Kadaltilla

Adelaide Park Lands Authority

Water Sources and Forward Planning for Drought Conditions

This presentation outlines the broad program of work and activities being undertaken across the Corporation in response to potential drought conditions in the Park Lands

Tom McCready
Director, City Infrastructure

Kadaltilla
Adelaide Park Lands Authority

Key Messages

- The purpose of this presentation is to outline the broad program of work and activities being undertaken across the City of Adelaide in response to potential drought conditions in the Adelaide Park Lands.

- On 27 February 2025, an undertaking was given *to provide the Board, at a future meeting, with a summary of the broad body of work/activities being undertaken across the Corporation in response to potential drought conditions in the Park Lands (including infrastructure, asset management, security of and alternative water sources, systems of water irrigation, tree species selection for resilience).*

- This presentation provides a high-level summary of key initiatives.

Outline

- Strategic alignment
- Water snapshot and usage
- Infrastructure (capital investment)
- Asset management
- Security of and alternative water sources
- Systems of water irrigation
- Tree species selection for resilience

Strategic alignment

Strategy/Plan	Alignment
Adelaide Park Lands Management Strategy – Towards 2036	This presentation supports *Goal 3 — Natural Systems, Cultural Landscapes and Climate Resilience* and the New Moves Strategic Priority *Strategic Water Resources*
2023-2028 Strategic Plan	Strategic Plan Alignment – Environmental Performance This presentation addresses key action 2.6 *Improved Irrigation and Water Management across the Park Lands*

Strategic alignment

Adelaide Park Lands Management Strategy - Towards 2036

Strategy 3.11: Enhance the ecological health of Adelaide Park Lands watercourses including slowing the flow, improving water quality and greater diversity of aquatic and terrestrial flora and fauna

Strategy 3.12: Ensure sustainable water use across the Adelaide Park Lands

Priorities:

- Restore Riparian Corridors: Realign and naturalise creek networks to improve water quality, biodiversity movement and fauna habitat. Incorporate opportunities for informal recreation and nature play, boardwalks and walking trails, and wayfinding and interpretive signage.

- Strategic Water Resources: Improve the sustainable sourcing and use of water throughout the Adelaide Park Lands for sport, recreation, planting, amenity and cooling.

Strategic alignment

Adelaide Park Lands – Partnership Opportunities (Link 1)

Strategic Water Resources

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Cooler and More Climate Resilient Landscapes

Project value:	$1m estimated
Existing investment:	$80k for Strategic Water Resource Study
Partnership theme:	Natural Systems, Cultural Landscapes and Climate Resilience
Outcomes:	A more sustainable and climate resilient Adelaide Park Lands using recycled water
We are seeking:	Multi-level government partners
Status:	Scoping Stage

Growth around the Adelaide Park Lands will increase use and demand for higher quality open spaces.

Partnerships in sustainable water supply throughout the Adelaide Park Lands will provide opportunities to improve our sporting landscapes, provide greening and cooling opportunities, and increase amenity and areas for activation.

