effective water management to identify water savings requires a good understanding of all water used on site, both potable and non-potable. For example, potable, groundwater (bore), recycled, stormwater or other non-potable sources etc.

Water use shown above was determined by:

## 5. Action Plan

Description of Water Efficiency Measure	1.	2.	3.	4.	5.
<b>Action(s) to be Taken</b> eg. Sub-metering plan Detailed audit Leak detection Install water efficient devices Encourage water efficient behaviours Recycled water / bore water / rainwater tanks					
<b>Expected Water Savings (kL/day)</b>					
<b>Water Cost Savings (\$/yr)</b>					
<b>Expected Other Savings eg. energy, trade waste charges. (\$/yr)</b>					
<b>Estimated Cost to Implement Actions (\$)</b>					
<b>Estimated Annual Costs (\$)</b>					
<b>Payback Period (yrs)</b>					
<b>Possible Risks/Challenges to Implementation</b> Eg. Technical, administrative, environmental					

Further Recommendations:

## 6. Benchmarking and targets

Current Year	Water used (ML)	Business Activity Measure (e.g. person, tonnage, m <sup>2</sup> )	Benchmark (eg. kL/person or kL/m <sup>2</sup> GLA)

% reduction target	
--------------------	--

The water reduction target has been set based on:



## 7. UHWUA Councils and Customer Partnership

Thanks very much for working with us to complete the WEMP. Please note:

- UHWUA Councils and the customer may comment on the WEMP and/or request additional information relating to the WEMP
- UHWUA Alliance Councils and/or the customer may request a meeting as required to update the plan and report on WEMP implementation progress.
- UHWUA Councils and the customer acknowledge participation and sharing of knowledge.

