

Water Management Project Wesley College - Glen Waverley Campus

By Rob Savedra
Head of Grounds, Wesley College

Wesley College Glen Waverley Campus is a unique environment consisting of approx 7 hectares of playing fields, together with ornamental lawns and gardens.

The campus is 40 years old and was originally apple orchards. Being clay based with a shallow root zone of loam sand it is quite often boggy in winter and rock hard and cracking in summer.

With automatic irrigation being installed only in recent years a base of common couch, hardy rye and poa had been ticking away for years. Wesley identified that to maintain the grounds to the standard required for high profile sport water would be the key. Stage 1 of the project in 1999 was the sinking of a bore to shore up the water and has an option for the future. The bore

was too salty and the water not acceptable in its neat state for turf.

It was decided to abort the bore and go ahead with stage 2 which was an automatic irrigation system to provide better uniformity than travelling irrigators and knockers on skids. Twenty-one mega litres was the highest amount of water used in a growing season in the formative years with the old water regime. As the rule of thumb is 6meg/ ha/ season this was still well below for 7 hectares of grounds. Wesley still wanted to reduce this and with the new sprinkler system recently had reductions of up to 68%. Whilst Wesley had great reductions the grounds suffered (like most grounds) and questions were being asked about what we could do.

With technological advances over the years and desalination units becoming compact and better value for money it was time to reinvestigate making the bore viable again. Having contact with a hydraulic engineer, who managed the project, a decision to purchase a desalination unit together with water storage facilities for 1 Meg was approved. The college embarked on its biggest capital investment for the grounds, to ensure the viability of the grounds for the future. A total of 1100 cubic metres of clay was excavated from the banks and laser graded with crushed rock for the foundations of 4 x 260,000lt tanks. Aqueous Solutions supplied, installed and commissioned all the equipment including the 4 storage tanks which were constructed off site and delivered on its skid as the tanks were being built. The tanks took 4 days to erect and once finished the unit was hooked up to the bore and filtration tanks filled with sand. Power supply, data cables, irrigation pump house and associated works



Rob Savedra, Head of Grounds, Wesley College Glen Waverley Campus testing the waters.

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were completed. Final installation and hook up to the tanks finished along with cut off switches.

Having worked through the teething problems and every case scenario of the desalination process it took 8 weeks from switching the unit ON to filling the tanks.

Now the hook up to the irrigation and gardens systems from the tanks and water will be available to all points of the college all year without limitations. The system is running really well and is doing exactly what it should. As the tanks are full with bore water that has been desalinated, planning for stage 3 is well on the way. Stage 3 will consist of harvesting the rain water from the extensive roof system and drainage network to recharge the tanks. This will mean the bore will be used in an as-needed basis and will truly be an alternative water source. It is a viable option and, considering the capital outlay of the tanks and pumping system, the payback time is 7 years at current water costs. A warm season grass transition is scheduled this summer now the water supply is assured, so quality of grounds will be more consistent.

The students have a state of the art, working model, chemistry laboratory on site that produces drinking water from 7000ppm salty, rust coloured bore water. So it goes on the benefits of having the unit. The college is excited with the project



Desalination Plant at Wesley College by Aqueous Solutions.

and it fits in perfectly with its Environment Improvement Plan strategies. All visitors to the college who see the tanks and plant are impressed with the whole set up. It has been 10 years in coming but finally the bore is viable and a quality alternative water source is flowing onto the grounds, gardens and perhaps the toilets and pool.

I would like to acknowledge the people involved with the project and thank my ground staff for the last few months of upheaval in their work space during the construction phase of the project. It has been a team effort and now we can look forward to summer with another great tool at our disposal.

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