Irrigation Water Use

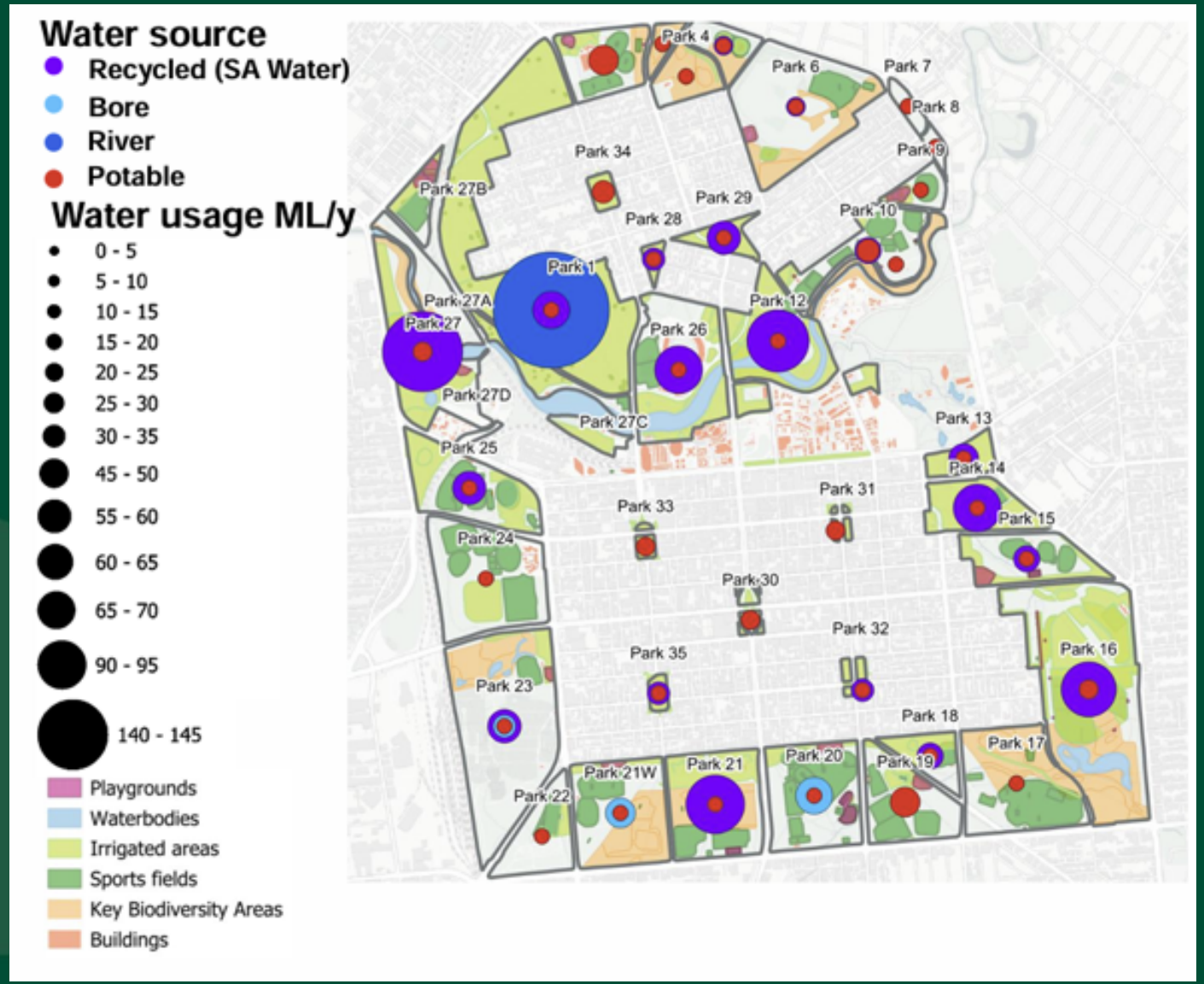
The table below outlines water use within the Park Lands. Noting low rainfall in 2024 and 2025 Financial years resulted in an increase in irrigated water use.

Quantity in Kilolitres	FY2021	FY2022	FY2023	FY2024	FY2025	FY2026*
Potable Water	101,492	99,830	83,719	119,118	123,756	108,497
Recycled Water (GAP)	628,713	654,403	352,046	743,684	935,427	384,362
Torrens River Water	231,531	201,149	130,915	251,149	231,900	155,209
Total	**961,736**	**955,382**	**566,680**	**1,113,951**	**1,291,083**	**648,068**