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Failure Modes, Effects and Criticality Analysis (FMECA) - Singleton Council (SC) Water Systems																												
UHWUA - Drought and Emergency Response Management Plan										Client		Singleton Council (SC)																
Irene Chetty MSC; Tegan Annas UHSC; Karen Davies UHSC; Alexander McKewen SC; Clayton Mielche SC; Brian Oberdorf SC; Andres Munoz GHd; Tyson Cook GHd; Nathan Malcolm GHd; Brie Fisher GHd																												
Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S-O-D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S-O-D)	Comments									
						Severity	Occurrence	Detectability							Severity	Occurrence	Detectability											
Glennies Creek Pump Station	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Back up power source. SCADA alarm for failure	Assuming back up power source such as a generator is available and SCADA alarm present for failure	2	5	1	10		Glennies Creek Dam gravitates WTP. WPS is a booster WPS. Gen set available	SC				2	2	1	4									
Glennies Creek Pump Station	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Standard maintenance procedure and operations procedures. SCADA alarm for failure	Assuming there is a typical period of time for routine maintenance and/or pump replacement	2	2	1	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2									
Transfer pipeline (Glennies Creek Pump Station to Obanvale WTP)	Pipeline rupture, cracking, leaking, or otherwise damaged resulting in a water egress point.	Unanticipated pressure surges, inappropriate joining methods, ground settlement, root intrusion, pipes nearing end-of-design-life	Loss of supply to treatment plant, damages to surrounding environment and/or persons nearby.			3	2	2	12	Design review - assess system under current conditions and modify design if required		SC				3	1	1	3									
Judan Road Pump Station	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Assuming back up power source such as a generator is available and SCADA alarm present for failure	1	5	1	6	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed	Small PS	SC				1	3	1	3									
Judan Road Pump Station	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Assuming SCADA alarm for failure and there is a typical period of time for routine maintenance and/or pump replacement	1	2	1	2	Maintenance change - keep critical equipment spare		SC				1	1	1	1									
Powdered Activated Carbon (PAC) Plant	Failure to activate dosing process	Electrical, mechanical, or otherwise	Water odour and taste altered from what is 'normal' to end-users	Standard maintenance procedure and operations procedures.	PAC is primarily used for reducing of taste and odour compounds and high algae events. Non-critical as water is still potable without this treatment (however community will raise questions as, odour, and taste of water may be impacted). Assuming SCADA alarm for failure Source: <a href="https://www.singleton.nsw.gov.au/986/Earthly-Odour-and-Taste-Geosmin">https://www.singleton.nsw.gov.au/986/Earthly-Odour-and-Taste-Geosmin</a>	1	2	1	2	Maintenance change - establish preventative maintenance program		SC				1	1	1	1									
Powdered Activated Carbon (PAC) Plant	Corrosion	Structural damage to PAC dosing tank	Tank leaking / rupture if significant damage	Standard maintenance procedure and operations procedures.	Assuming there is a typical period of time for routine maintenance and/or inspections	1	3	3	9	Maintenance change - establish preventative maintenance program		SC				1	2	3	6									
Powdered Activated Carbon (PAC) Plant	Mechanical and/or electrical failure of dosing pump	General wear-and-tear, or power outage	Unable to dose the water for odour and taste purposes	Standard maintenance procedure and operations procedures.		1	3	3	9	Maintenance change - keep critical equipment spare	Only 1 dosing pump	SC				1	2	3	6									
Powdered Activated Carbon (PAC) Plant	Mechanical and/or electrical failure of water pump	General wear-and-tear, or power outage	Unable to pump water from PAC	Standard maintenance procedure and operations procedures.	Assuming water can bypass PAC if PAC is offline	1	3	3	9	Maintenance change - keep critical equipment spare	Only 1 dosing pump	SC				1	2	3	6									
Obanvale WTP	Power failure	Power failure to site	Loss of water production	Back up power source. SCADA alarm for failure	Assuming SCADA alarm for failure and a back up power source such as a generator is able to be activated in a reasonable space of time to avoid serious consequences.	5	3	1	16	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed	Generator back up	SC				3	3	1	9									
Obanvale WTP	Potassium permanganate dosing system damaged	Electrical, mechanical, or otherwise	Unable to dose water with potassium permanganate, impacting upon odour and taste of water when reaching end users	Standard maintenance procedure and operations procedures.	Assuming SCADA would detect a mechanical and/or electrical failure of mixers and associated equipment.	1	1	1	1	Maintenance change - establish preventative maintenance program	Plant not often used	SC				1	1	1	1									
Obanvale WTP	Fluoridation dosing system damaged	Electrical, mechanical, or otherwise	Unable to dose water with fluoride and not meeting ADWG and HBT requirements	Standard maintenance procedure and operations procedures.	Assuming SCADA or otherwise would detect a mechanical and/or electrical failure of mixers and associated equipment.	2	2	1	4	Maintenance change - establish preventative maintenance program	Plant not often used	SC				1	1	1	1									
Obanvale WTP	Hydrated lime dosing system damaged	Electrical, mechanical, or otherwise	Unable to dose water with hydrated lime, impacting upon water pH levels.	Standard maintenance procedure and operations procedures.	Assuming SCADA or otherwise would detect a mechanical and/or electrical failure of mixers and associated equipment.	1	1	1	1	Maintenance change - establish preventative maintenance program	Plant not often used	SC				1	1	1	1									
Obanvale WTP	Filters damaged	Electrical, mechanical, or otherwise	Unable to filter out solids which are based through the dosing system.	Standard maintenance procedure and operations procedures.	GHd's 2014 review of the filter walls shows exposed aggregate due to corrosion of filter walls.	3	4	2	24	Maintenance change - establish preventative maintenance program		SC				3	2	2	12									
Obanvale WTP	Clear Water Balance Tank damaged	Deterioration of tank due to corrosion or otherwise	Balance tank leaking and/or rupture	Standard maintenance procedure and operations procedures.	Assuming an Operator will detect filter leak	5	1	2	10	Maintenance change - establish preventative maintenance program	Only 1 tank	SC				3	1	2	6									
Obanvale WTP	Damage to sensors and/or other ancillary measurement equipment within the WTP	General wear-and-tear, electrical failure, or other damages	Failure of measurements to be recorded in SCADA systems	Standard maintenance procedure and operations procedures.	Assuming SCADA would detect a failure	2	3	1	6	Maintenance change - keep critical equipment spare		SC				1	3	1	3									
Obanvale WTP	Failure of chlorine dosing pumps	Mechanical, electrical, or otherwise.	Low / high chlorine levels outside of CCP / OCP	SCADA alarm for failure	2 pumps	2	3	1	6	Procedure change	SCADA available.	SC				1	2	1	2									
Obanvale WTP	Failure of Filter outlet channel sample pump	Mechanical, electrical, or otherwise.	Loss of flow for filtered water analysis	SCADA alarm for failure		2	3	1	6	Maintenance change - keep critical equipment spare	Council to confirm if sample pump exist	SC				1	2	1	2									
Obanvale WTP	Failure of Turbidity analyser	Mechanical, electrical, or otherwise.	Loss of CCP monitoring	SCADA alarm for failure		2	3	1	6	Maintenance change - keep critical equipment spare	SCADA available.	SC				1	2	1	2									
Obanvale WTP	Failure of Chlorine analyser	Mechanical, electrical, or otherwise.	Loss of CCP monitoring	SCADA alarm for failure		2	3	1	6	Maintenance change - keep critical equipment spare	SCADA available.	SC				1	2	1	2									
Retreat Reservoir	Structural damage to the tank	Deterioration of tank due to corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.	Reservoir feeds Retreat WPS (also fed by Obanvale WTP) and by extension the Watlie Ponds supply area.	3	3	3	27	Maintenance change - establish preventative maintenance program		SC				3	1	3	9									
Retreat Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Reservoir feeds Retreat WPS (also fed by Obanvale WTP) and by extension the Watlie Ponds supply area. Assuming SCADA alarm for failure.	1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	1	2	2									

