



Operator

FNQ MEMBERS
BOWLED OVER
SHARING EXPERIENCES

AWARD
WINNING
OPERATORS
RECOGNISED

BIRDS EYE VIEW
GLENELG WWTP

ROBRAN JOINS
THE RANKS OF
THE IDIOTS



IMPROVING WATER
RELIABILITY IN
NORTHERN TASMANIA

November 2021 The Water Industry Operators Association of Australia Magazine



WHO KNOWS WHERE THE WATER INDUSTRY MAY TAKE YOU?

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SANITAIRE

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From the MD's Desk - George Wall

WIOA has endured another very up and down year. It's late November and the Victorian Government has just announced an end to most COVID restrictions after the State ticked over the 90% double vaccinated milestone. This heralds the arrival of a new normal where we are being told we need to get on with things and live with the virus.

The euphoria of being able to deliver the Queensland conference in June was short lived. The dismay of needing to postpone both the New South Wales and Victorian conferences to early 2022 has really hit home in the past couple of months.

Not only did we miss catching up face to face, we also lost the opportunity to recognise and celebrate the achievements of many water industry operations people in person.

Nevertheless, with the outstanding support of our very understanding award sponsors, we were able to stage a virtual day and delivered the appropriate accolades to a host of very deserving winners. There is a write up on many of the individual award winners later in this edition.

The announcements of the winners of the Best Tasting Tap Water competitions were also moved to an online environment, again with excellent support from Ixom as sponsor. The level of media interest and the sheer delight of the finalists and winners in each State showed how important a recognition tool the competition has become.

With the national grand final to be held in Tasmania in early 2022, we have held over the celebration of the State winners until the February 2022 edition of Operator.

Following on from our work in reviewing the training and competency of operators in Queensland Indigenous Councils, WIOA has been awarded a similar contract by the NSW Government. The project is part of the Town Water Risk Reduction Program and looks into all the competencies required by the operators in the 11 Councils in the Orana Region of NSW. Once again, the Acuario platform is proving its worth by providing a mechanism to allow recording of all training data in a single location.

Finally, we look forward to 2022 with great anticipation and hope that event cancellations will become a thing of the past. Getting back together face to face and enjoying one another's company is a highly sought after commodity.

**DATE
CHANGE**

Victorian Conference 2022

Due to circumstances out of WIOA's control the Victorian Conference & Exhibition has been forced to change dates.

The conference is re-scheduled for **23 & 24 February 2022.**



November 2021

Cover Victorian Operator of the Year for 2021 Gavin Allen from Veolia is pictured at the Casey base station in Antarctica. You just never know where the water industry may take you.

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Managing Editor George Wall

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at the Moe WWTP**



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Member Profile - Andy Watson

Senior Operator - Treatment & Quality, Water & Wastewater

Employer South Burnett Regional Council

Nickname Andy

Favourite team Kingaroy Redbacks U13 Soccer Team

Pets Dogs, cattle, chooks, horse, cat, fish and bird

Favourite food Anything that can be crumbed or battered then deep-fried with steak and sausages on the side as a garnish

Least favourite food Brussel sprouts and sardines

Favourite TV show Anything BUT Home and Away or Neighbours

Worst TV show Home and Away and Neighbours

Favourite Movie Odd Angry Shot, Dons Party or Dirty Harry

Favourite Musical artist/s Slim Dusty and Chad Morgan

Ambition in life Making the public aware that recycled wastewater is safe to use and should be utilised by more towns and more countries. Rain is a free resource only if you can capture it, store it or get it to 'rain' where you want it. More than often, it is a limited and scarce resource that is growing in demand as our towns expand.

Hobbies Making beer, drinking beer and numerous ongoing mechanical and fabrication projects keep me busy in my shed.

Best Trait Being a good husband and dad to my daughters.

Worst Trait I never complete one project at a time. I always have a few underway. I lack patience and empathy.

Who do you admire? My first Tradesman, he had no patience for time wasters and I was with him for 4 years.

Favourite saying or quote It is what it is.

Four people you would invite to dinner Clint Eastwood, Paul Hogan, Graham Kennedy, Bryan Brown.