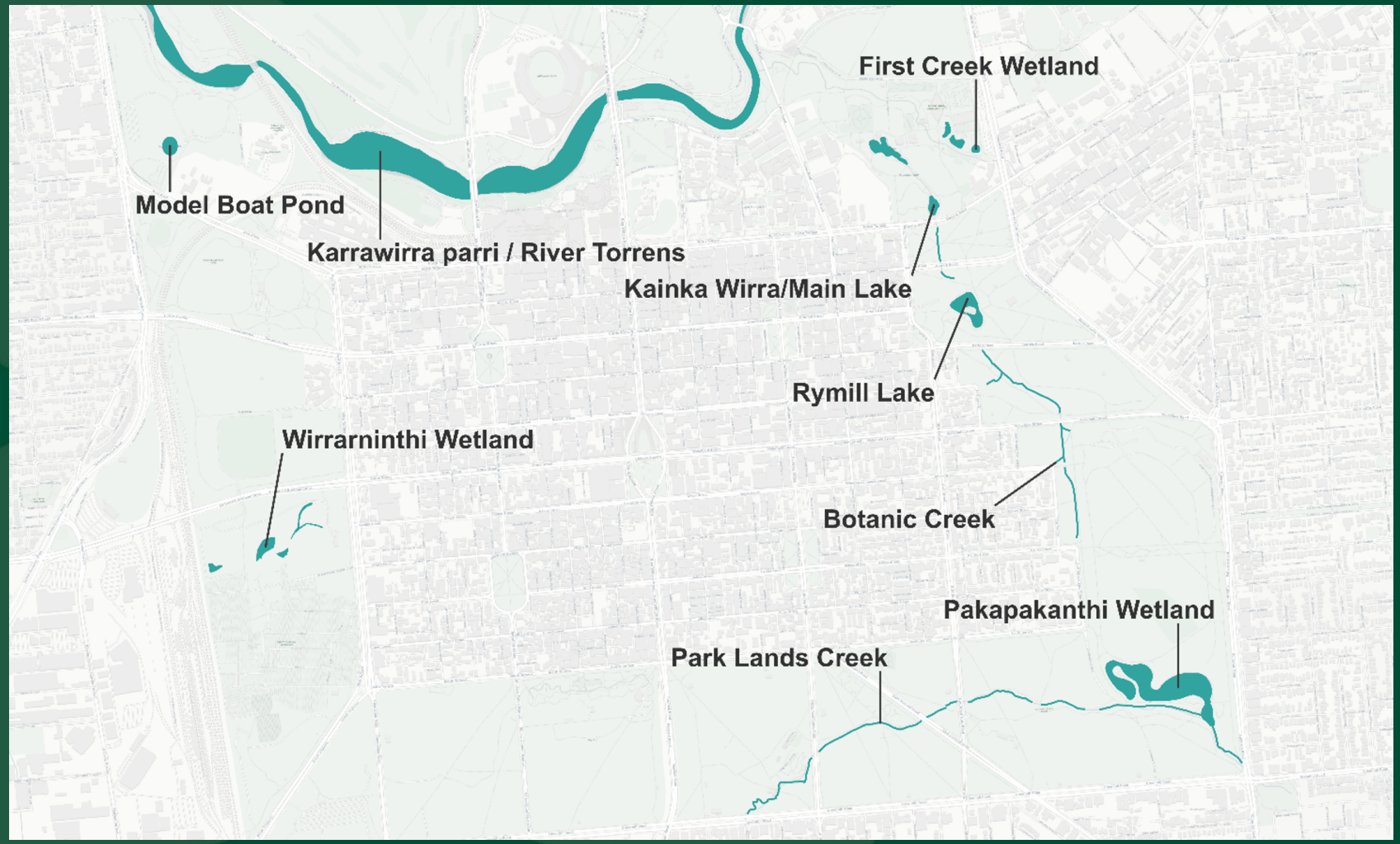
Top Users

- Top 5 users and their yearly water demand:
  - Possum Park / (Park 1) – 176ML/y

