



CITY OF

Playford



Playford Water Security Update

Presenters: Chris Burgess

Date: 13 April 2016



Overview

- 1) Council Current Infrastructure and Water Security Project Introduction.
- 2) Councils Managed Aquifer Recharge (MAR) Licensing Requirements and Process Council has Undertook to apply for a EPA works approval for Injection Recycled WRSV Water.
- 3) Scientific Modelling and Risk Assessment
- 4) Council and Community Consultation
- 5) Current Project Status





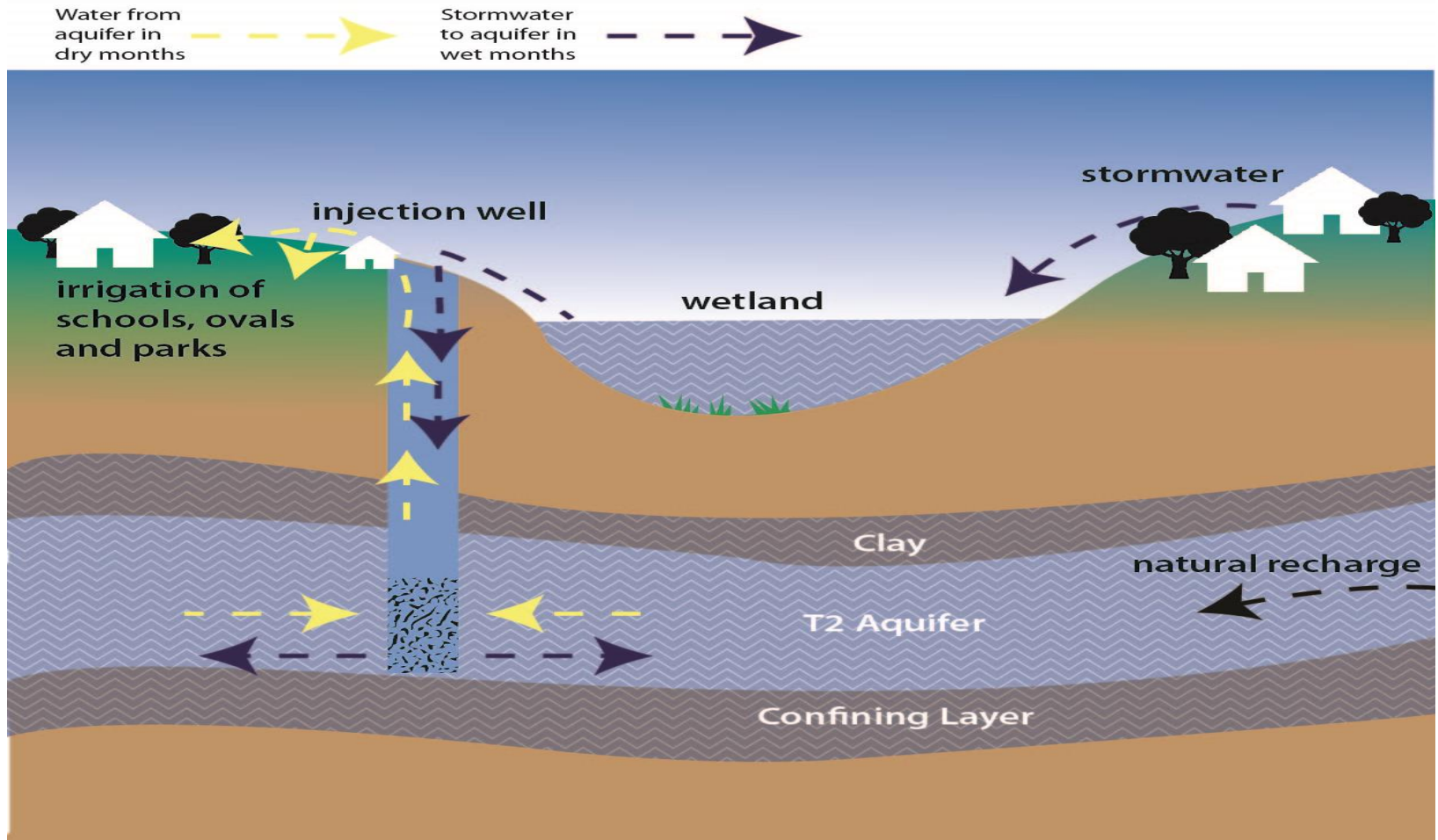
Council's Current Managed Aquifer Recharge (MAR) Infrastructure includes:

