ERA WATER

Shakespeare Ave Booster Pump Station and Storage Tank
Community Information Day, 8th October 2016
Questions and Answers

Q: How do you measure the benefit of the project?

A: The construction of the project will realise both tangible and intangible benefits.

The scheme is aiming to harvest approximately 500ML per annum of stormwater runoff, which will be available to be reused for irrigation of parks, reserves and school ovals throughout the region. This will have two key impacts. Firstly it will mean that potable water which may be sourced from the River Murray or the desalinisation plant will not be required for irrigation. Secondly it will decrease the regions vulnerability to water restrictions, which when last implemented resulted in the irrigation of a number of parks and reserves being ceased which significantly reduced the amenity and amount of vegetation in those reserves. Thirdly in the long term it will provide a cheaper source of water reducing Council's operating expenditure.

Furthermore, the harvesting will result in the removal of pollutant loads from Third and Fourth Creeks entering the River Torrens and ultimately released to sea. Stormwater treatment systems will function to trap and treat pollutants carried in urban stormwater runoff. Typically these pollutants consist of leaves, litter, sediments, heavy metals, oils and grease, and nutrients which are harmful to our waterways and Gulf. The stormwater treatment systems will trap and treat these pollutants from the harvested stormwater and in doing so, will protect our environments.

In addition to increasing amenity at many local parks and reserves the wetlands will also provide biodiversity and improved local amenity.

As part of the project a school education program is being run by the project team. In addition, Water Watch has run educational programs based on wetlands and the diverse ecosystems that they support for many years.

Q: Do the aquifers overflow?

A: The aquifers being utilised as part of this project are fractured rock aquifers. These aquifers differ from the limestone aquifers, which are used as part of the Salisbury and Playford Aquifer Storage and Recover (ASR) schemes. The City of Tea Tree Gully has been operating fractured rock ASR schemes for over 10 years. If the aquifers are over pressurised they can become artesian which may result in overflow of other bores that are connected to that aquifer that have not been properly capped or sealed. Considerable groundwater modelling and field testing is undertaken before an ASR scheme is developed to model the impact of the injection and extraction regime prior to its implementation. The ASR schemes require a license to both inject and extract from the aquifer from the EPA and DEWNR. Monitoring and reporting to

these Government Departments is required as part of the system operation. System controls such as pressure sensors and switches are also included as part of the scheme to monitor aquifer responses. The schemes are regulated and monitored to measure the impact on the aquifers and controls are in place to mitigate the potential for uncontrolled release of the water from the aquifer.

The following links provide useful information on ASR Schemes and stormwater harvesting in general:

Department of Environment, Water and Natural Resources 2013:

http://www.naturalresources.sa.gov.au/files/sharedassets/adelaide_and_mt_lofty_ranges/water/managing_water_resources_docs/stormwater-treatment-reuse-fact.pdf

CSIRO 2015:

https://research.csiro.au/mar/using-managed-aquifer-recharge/

Q: Are council rates being increased as part of this project?

A: The City of Campbelltown is no longer a constituent Council within ERA Water. As such they are not directly involved in the construction or operation of this project. They are not a financial contributor to the scheme and as such rates should not be impacted by the construction of the scheme. Water from the scheme will however be made available to Council should they wish to purchase it for use within their reserves within the scheme extent.

The City of Campbelltown should be consulted directly in relation to any questions pertaining to rates and Council expenditure.

Q: Will there be a concrete top on the tank?

A: There will be a concrete lid on the top of the tank to ensure it is trafficable and people are not able to fall into the tank. The tank lid will be covered as per the landscaping plans. However there will be a small access point visible at the surface to allow access to the tank for maintenance.

Q: What will the top of the tank look like?

A: The top of the tank will predominantly not be visible. Landscaping is planned both on the lid and surrounding the tank.

Q: How many trees will be removed to build the tank and the pump station, including the land re-formation around the new tank?