    Note: Agreement with State Government for use of up to 300ML/y as part of the licence arrangements.
  - Bonython Park / Tulya Wardli (Park 27) – 97ML/y
  - Red Gum Park / Karrawirra (Park 12) – 75ML/y
  - Veale Park / Walyu Yarta (Park 21) – 67ML/y
  - Victoria Park / Pakapakanthi – 64ML/y
  - Each of the above Parks use 80% recycled water and 20% potable except the Golf Course which uses 20% recycled water and 80% from the River Torrens
- Parks 3,7 and 8 are not irrigated and Park 4 has limited water use
- Parks 4,11,17,19, Wellington, Light and Hindmarsh Squares use 100% potable - 57ML/y
- Bore allocation is 228ML/y but use is 137ML/y (i.e. 60%)



Creeks and Wetlands



Infrastructure (capital investment)

- In drought conditions the use of potable water may be restricted, and the use of other water sources will be vital to maintain green infrastructure within the Park Lands.
- Rymill Park Lake Renewal undertook significant alteration to change from a mixture of GAWRS / Potable water to stormwater supply. Captured and pre-cleansed at Park 16 Wetland, supplied to underground storage tanks in Park 14.
- These tanks top up the lake as required. Adjacent Bio-filter Garden beds that use native plants and specialized soil media to further filter the water periodically on a re-circulating pump system.
- Tree planting program in the Park Lands has replanted 535 trees since January 2024.