- Stebonheath Wetland
- Munno Para Wetland
- Stebonheath Curtis Wetland
- Olive Grove / Ridley T1 Well
- Yorktown Road – Pump Station
- 38 km's Reticulation Pipe and Infrastructure
- 8 * Tertiary T2 MAR Recharge Wells
- 5 * Tertiary (4 T1 & 1 T2) Groundwater Wells
- NEXY Harvesting Basin



Water Proofing Playford Summary

Managed Aquifer Recharge (MAR)





Water Proofing Playford Summary

- Annually, Council Captures & Harvests Stormwater over 5 months.
- Annually, Council Irrigates 35 Different Sites Across the City over 7 months.
- Council Recycled Water Business Model has forecast future annual total water usage of around 600 mega litres with sales near \$1.5 million.
- Council Water Business is Licenced by the following Stakeholders:
 - ESCOSA
 - EPA
 - DEWNR
 - SA HEALTH
 - OTR



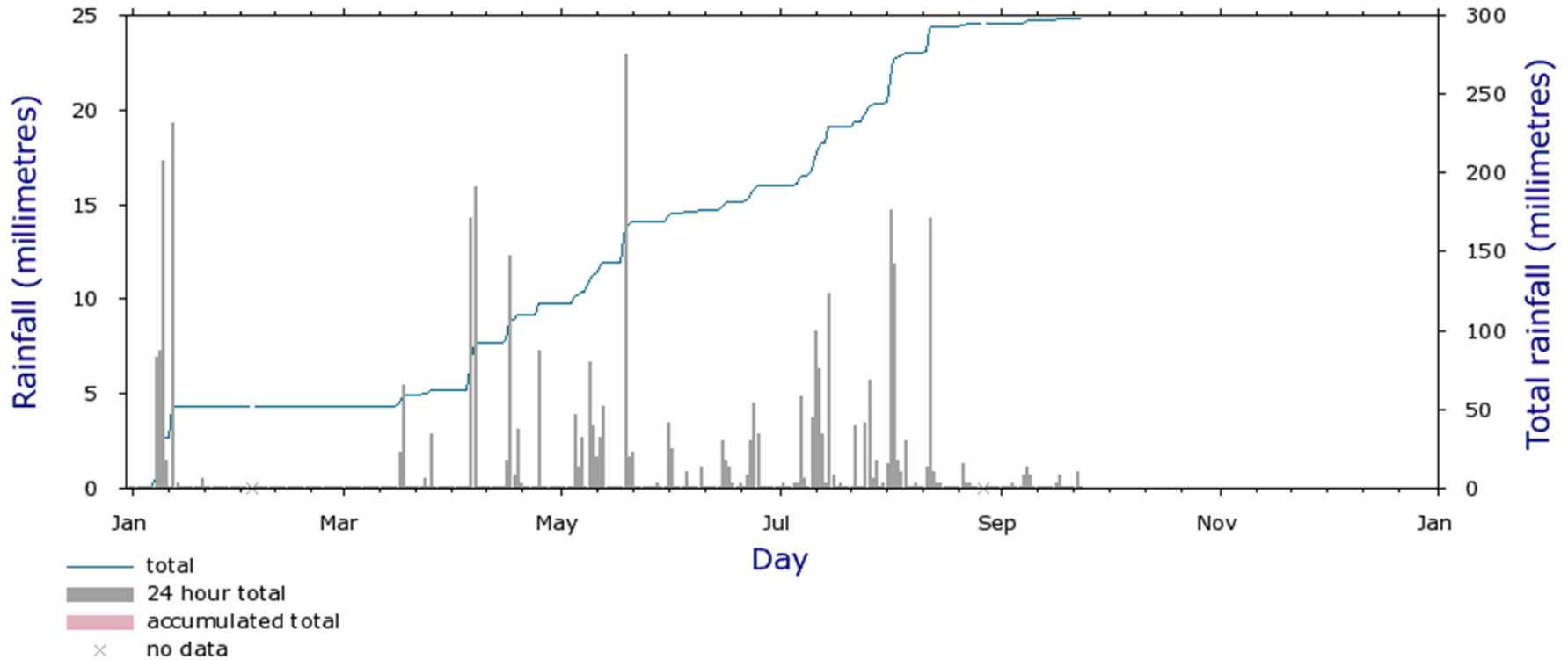


Water Proofing Playford Summary

Year	Injection - Megalitres (ML)	Extraction - Megalitres (ML)	Ground water Well usage ML	Internal Customer Usage - ML	External Customer Usage - ML	Water Balance - ML
Injection Prior to June 2010 - at Andrews Farm	316					
Commencement of Playford's new ASR sites - Andrews Farm, Nexy Basin Munno Para and Olive Grove Wetlands						
2010-11						
Total	187	117	31	13	16	108
2011-12						
Total	248	46	33	0	26	311
2012/13						
Total	128	126	31	0	33	346
2013/14						
Total	228	148	58	119	19	540
2014/15						
Total	335	320	156	262	33	485
2015/16						
Current -up to September	312	32	21	26	3	763

Water Proofing Playford Summary

Edinburgh RAAF (023083) 2015 rainfall



Note: Data may not have completed quality control.

Climate Data Online, Bureau of Meteorology
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Council Water Security - WRSV Project Introduction:

- Council Investigated Potential Water Security Options for its Recycled Water Business.
- Connecting to SA Water's Virginia Pipe Line (VPS) Scheme and taking winter water for injection into the existing Stebonheath Curtis MAR Scheme became a viable business option.
- Council has worked in collaboration with key stakeholders investigating new opportunities for securing water for City of Playford's Water Business.
- Council liaised with Trility PTY and negotiated on an annual volume of Recycled Winter Bolivar Water.





Process Council Undertook to apply for a EPA works approval:

- Aqueon was consulted and engaged to undertake modelling work for Council proposed project.
- Council also engaged Newland Water to develop a Risk Assessment for the Recycled Water Project and assist with the process to attain a Works Approval for Council Project.
- Communication plan and strategy was compiled with Councils Communication Team.
- Playford and Consultant met with EPA, DEWNR and SA Health to clearly discuss its proposed project and clarify all compliance requirements.
- Playford provided a comprehensive Risk Assessment and Numerical Ground Water Model for the Stebonheath Curtis Site to the EPA.

