

Water Initiatives on Yorke Peninsula – Ricki Bruhn

The District Council of Yorke Peninsula places a very high priority on water conservation measures that contribute towards the overall availability of water throughout our area.

The availability of water represents one of the most critical infrastructure issues faced by our Council and is a consistent impediment to sustainable development – in particular along our coastlines.

I would like to focus my presentation on the following areas:-

- council established and operated water supply schemes;
- desalination
- stormwater harvesting projects;
- community wastewater treatment plants – water reuse;
- development plan provisions;
- current and future water initiatives

- the initial construction of a reticulated water supply to the Yorke Peninsula region commenced in 1925. During the 1950s and 1960s this supply system was extended to create the Yorke Peninsula water supply system;

- during the 1950s, the Warooka water supply system was established which sourced water from underground bores within the Para Wurlie basin approximately 20km west of Warooka;

- the trunk mains in general run down the centre of the peninsula with smaller distribution water mains servicing many of our coastal towns;

- in many of our coastal towns, the water mains which service these towns have not been upgraded to support the level of development which is sought in these towns – this has resulted in some of our coastal towns becoming stagnant – Ardrossan (our largest town with a population of 1,100 has not had a residential subdivision approved for 15 years due to insufficient water capacity)

- there are currently 15 coastal towns / holiday home settlements where there is no reticulated water supply available – these towns survive through the collection and storage of rainwater;

- in recent years, Council identified two coastal towns – Balgowan and Hardwicke Bay which had no reticulated water supply and in the long-term would benefit from having such a water supply;

- SA Water had no intentions to extend their water mains to provide a reticulated supply into these popular coastal towns;

- Balgowan is a popular holiday home / fishing location comprising some 260 allotments and relied on rainwater collection and when the rainwater ran out, they need to cart their own water from a nearby standpipe;

- Council constructed a series of concrete storage tanks with a capacity of 860kl on the outskirts of the town and extended a nearby SA water main to keep these tanks filled – water was purchased from SA Water. Each property in Balgowan

was provided with a restricted 10 litres per minute reticulated water supply and water meter.

- The cost of the project \$400,000 has been recovered from all property owners through an annual service charge which is currently \$360.00 per annum. Once this loan has been repaid it is anticipated that the service charge will reduce to approximately \$150.00 per annum;
- Initially some property owners were not in favour of having this water supply, however I believe it has added value to their properties and very few complaints are now received. A further 60 allotments have been created in Balgowan since the scheme was installed.
- In the case of Hardwicke Bay – also a popular coastal town on the western side of the peninsula – a similar project was initiated at a cost of \$600,000. Storage tanks provide a capacity of 430kl with a restricted flow to residences of 5 litres per minute.
- Hardwicke Bay currently has some 325 allotments with the majority of these being used for holiday home purposes. This community is also experiencing development growth.
- Council also operates water supply schemes at Black Point and Port Rickaby.
- As mentioned previously we still have 15 communities without a reticulated water supply and in some cases, this type of project could be applied to those communities.
- The Council managed Marion Bay Caravan Park previously sourced its water from a nearby underground basin with approximately 10 megalitres being drawn from the basin each year;
- The continuous drawing of water from this basin contributed towards the decline in quality of this water to the extent where the future of the caravan park was in jeopardy;
- Council made a bold decision to go ahead with the installation of a saltwater desalination plant. This would be the first saltwater desalination plant operated by a Council in South Australia;
- Long delays were experienced in obtaining all the necessary approvals from government agencies;
- The plant has the capacity to produce 20 megalitres of potable water a year;
- The cost of the project was just over \$500,000 with council meeting 90% of this cost - \$45,000 received through a Federal Government Community Water Grant and \$10,000 received from SA Tourism;
- Seawater is sourced from a beach well rather than the direct sea. The concentrated seawater is returned to the ocean via a return line which runs the length of the Marion Bay jetty;