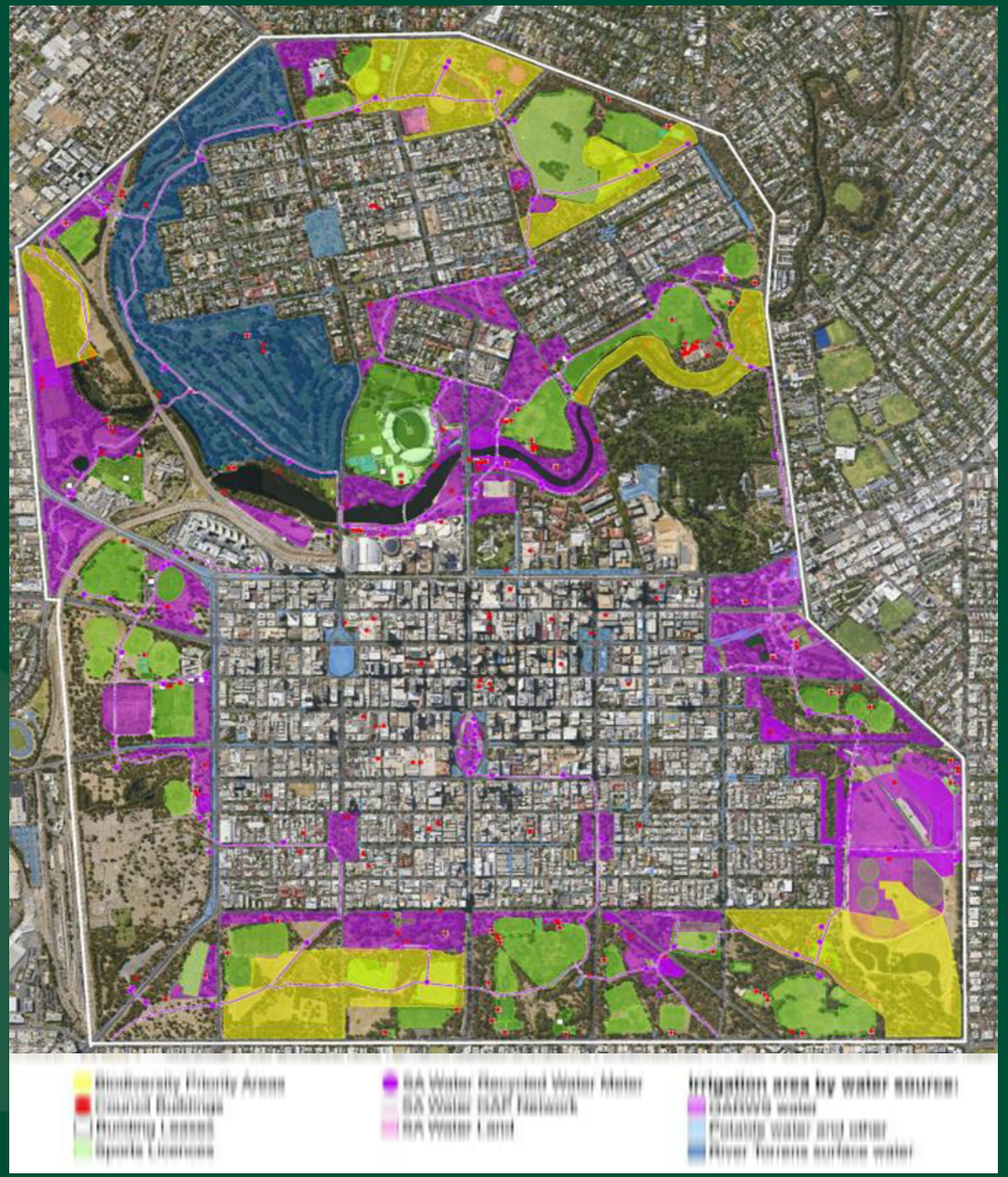
Asset management

- The irrigation renewal program has renewed systems within Parks 14, and 15; with works being prepared for future delivery in Parks 10, 12, 13, 16, 21, 22, 23, and 26.
- Channel rehabilitation within Park 19 and 20 includes riparian planting in Botanic Creek Park 16, with Park 15, and 13 being prepared for future delivery.
- Continued development of a Stormwater Management Plan (SMP).
- Continued maintenance program for irrigation.