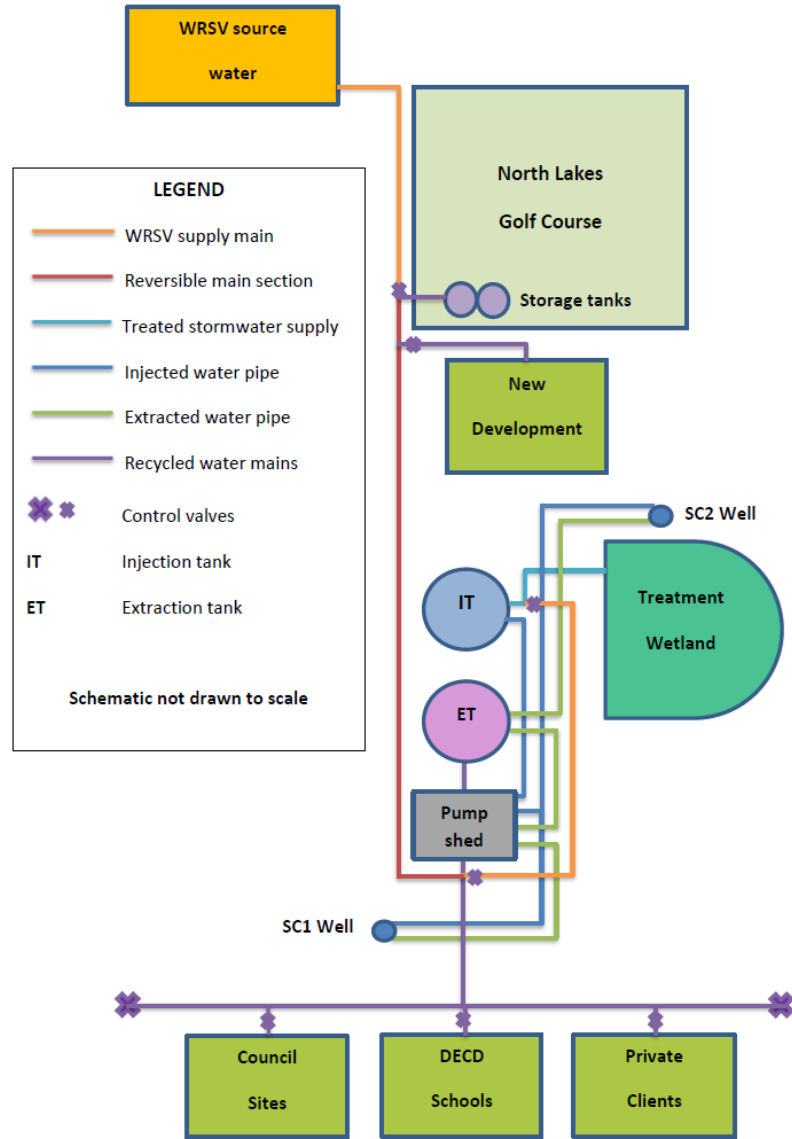
Stebonheath Curtis Wetland



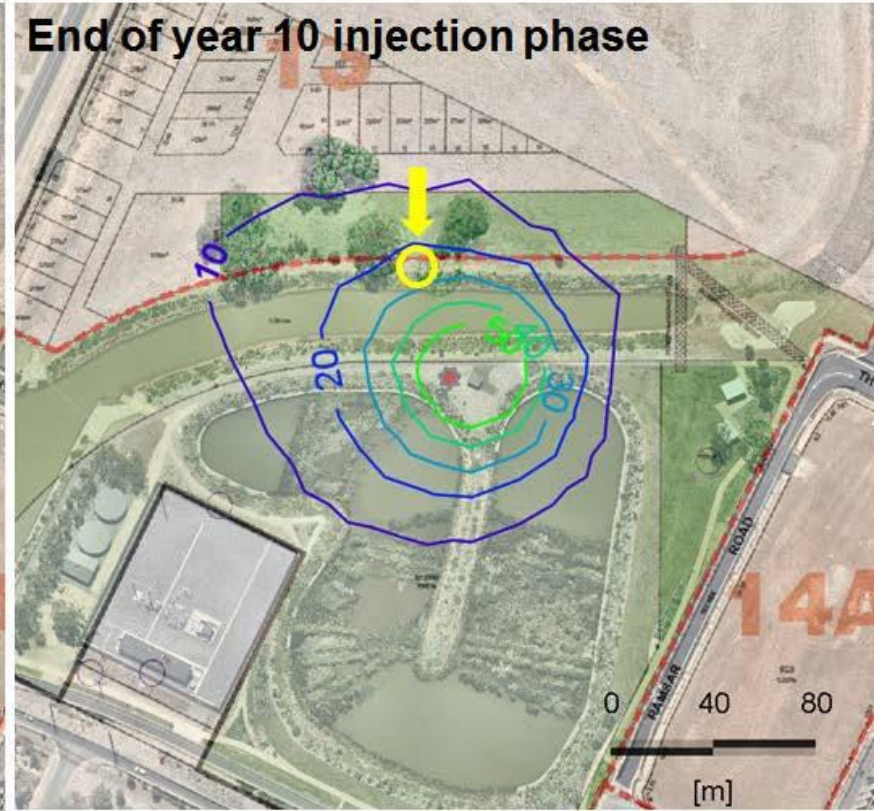