- Water has now been reticulated into the local tavern, store and motel;
- Water is available for purchase by local property owners and tourists (via a public standpipe and swipe card facility);
- This project has given the nearby underground basin an opportunity to replenish
- Large quantities of stormwater generated from Maitland East have been damaging road infrastructure along the Ardrossan Road and adjoining farming land for many years;
- Council secured a Federal Government Community Water Grant of \$105,000 to harvest this stormwater run-off;
- Council matched this funding and also secured funding of \$60,000 from the Department of Transport to reduce the effects of stormwater erosion on their road infrastructure – The total project cost was \$270,000
- The project included the construction of a lined 19 megalitre dam which has captured all the stormwater run-off from Maitland East;
- Water from this dam is piped into the irrigation infrastructure on the Maitland Golf Course and is pumped into the 18 megalitre dam that is used by the Golf and Bowling clubs to irrigate their playing surfaces;
- When this dam fills it overflows and is gravity fed into a further dam that also stores the treated wastewater from the adjacent Treatment Plant;
- This project generated a lot of positive discussion within the community and it is one of those rare occasions where Council was viewed in a positive light;
- This treatment plant collects waste water from the towns of Ardrossan and Tiddy Widdy Beach;
- Current estimates indicate that this plant is treating 1.5m litres of waste-water every week;
- Originally the waste-water from this scheme was pumped through a rising main to the outskirts of town into evaporation ponds;
- Through a partnership approach with the Ardrossan Golf Club, the treated water was re-directed into a holding dam (that was Council's part of the deal)
- The golf club then undertook to provide the necessary infrastructure to irrigate their 18 hole golf course with Council assisting through the provision of loan funds through the LGFA;
- The course has some of the best irrigated fairways of any course outside the metropolitan area and has attracted many visitors and golfers from other clubs for their summer competitions;

- Other golf courses that are irrigated using treated waste-water include Yorketown and Maitland (Maitland is irrigated using a combination of waste-water and stormwater and also includes the bowling greens of the Maitland Bowling Club)
- Stormwater run-off from a large portion of the town gravitates to a sump within the Minlaton Showgrounds area where it accumulates and is then pumped into an area known as 'Gum Flat';
- There is evidence to suggest that this practice is contributing to the decline in the health of the remnant River Red Gum in this area;
- A community water grant was sourced to purchase 2 large tanks with a combined capacity of 430,000 litres, which has been connected into the oval watering system to supplement their watering requirements;
- Council has convinced the State Government to dedicate the adjoining Education Department land for stormwater retention purposes under our care and control;
- It is proposed to construct at least a 12 megalitre dam which will be re-used to assist with the watering of the town oval and possible the school oval and parks and gardens;
- All development should maximize the retention and use of stormwater as a water supply.
- Where a restricted / unrestricted mains water supply is available, an on-site rainwater tank having a minimum capacity of 10,000 litres is to be provided – to be reticulated into the dwelling;
- Where NO mains water is available, an on-site water tank (s) of 45,000 litres is to be provided to enable fire fighting services to draw water directly from the tank
- I'm not sure what happens in metropolitan councils but if this was applied, it would lead to a reduction in stormwater flowing out to sea
- **SA WATER'S LONG TERM PLAN FOR YORKE PENINSULA**
- This 30 year Plan considers the current and projected potable water demand and supply, the state of water resources from which the potable supply is drawn and options for the future to ensure demand can be met;
- An External Project Reference Group Chaired by Robert Schulze was established comprising representatives from SA Water, DCYP, Yorke Regional Development Board, Northern & Yorke NRM Board and the Murray Darling Association;
- The Plan (which is currently in draft form) focuses on townships and areas currently serviced by SA Water Infrastructure and will guide the scheduling of capital works for the Yorke Peninsula region.
- In line with current policy, any extension of SA Water's existing potable water supply systems or system upgrades required to accommodate development will be subject to SA Waters commercial policies – augmentation fees.

- It is anticipated that the Long Term Plan will be completed later this year.
- **ICLEI WATER CAMPAIGN**
- Currently progressing through the milestones
- **LGA Statewide Cities and Towns Project – Minlaton / Gum Flat Stormwater Harvesting Project**
- **Ardrossan Stormwater Harvesting Project – concept designs**

Stormwater Harvesting can only be initiated through a collaborative approach between all levels of government and with the support of local community groups;

Support funding from all levels of government needs to be made available – it is difficult to make these projects happen working alone;

The introduction of water restrictions has served as a wake up call for local communities to investigate other alternatives for watering recreation areas to ensure that these surfaces are maintained to appropriate standards.

Thank you for the opportunity of being able to present to you today.