Failure Modes, Effects and Criticality Analysis (FMECA) - Singleton Council (SC) Water Systems																				
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Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S-O-D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S-O-D)	Comments	
						Severity	Occurrence	Detectability							Severity	Occurrence	Detectability			
Retreat WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Pump station boosts flows from Obanvale WTP to Watlie Ponds supply areas, however it is not the only source of water to Watlie Ponds. Assuming SCADA alarm for failure	2	5	1	10	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed	Uncertain on backup	SC				1	3	1	3	
Retreat WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Pump station boosts flows from Obanvale WTP to Watlie Ponds supply areas, however it is not the only source of water to Watlie Ponds.	2	2	1	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2	
Riv's Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.		4	3	3	36	Reservoir capital works required	Structural assessment needed	SC				2	1	2	4	
Riv's Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		3	2	2	12	Maintenance change - keep critical equipment spare		SC				2	1	2	4	
McDougal's Hill WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Only form of supply to the connected supply area	2	5	1	10	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed		SC				1	3	1	3	
McDougal's Hill WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Only form of supply to the connected supply area	2	2	1	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2	
McDougal's Hill Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture.	Standard maintenance procedure and operations procedures.		2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	2	2	8	
McDougal's Hill Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2	
Apex Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.	Only form of supply to the connected supply area	3	3	3	27	Maintenance change - establish preventative maintenance program	Similar to Retreat Reservoir.	SC				3	1	3	9	
Apex Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Only form of supply to the connected supply area	1	2	2	4	Maintenance change - keep critical equipment spare	Telemetry repeater site. Important site for radio comms. Switchover not great when this fails.	SC				1	1	2	2	
Gowrie Pump WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Only form of supply to the connected supply area	3	5	1	15	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed	Has a generator. Similar to previous.	SC				2	3	1	6	
Gowrie Pump WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Standard maintenance procedure and operations procedures.	Only form of supply to the connected supply area	2	2	1	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2	
Gowrie Reservoirs 1 & 2	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures. Two reservoirs for redundancy		2	3	3	18	Maintenance change - establish preventative maintenance program	2 x reservoirs. Can be run off a different system via control valves / McDougals	SC				2	2	2	8	
Gowrie Reservoirs 1 & 2	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	2	2	4	
Gowrie Dosing	Failure of chlorine dosing pumps	Unable to treat system to a drinking water standard	Standard maintenance procedure and operations procedures.	Assuming SCADA alarm present for failure	Check if dosing present	2	3	1	6	Procedure change	Dosing is present. 1 dosing pump.	SC				2	2	1	4	
Waterworks WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Only form of supply to the Naleen WPS and by extension Mt Thornley supply area and Broke supply area	3	5	1	15	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed		SC				2	3	1	6	
Waterworks WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Only form of supply to the Naleen WPS and by extension Mt Thornley supply area and Broke supply area	2	2	1	4	Maintenance change - keep critical equipment spare		SC				2	1	1	2	
Waterworks Dosing	Failure of chlorine dosing pumps	Mechanical, electrical, or otherwise.	Low / high chlorine levels outside of COP / OCP	SCADA alarm for failure	Check if dosing present	2	3	1	6	Design review - assess system under current conditions and modify design if required		SC				2	3	1	6	
Hardy's Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.		2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	2	2	8	
Hardy's Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	1	2	2	
Dulcamah WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Only form of supply to the connected supply area	3	5	1	15	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed		SC				3	3	1	9	
Dulcamah WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Only form of supply to the connected supply area	2	2	1	4	Maintenance change - keep critical equipment spare		SC				2	1	1	2	
Dulcamah Dosing	Failure of chlorine dosing pumps	Mechanical, electrical, or otherwise.	Low / high chlorine levels outside of COP / OCP	SCADA alarm for failure	Check if dosing present	2	3	1	6	Design review - assess system under current conditions and modify design if required		SC				2	1	1	2	
Minimbah Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.		2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	2	1	4	
Minimbah Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	1	2	2	
Naleen WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Only form of supply to the Mt Thornley supply area and Broke supply area	3	5	1	15	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed		SC				2	3	1	6	
Naleen WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Only form of supply to the Mt Thornley supply area and Broke supply area	2	2	1	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2	
Thornley Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture.	Standard maintenance procedure and operations procedures.		2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	2	1	4	
Thornley Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	1	2	2	
Broke WPS	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure	Only form of supply to the Broke Reservoir and by extension to the Broke supply area.	3	5	1	15	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed		SC				2	3	1	6	
Broke WPS	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.	Only form of supply to the Broke Reservoir and by extension to the Broke supply area.	2	2	1	4	Maintenance change - keep critical equipment spare		SC				1	2	1	2	
Broke Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.	Only form of supply to the Broke supply area.	2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	2	1	4	
Broke Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.	Only form of supply to the Broke supply area.	1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	1	2	2	