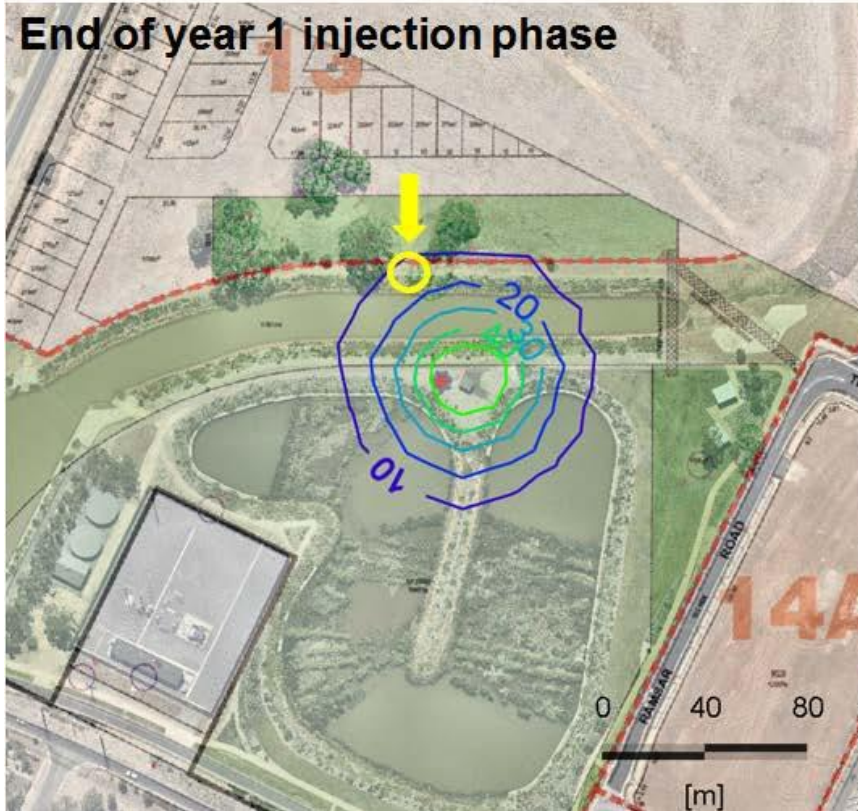
T2 Well - SC- 2 Proposed Bolivar Recycled Water
T2 Well - SC-1 Harvested Stormwater