Your involvement with WIOA, what contributions are you hoping to be able to make? I enjoy being a member of WIOA and I have presented twice as an operator. Presenting is a 'win win' situation. Personally, I have gained confidence in presenting. I also expand my knowledge by discussing operational aspects with operators while networking at WIOA Conferences. Also my employer receives feedback about relevance of operators attending WIOA conferences.



How long have you worked in the water industry and what attracted you to it? I have worked for the South Burnett Regional Council for 8.5 years in the water and wastewater section. Previous employment my positions involved some aspects of water and wastewater industry.

What do you enjoy most about your job? At the end of each day, I can say no one got sick from the water or I have 'not failed' in wastewater effluent sampling. Not only is my employer on display but so too are the plants I operate and the results they achieve. I enjoy maintaining, operating, optimising, training and learning.

What are the major challenges in your current role? Keeping up with the advancements in process instrumentation, training and maintenance. Convincing my supervisors that I am required to attend the full WIOA Conference yearly.

Thoughts on the water industry at the moment Advancements in new technology and process design the traditional operator role and responsibility is changing. I can see the next generation of operator will require the skills to be more hands on with instrumentational and process manipulation or fault finding skills to continue or improve plant performance. But in saying this it will also require a pay rise to allow the operator to shift up to a higher performing position.

How do you relax? I enjoy relaxing with a beer in my hand out in the bush or on my boat feeding more fish than I catch.

Where do you live and what's the best thing about it? I live with my wife and two teenage daughters. We are approximately 20 minutes outside of Kingaroy on property, we have cattle that keep us busy. But best of all – although we have great neighbours we can't see our neighbours, can't hear our neighbours and can't smell the neighbours. It's our own bit of sanctuary in the country with plenty of fresh air.



IDIOTS

At the WIOA Reconnects day, Robran Cock from Ametqua in South Australia became the 41st IDIOTS member.

Robran joined WIOA in February 2010 and has been involved in almost everything WIOA has done in South Australia since then. He was an inaugural member of WIOA's SA Advisory Committee when it started in 2015 and took over as Chair in 2017. Robran has also been on the WIOA General Committee member since 2017.



MC Robran.

He has actively promoted WIOA right around South Australia in his previous role with TRILITY and more recently as a self employed consultant.

That Robran can spare the time to lead WIOA so professionally in South Australia is a real testament to his commitment to the role and our association. Many others would have found this all a bit too hard.



Robran & Tania Franco from Ixom sample SA's best.

He is a very calm, thoughtful and engaging person and has a very special knack of making everyone feel welcome and important. These are traits of an exceptional leader. Robran has an enormous network of contacts in the South Australian water industry and there aren't too many people he hasn't met or doesn't know.

This type of knowledge goes a long way in helping us to identify and approach potential speakers or supporters for our events or activities.

Robran has rarely missed a WIOA event in South Australia. He has been an excellent MC at the South Australian conference, the dinners, taste tests, interest days and other events. He is one of the first to arrive and is a great help at conferences and events assisting with the setup, pack down and anything else in between.

Congratulations Robran, your involvement with WIOA is greatly appreciated by all members, and particularly by those in South Australia.

IDEXX

INTRODUCING

EasyDisc

Heterotrophic plate counts made easy

Easy to count blue colonies

No media preparation required

Less than 1 minute hands-on time

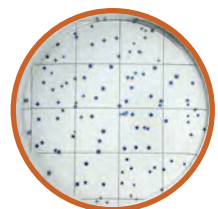
Smaller plate size for reduced waste

12 month shelf life at room temperature

Available in YEA, R2A and PCA

Correlates with ISO 6222:1999, APHA 9215, AS4276.3:2021

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Tasmanian Operators Recognised

TasWater operators from the state's north and south have been recognised in this year's Water Excellence in Operations awards.

TasWater's Dean Edsall, a Water Services Operator based out of Rocherlea took out this year's Young Operator of the Year award for Tasmania.

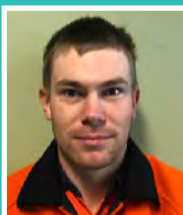
Dean was nominated by his peers due to his positive attitude, his commitment to safety and his willingness to assist in other areas, which is demonstrated through his work at water treatment plants and on service interruptions.