A: There are no trees under the direct footprint of the tank or pump shed. Every effort will be made to preserve the trees that are nearby to the tank and pump station. There are no significant or regulated trees is the vicinity of the tank and pump station site. The location has been chosen to utilise the natural contour of the land and to minimise the impact on existing trees.

Q: What size is the tank?

A: The tank will have a 250 KL capacity and has an approximate diameter of 12 metres and will be 3 metres deep buried into the embankment.

Q: What is the purpose of the tank?

A: The tank acts as a water holding or buffer tank. The tank provides a hydraulic buffer in the system and allows transfer of water from the harvesting sites, which are near the River Torrens, through Campbelltown and to the Burnside Council area. The pump station boosts pressure in the system enabling direct irrigation of reserves and parks negating the need for holding tanks and booster pump stations at each reserve site to be irrigated.

Q: What is the size of pump station building?

A: 6m x 4m and 2.5m high located at the bottom of the slope.

Q: Can the pump station building be lowered?

A: The floor level of the pump station shed has been based on potential flood levels from the adjacent creek.

Q: Will the pump station be noisy?

A: The pumps will be contained within an insulated shed. The shed has been designed to comply with EPA noise guidelines. The pumps will be tested during commissioning to ensure the installation complies with the design requirements. There are a number of these types of installations throughout the Cities of Tea Tee Gully, Playford and Salisbury. These sites can be visited to confirm the noise levels in operational systems.

Q: Have you considered the urban design of the pump station?

A: Yes, the urban design and visual impact of the building has been considered and is now being further reviewed following feedback and suggestions made by local residents at the Saturday 8 October 2016 Information Day at The Gums Reserve.

The most highly cited suggestion to reduce the visual impact of the pump station shed was to plant as much screening vegetation around it as possible. Some other suggestions included timber cladding or stone look (*"like the pump station at Stonyfell"*).

> *"It would be good to have a combination of grass and shrubs in the landscaping of this area, with thick screening around the pump shed."*
>
> *"I would like vegetation around the shed."*
>
> *"I would like to see native screening planting."*
>
> *"Are you going to camouflage the pump station?"*

Q: Have landscape plans been developed for the area yet?

A: Plans have not been finalised as ERA Water was seeking community input as to desirable landscaping features. Landscaping plans will be finalised based on feedback received. Feedback with also be sought from the City of Campbelltown's horticultural team.

Q: Will the access ramp to the pump station look like a big slab of concrete or can something else be done?

A: The current concept design shows that the required vehicle access point to the pump station is compacted rubble. There are, however, other options that will be considered by ERA Water following public feedback, including products like http://www.grasscel.com.au/ which enables vehicle access over turf.

> *"It is a lovely pristine area, and I really would not like to see a concrete slab here."*

Q: How often will the pump station shed need to be accessed:

A: The pump station would be accessed periodically by maintenance staff to ensure that the pumps and valves are maintained in a good working order. Access to the pumps and valves will not involve excavation.

Q: What other locations were considered for this booster pump station and storage tank site?

A: Hydraulically we needed to position a booster station somewhere within the bounds of:

a) East of Glynburn Road

b) North of the Parade

When the Shakespeare site was originally selected it was the confluence with the line that came from Norwood, Payneham & St Peter, headed to Burnside and headed to Campbelltown and the City of Tea Tree Gully (another Council originally involved in the project). As such, it was in a very good location to boost to a number of trunk lines.

All the proposed sites were visited with the technical representatives from each Council (at that Stage City of Campbelltown were still in the project team). Based on Campbelltown Council's representatives' feedback, Shakespeare was selected as the preferred site as the station could be built below road level and incorporated into the existing bank to reduce visual impact. It was also considered that this section of the reserve had lower patronage than the southern side of Gums Reserve.