Flow Diagram of Council Proposed Recycled Water Scheme



Stebonheath Curtis Wetland





Scientific Modelling and Risk Assessment Summary:

- Council have been advised that Risk Assessment and Playford Modelling will be referenced in EPA future issued Works Approval to Council and Associated Compliance Conditions will apply.
- Recommended Council Injects Recycled Storm water into 1 T2 well and Recycled WRSV water into the other T2 well at Stebonheath and Curtis.
- Management strategy to involve 50/50 division of injecting both recycled water types and extract 100%.
- Undertake monitoring regime in T2 Observation well, to be finalised / endorsed by EPA on Works Approval with associated compliance conditions.
- Undertake further modelling in a few years, use latest FEFLOW Modelling Software Package.



Council and Community Consultation:

- Council compiled a communication plan which outline a process for liaising with all stakeholders.
- Council developed a information fact sheet with identified stakeholders (EPA, DEWNR and SA Water) which was provided to Councillors and Residents.
- Council also Presented Water Proofing Update to its Local Councillors.
- Communication was sent out to the local community via a Waterproofing Playford Recycled Water FAQ – Information sheet. In accordance with EPA Requirement 60metres from the Neighbouring Property.
- Council also worked with the EPA in Regards to the Correspondence that they Compiled and sent out to Local Residents in Playford.



Water Proofing Playford Pipe-Line Extension





Summary

- Playford successfully Manages a complex network which includes ASR bores for treated stormwater.
- Effective Operational and Management controls have been established to minimise the existing system.
- The inclusion of treated recycled WRSV water as a supplementary water to assist the security of Council's Irrigation Supply.
- Playford is confident it has the Knowledge, Experience and Expertise to Safely Accommodate the Expansion and Ongoing Safe Operation and management of their MAR Systems.



Questions