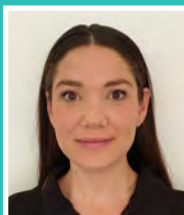
Rocherlea's Dean Edsall is a worthy winner of the 2021 Tasmanian Young Operator of the Year.

"It was a real surprise to win the award," Dean said. "The award is really a representation of the work that our whole team does on a day-to-day basis, not just my work. We have a great diverse team who all demonstrate leadership and work together to deliver essential services to Northern Tasmanians." Dean has been working at TasWater for almost three years.

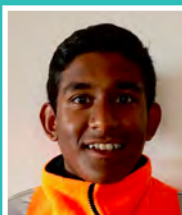
Tasmanian Young Operator of the Year Finalists



Kaden Salter



Alexandra Smith



Chris K



Rex Townsend is presented his award by TasWater GM Service Delivery David Hughes-Owen.

The coveted Operator of the Year award was taken out by Rex Townsend, a Water Services Operator based out of the Derwent Valley and Central Highlands areas.

"It was totally unexpected. It's more a team effort, the award is more a recognition of the service that our whole team provides to the small communities that we work in," Rex said after finding out he won the award.

Rex has been working in the water industry in Tasmania for about 28 years with his dedication to customers, safety and his fellow staff a big reason behind the recognition. "A standout for me since being at TasWater was the work I did on upgrades at Wayatinah and Bronte Park in 2018," Rex said.

"I had a hands-on role with the contractors and getting the new pipework and pump station organised, as a ratepayer in the area, it was something I was passionate about. Lately, I have also been getting satisfaction out of helping our young operators and passing my knowledge on to them."

These awards recognise the hard work our staff are undertaking to deliver essential services to Tasmanians, while also highlighting TasWater's ongoing commitment to training and career opportunities in local communities.

Tasmanian Operator of the Year Finalists



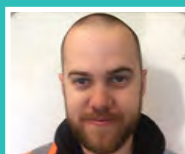
Michael Bone



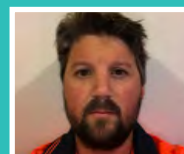
David Brooks



Stephen Cordwell



Adam Cowen



Dario Fernandes



Scott O'Brien



Victorian Operator of the Year

The 2021 Wal Whiteside, Victorian Operator of the Year is Gavin Allen, a senior Operations & Maintenance Technician with the Veolia Bendigo water operations team.

Gavin joined Veolia in 2011 as a wastewater treatment plant operator, after completing a mature age plumbing apprenticeship and is now one of Veolia's most versatile operators.

Gavin has undertaken an impressive range of operational, maintenance, minor capital projects, and even Antarctic Science Program supporting roles, involving a number of intrastate, interstate and international secondments. He plays a key role in the Veolia Bendigo operations team, leading by example with his "can-do" attitude, ability to learn quickly and effectively communicate with and work collaboratively in diverse teams.

After working as a wastewater treatment plant operator at the Castlemaine and Kyneton WRPs for a few years, he then transitioned to water treatment operations for the Aqua2000 project. Gavin undertook a secondment to Veolia's Hunter Water operational contract. Whilst there, he played an important role in mentoring and coaching new operators who would later be responsible for the day-to-day O&M of the Hunter Water plants.

Since then, Gavin has also been seconded to provide operational support to Veolia's Ballarat wastewater operations. He has also been seconded to other Victorian regional water utilities as a support operator, on both water and wastewater treatment plants.

One of the biggest highlights of Gavin's operational career has been his three summer secondments to support the Australian Antarctic Science Program. Gavin was first chosen by Veolia in 2015, as a water treatment plant operator seconded to Casey station, Antarctica, through a collaborative research partnership between the University of Melbourne, the Australian Antarctic Division (AAD) and Veolia ANZ. He has since undertaken a further two summer seasons as an operator in Antarctica, and is off again now for the 2021-22 summer.

Gavin has shown a high level of dedication to maintaining his skills and competency as a frontline operator in the water industry. He was in the first few to gain operator certification through the Water Industry Operator Certification Scheme. He has worked hard to maintain his certified operator status and continued his professional development. He has happily presented on his operational experiences and has been an invited speaker at WIOA conferences and a WIOA Talks webinar. Well done Gavin.