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Component / Plant Name	Failure Mode	Failure Cause	Effect/Consequence	Safeguards / Current Controls	Comments	Initial Risk Rating			Current RPN (S*O*D)	Corrective Action / New Controls	Comments	Responsibility	By When	Decision / Status	Residual Risk Rating			Residual RPN (S*O*D)	Comments							
						Severity	Occurrence	Detectability							Severity	Occurrence	Detectability									
Bayswater WTP	Failure of chlorine dosing pumps	Mechanical, electrical, or otherwise.	Low / high chlorine levels outside of CCP / OCP	SCADA alarm for failure	Check if dosing present	2	3	1	6	Design review - assess system under current conditions and modify design if required	Basic P&ID available. No SCADA on AGL side. No direct SCADA.	SC				1	2	1	2							
Bayswater WTP Storage Reservoir	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.		2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	3	1	6							
Bayswater WTP Storage Reservoir	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare		SC				1	1	2	2							
Plasnett Break Tank	Break tank structural failure	Deterioration of tank due corrosion or otherwise	Break tank leaking and/or rupture	Standard maintenance procedure and operations procedures. SCADA alarm for failure		2	3	3	18	Maintenance change - establish preventative maintenance program		SC				2	2	1	4							
Plasnett Break Tank	Failure of instrumentation and/or ancillary items	General wear-and-tear, electrical failure, or other damages	Failure for correctly measurements to be recorded in SCADA systems	Standard maintenance procedure and operations procedures.		1	2	2	4	Maintenance change - keep critical equipment spare	SCADA on level and alarming. No flowmeter	SC				1	1	2	2							
Jerrys Plains Pump Station	Failure of pumps (electrical)	Power failure to site	Pumps unable to switch 'on'	Assume no back up power source. Assume SCADA alarm for failure		2	5	1	10	Back up power - Modify for 'plug-in' or 'hardwired' generator connection as needed	SCADA available + Chlorine dosing station. Pumps to a reservoir in Jerrys Plains	SC				2	3	1	6							
Jerrys Plains Pump Station	Failure of pumps (mechanical)	Damage to pumps (e.g. cavitation, typical wear-and-tear)	Pumps unable to effectively function and/or unable to switch 'on/off' correctly.	Assuming a standby pump is available. Standard maintenance procedure and operations procedures.		1	2	1	2	Maintenance change - keep critical equipment spare	SCADA available + Chlorine dosing station. Pumps to a reservoir in Jerrys Plains	SC				1	1	1	1							
Sodium Hypochlorite Dosing	Dose system fault	Low / high Sodium Hypochlorite levels outside of CCP / OCP	Unable to treat system to a drinking water standard	Back up power source. SCADA alarm for failure	Assuming back up power source such as a generator is available and SCADA alarm present for failure	4	4	2	32	Maintenance change - keep critical equipment spare.		SC				2	4	1	8							
Jerrys Plains Reservoir 1&2	Structural damage to the tank.	Deterioration of tank due corrosion or otherwise.	Balance tank leaking and/or rupture. Tank required to be taken 'offline' for repairs.	Standard maintenance procedure and operations procedures.		2	3	3	18	Maintenance change - establish preventative maintenance program	Added during workshop. Assuming same as Broke	SC				2	3	1	6							
Jerrys Plains Reservoir 1&2	Damage to the tanks ancillary items such as level sensors and inlet/outlet valves.	Mechanical, electrical, or otherwise.	Inaccurate measurements in SCADA and/or incorrect flow into/out of the tank.	Routine maintenance, system control alerts, and standard operation procedures followed.		1	2	2	4	Maintenance change - keep critical equipment spare	Added during workshop. Assuming same as Broke Res	SC				1	1	2	2							
Transfer pipeline (Bayswater WTP to Jerrys Plains Pump Station)	Pipe break, crack, rupture, etc.	Pipe aged, root intrusion, ground settlement, etc.	Contamination of supply due to contaminants within the ground infiltrating into the water main	Monthly surveillance monitoring by Operator to detect leaks		2	2	4	16	Design review - assess system under current conditions and modify design if required		SC				2	2	2	8							