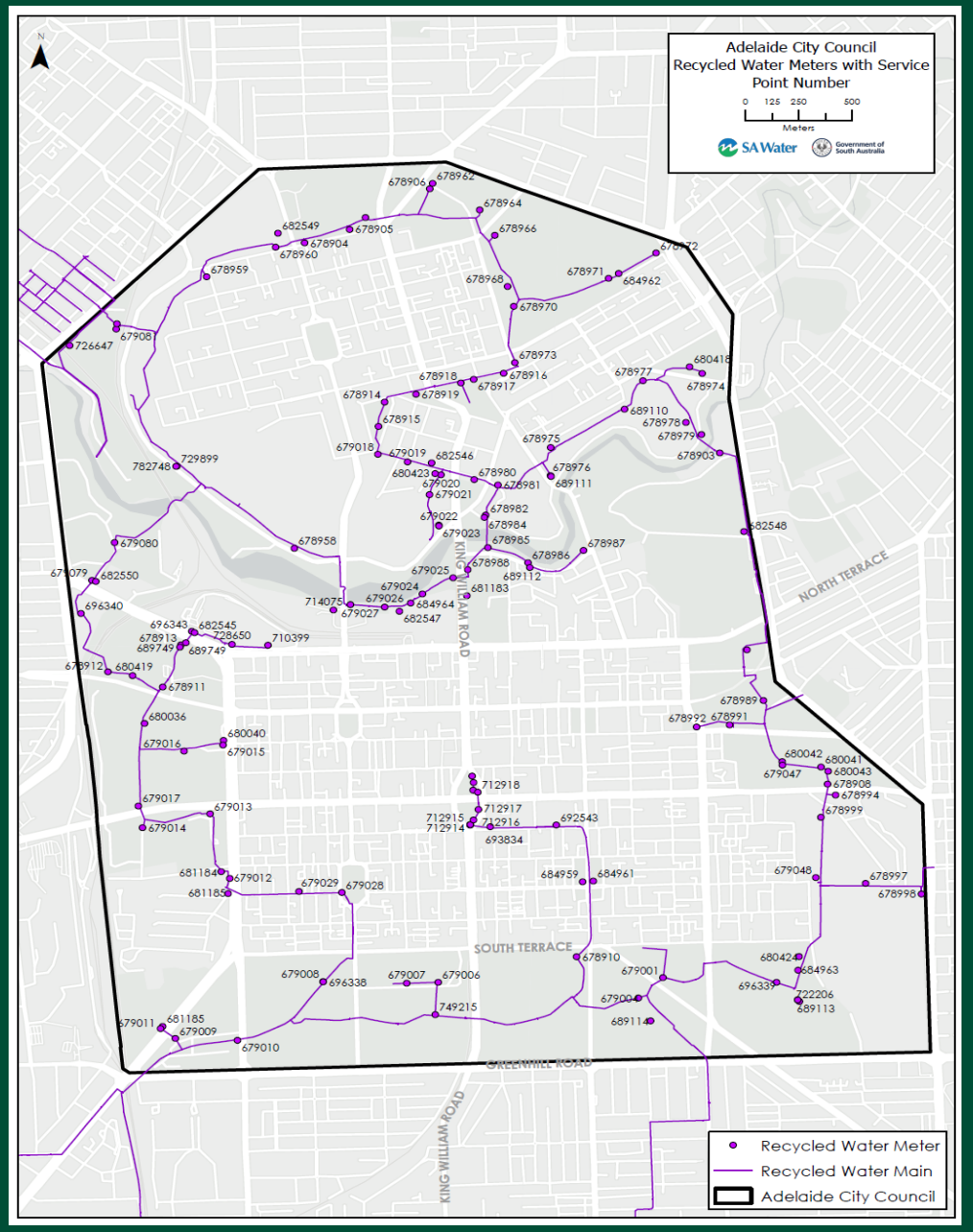
System management

- All Park Lands that are irrigated are on a centrally located remote-control system.
    - Allows for seasonal programming to scale by percentage
    - Can be remotely controlled to adjust for rain and failed infrastructure events
- Sites are frequented by parks and irrigation team members, who identify where irrigation adjustments may be needed or maintenance required.
- New build parks are built to specification and programmed specifically for the park's water requirements, aiming to maintain plant health while using the least amount of water possible.
- Parks are usually split into sections, watered across multiple dates for shorter watering times to reduce run off, allow soak in time and deeper absorption. The shorter watering times also allow us to water at night, further reducing water loss by avoiding evaporation.
- Parks are classified by level of service, and each level gets a different standard of care. Irrigation is based on higher levels of service receiving more watering, while lower levels receive less. During drought and extended high temperatures, irrigation is reduced, with the biggest cuts to lower levels of service areas.

Irrigation Map



Glenelg Adelaide Recycled Wastewater Scheme (GARWS)



Security of and alternative water sources

- **Glenelg Adelaide Recycled Wastewater Scheme** (GARWS) using the Glenelg to Adelaide Pipeline (GAP) water – the contract provide us access to – 700ML minimum use
    - Discussions continue with SA Water concerning improvements to the GAWRS network that will enable CoA to better manage irrigation needs across the Park Lands including water security, increased water capacity and identifying Park Land spaces that are currently not irrigated.
- **Torrens Lake Water** (NAGC) and potable water are used to supplement where GAP is not available.
- **Eastern Region Alliance** (ERA) partnership as an alternative solution, was investigated by Sustainable Water Resource Study.
    - Findings noted supply volume is insufficient to meet present demands for Park 10, business case was not viable.
    - Discussions continues in relation to the future activation of Parks 3, 4 & 5.

Tree species selection for resilience

- A resilient and sustainable urban forest relies on strong diversity of both species and age. This diversity helps the forest adapt to climate change, pest and disease threats, and other urban challenges.
- Species will be selected to balance site conditions, diversity, resilience and habitat value:
- When managing diversity the following are considered:
  - **Match to site conditions:** Consider available space above and below ground, proximity to communication and utility infrastructure, legislative requirements, and climate suitability.
  - **Build climate resilience:** Select and trial species that are tolerant of projected climate conditions (using climate analogues) and less prone to pests and diseases.
  - **Improve diversity:** Strengthen ecosystem resilience, reduce pest and disease risk, and create more adaptable and visually interesting urban landscapes.
  - **Enhance biodiversity:** Prioritise species that support natural habitat opportunities in suitable locations.

Thank You.

Kadaltilla
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