Victorian Young Operator of the Year

Lillie Hardy from Gippsland Water was announced as the winner of the IWA 2021 Victorian Young Operator of the Year Award at the WIOA Reconnects day.

Lillie commenced with Gippsland Water as a trainee at the at the Gippsland Water Factory (GWF). During her traineeship, Lillie worked across all five operator roles at the Water Factory including SCADA, operator maintenance, dewatering, laboratory and permits. Lillie's drive to learn and contribute soon resulted in her being recognised as a competent, go-to person in the operations team. A rare outcome at her age, particularly in such a short period of time.

After completing her traineeship, Lillie sought out other opportunities to expand her skills and accepted a role as Multi-skilled Operator – Specialist in the Bulk Water team at Gippsland Water. The Bulk Water team are responsible for managing several large dams reportable under the Australian National Committee of Large Dams (ANCOLD) guidelines and supply bulk raw water to major industry in the Latrobe Valley, including power stations and a major paper manufacturing site. The team also serves several key water treatment facilities. Lillie now fills a critical role within this team as responsible officer (RO) for the Moondarra Dam.

Lillie is continuing to develop her experience in OHS systems building on skills learned as health and safety representative (HSR) in her previous role at the Water Factory. She now leads the Major Systems group HSR team by regularly convening OHS planning meetings ensuring key safety issues are identified and reported.

Lillie has a demonstrated passion to learn and understand all aspects of water and waste operations and she was a participant in WIOA's Network Operator Development Program in 2019 where she excelled.

All these reasons and many more, make Lillie a very worthy winner of the Young Operator of the Year.

For winning the award, Lillie receives a Perpetual trophy, a plaque to keep and the best bit – IWA Victoria provides an all expenses paid opportunity to join the WIOA delegation on their tour to New Zealand in May next year (assuming the borders are open to NZ by then). The trip is valued at over \$2500.



Geoff is Best '21 NSW Operator of the Year

Geoff Matheson was announced as the 2021 NSW Operator of the Year. Geoff is a Senior Operator for MidCoast Council. He is required to manage the entire water and sewer system for Bulahdelah by himself.

His role includes both treatment plants and reticulation which requires a great understanding of all aspects of water/sewer treatment and delivery. He is also responsible for attending to all customer requests for maintenance, whilst providing support in other areas and to colleagues 24/7.

Geoff manages a challenging water treatment plant (WTP) in which raw water can be naturally high in iron and manganese as well as having taste and odour issues. Geoff has managed to overcome these challenges by planning and developing treatment methods using pilot trials and equipment. This includes potassium permanganate (for iron and manganese) and powdered activated carbon (PAC) (for taste and odour), also removing the organics which has helped reduce trihalomethanes (THM).

Geoff has greatly contributed to the improvement in water quality at both the water and sewage treatment plants. He has achieved a reduction in turbidity, THMs and taste/odour in drinking water. Geoff consistently demonstrates an outstanding work ethic and takes ownership of his assets. He has faced many challenges with drought, fires and flood. He was unable to return home for several days during the flood event in March 2021 due to his commitment to maintaining the network single handed. There were zero negative effects to water (potable) quality during this period.

For winning the award, Geoff also receives a Perpetual trophy, a plaque to keep and the best bit - the NSW Water Directorate provides an all expenses paid opportunity to join the WIOA delegation on their tour to New Zealand in May next year valued at over \$2500.

Technology in Leak Detection

TasWater has implemented new active leakage management to combat water loss, using technology that listens for leaks that may not be visible.

Around 40 Zonescans have been installed across the state, which can listen for leaks within the system and pinpoint them on a map.

Unaccounted for water was identified in the State of the Industry Report as an area in need of improvement, with TasWater implementing this new technology, along with other initiatives to address the issue.

TasWater Acting Department Manager Asset Strategy and Performance, Matt Jordan, said, "They help us identify leaks, some of which we know about but cannot find. This technology also helps us find leaks that aren't visible and would have previously gone undetected."