The following sites were also considered:

1. Nightingale Reserve – not used due to impact on the small park
2. The Gums Reserve (South Side of Shakespeare Avenue) – the project team was advised by Council staff that it would not be publically acceptable to build a station within the reserve due to high amenity and public patronage as well as impact on significant trees.
3. University Campus - was ruled out due to land tenure
4. The land east of St Bernards Road near the Tennis Courts, which we originally thought was Council land, was a favoured site. However, we were later informed that this was actually University land.
5. Daly Reserve was considered but thought at the time that it was likely to cause angst amongst the nearby residents and park users so was not considered further. (Impact on trees, proximity and visibility to residents)
6. Reserve at the east end of the Parade opposite Skye. Hydraulically this did not work.

Q: Why was the Daly Oval option discounted?

A: The proposed location was chosen as its positioning in the existing embankment would allow the cut and fill to be balanced, resulting in a buried tank. The tank would have needed to have been above ground at Daly Oval as the site is flat.

Q: How often will the pump station be in use in summer?

A: As often as required to keep local reserves and sporting grounds irrigated. It is expected that the pump station will be used on a daily basis.

Q: Why didn't the design locate the pump station building closer to the tank?

A: Several issues were considered in citing the pump station shed, these included impact on trees, and the ability for people to be able to jump off the tank and onto the roof of the pump station. From a cost and deign perspective the closer the pump station is to the tank the better from an operational perspective. Consideration was given to building the pump station into the tank or at least into the embankment similar to what Council has done at Max Amber Reserve. However, as access is required to the pumps this would have meant introducing a 2.5m shear face which would then have required safety barriers at the top of the slope. These would have been readily visible from the road so this option was discounted by the design team.

> *"I don't mind if you remove some trees if the pump station can be located closer to the Storage tank and have less of a visual impact. Remove these trees and replace with native wattles"*

Q: What quality of water will the tank hold?

A: The storage tank will hold treated recycled stormwater of a quality suitable for restricted irrigation as defined by the Australian Recycled Water Guidelines..

Q: The area on the north side of Shakespeare Avenue is currently not irrigated. This project would be a great opportunity to irrigate this area. Could this be considered? Will Campbelltown Council irrigate this area?

A: ERA Water has offered the City of Campbelltown the opportunity to purchase water from the recycled stormwater scheme. Council will need to decide whether it provides irrigation infrastructure or purchases the recycled stormwater.

Q: What are the maintenance requirements on the pipeline?

A: The pipeline has been constructed from a Gully welded HDPE pipe, which means there are no pipe joints as would be the case with a typical PVC pipeline. The design life of the pipeline is in excess of 75 years. Routine maintenance of the pipeline will be minimal over that period. Maintenance activities that will occur will include servicing of the pumps within the pump station, flushing of air valves and operation of isolation valves to ensure they are in good working order.

Q: What diameter pipeline will be transferring this recycled water throughout the area?

A: 180mm diameter predominantly with a small trunk feeder or 280mm and short feeder pipes to irrigation sites of 125mm pipe.

Q: Where will the other booster stations be located?

A: The main distribution pump station is being installed on Hamilton Park Reserve off OG Road. Another booster pump station is being installed at Langman Reserve in Burnside.

Q: Why weren't we consulted on the location of this booster tank and pump station?

A: ERA Water has been engaging with staff from the Campbelltown City Council on the location of this booster station and storage tank over the last six years when they were part of the project. There are limitations as to where this booster station can be located hydraulically.

Q: What stage is the project at now?

A: We have constructed 15km of a total 42km (as of mid-October 2016) Project completion is expected by mid 2017.

Q: Who will be constructing this project?

A: Guidera O'Connor will be constructing the tanks and pump stations.

Q: Why didn't you approach and advertise to private property owners to locate this infrastructure in their properties as an easement. Was full or partial land acquisition of private properties considered?

A: Acquisition of private land was not considered as residential land is significantly more expensive.

Q: Will you be harvesting water from the creek adjacent the tank and pump station?

A: This area is not within one of the constituent Council and as such harvesting has not been planned for this site. The harvesting sites will be Third and Fourth Creeks in Felixstow, just before they enter the River Torrens.

Stakeholder Comments:

"It's a great project"

"It's important to save water"

"Anything to reduce flooding in the River Torrens is a good idea"

"We need to start reusing water more"