Leaks usually come to the attention of TasWater through the customers calling and reporting them to the call centre and staff out in the field who come across them, known as reported leaks.

This technology assists in a more proactive approach to leak detection, not just identifying and resolving reported leaks.



TasWater's Matt Jordan (L) and Pankaj Mistry checking the ZoneScan logger.

Mr Jordan said, "The process of active leakage control involves teams of leakage detection staff sweeping an area using sounding techniques to find leaks, this is possible through technology such as the Zonescans.

If sweeping is carried out frequently, then leaks can be kept at a minimum. We are currently targeting areas which have a higher number of leaks and bursts, before we roll out this initiative more broadly.



qldwater wins Premier's Industry Training Award

2021 marks ten years of successful industry collaboration by the Water Skills Partnership to address critical skills needs facing the urban water industry in Queensland. In October 2021, the Partnership was awarded the Queensland Premier's Industry Collaboration Training Award in recognition of the successful collaboration by water industry professionals to deliver initiatives to support Queensland water industry skilling and workforce development.

The Partnership performs a number of functions in this role including securing skills and training funding for industry, producing reports and workforce planning documentation, coordinating industry wide skills/workforce development projects, piloting training initiatives, information sharing and collaboration opportunities and representation for Queensland on numerous national industry skills committees.

The Partnership was created in 2011 as a new industry led initiative to address critical skills needs facing the urban water industry in Queensland.

It extends the work undertaken through the Water Skills Formation Strategy (SFS) which commenced in late 2009 supported by the Department of Education and Training and hosted by **qldwater**.



qldwater - Winners are grinners!

Priorities of the Water Skills Partnership are determined by subscribers with two meetings per year and input from the broader industry gathered at the annual Water Skills Forum.

The forum brings together water and wastewater managers and HR representatives from across Queensland to discuss skilling and training needs for the sector and provides valuable insights for priority setting. There are currently 51 subscribers to the Queensland Water Skills Partnership for 2020-2021



qldwater.com.au/water_skills_partnership

Unitywater Artwork Trail

A yellow-tailed black cockatoo perched on a tree branch is rapidly taking shape on the Beachmere Water Tower as part of Unitywater's artwork trail. Almost 1000 residents helped select the vibrant design, which captures the local wildlife and community appeal of the beachside village. This is the fourth design the Brightsiders artists, Jordan Bruce and Steven Falco have painted for Unitywater.

Steve Falco said Beachmere was his favourite to date. It's more than putting a painting on a wall, we want to give the community something that gives people energy and makes them proud of their environment. He enjoys the support of the community who show their appreciation via a wave or a beep of their car horn.

Unitywater values putting artwork into the community and have supported the Beachmere Water Tower artwork progress by sharing photos on social media and on community pages.

The pair use quality house paint and spray paint from Germany to ensure the artwork can stand up to the elements. Their passion for their work is reflected in the quality of the artwork on the Inotywater infrastructure. The artwork trail stretches from the Sunshine Coast into the Moreton Bay area.

*Contributed by **Greg Dawkins** from Unitywater.*



Critical Section of Ballarat Sewer Build Completed



Construction of the sewer in Ballarat.

Central Highlands Water (CHW) is celebrating a key milestone in the construction of the \$25 million Ballarat Sewer Build, with over 400 metres of sewer pipe successfully installed beneath Peel Street, from Scott Parade to Little Bridge Street.

Stage 1 began in mid-April, with the challenging central business district (CBD) area completed by open excavation and micro-tunnelling. Works involved installing 600mm diameter pipe at a depth of up to 5.5 metres beneath the road surface. Construction of three large underground concrete access point structures, to serve as ongoing inspection shafts, as well as a new water main was also completed.

Central Highlands Water and its contractors were focussed on completing the CBD section safely, but also as efficiently as possible, however the project has not been without its challenges to work through. This critical section through the Ballarat CBD was always going to be one of the most complex, due to the proximity of businesses to the sewer path plus the difficult ground conditions beneath the surface.

The project was committed to keep roads open and traffic flowing for local businesses. CHW's construction approach included micro-tunnelling beneath three intersections so traffic could remain open.



The original sewage project 100 years ago.

Micro-tunnelling was successful at the Mair Street and Curtis Street intersections, but unfortunately attempts at Little Bridge Street were unsuccessful due to unstable ground leaving the only option being to open excavate.

The need to change the approach at the Little Bridge Street intersection was unforeseen, even with the significant amount of investigation works completed in advance. The excavation works were completed at night to minimise the impact on local traders and enable the intersection to operate as per normal during the day.

*Contributed by **Elise Middleton** from CHW.*

Water Stewardship



The Renmark Paringa Council in South Australia has embarked on a water stewardship journey that aims to embody and promote the responsible use of water that ensures security of water supply to operations without compromising access for other users or the environment.

The Council has developed a Water Stewardship Plan to formally commit to and support the achievement of these outcomes and goals outlined in the plan. The Water Stewardship Plan has been developed in conjunction with Water Stewardship Australia Limited (WSA), using the Alliance for Water Stewardship (AWS) International Water Stewardship Standard as a basis.

The Water Stewardship Plan sets out the catchment and site water related challenges in the Council district as well as the objectives and actions to deal with these challenges. The plan and Council water related activities will be independently audited against the AWS Standard, and, if successful, achieve a certification level based on its compliance with the AWS Standard criteria.

The AWS Standard is a globally applicable framework for major water users to understand their water use and impacts, and to work collaboratively and transparently for sustainable water management within their catchment context. The Standard is intended to drive social, environmental, and economic benefits at the scale of a water catchment.

It achieves this by engaging water-using sites in understanding and addressing shared catchment challenges as well as site water risks and opportunities.

It guides water-using sites to address these risks, challenges and opportunities in a way that progressively moves them to best practice in terms of five outcomes.

The 5 intended outcomes of the Renmark Paringa Council commitment to water stewardship are:



GOOD WATER GOVERNANCE



SUSTAINABLE WATER BALANCE



GOOD WATER QUALITY STATUS



IMPORTANT WATER RELATED AREAS



SAFE WATER, SANITATION & HYGIENE FOR ALL

Renmark Paringa Council plays a vital role in its community through its own activities as well as the example it sets and the leadership it provides. The Council is contained within one catchment and is the smallest unit of public administration, closest to the community. This allows Council to not only share catchment knowledge but to provide leadership on specific initiatives that address the identified water related challenges and deliver shared outcomes for the catchment.

This process will support Council to show leadership on water stewardship both in relation to their own operations and their role as leaders within a community and catchment. It will require the Council to understand catchment conditions, implement water stewardship in the areas of their own operations with the highest water risk, and provide leadership and education to their communities on water stewardship.



<https://tinyurl.com/4k2abaeu>

Contributed by **Myles Fauser**, Renmark Paringa Council.

Look-a-Like

If WIOA committee member Ryan McGowan (left) was cleanly shaved, we think he could pass as NRL immortal-in-waiting Cameron Smith from the Melbourne Storm.



Ryan McGowan strikes a similar pose to Cameron Smith from the Melbourne Storm.



SA Water's Glenelg Wastewater Treatment Plant carries a proud history in wastewater treatment and innovation. Originally constructed in 1904, its first major upgrade in 1933 helped it become the first activated sludge plant in Australia and the second in the world after Manchester, England. Situated along the coast of metropolitan Adelaide, it services a connected population of 200,000 people in the city's inner south west.

With a daily average load of approximately 50 ML of mostly domestic wastewater, the plant's engineers and operators remain committed to the continuous enhancement of effluent water quality, recently augmenting renewable energy generation capabilities and the provision of high-quality recycled water.



1

Plant Inlet

4 x 6mm perforated incline screens

2

Primary sedimentation

7 x primary sedimentation tanks

3

A Plant

8 x reactors, 6 x secondary clarifiers, built 1933 - decommissioned 2002

4

B Plant

4 x MLE IFAS reactors, 4 x secondary clarifiers, built 1955

5

C Plant

4 x MLE IFAS reactors, 4 x secondary clarifiers, built 1973

6

D Plant

2 x serpentine MLE reactors, 2 x secondary clarifiers, built 2002

7

Aeration Blowers

3 x HV turbo blowers

8

Chlorine Contact Tanks

2 x contact tanks, 762 m³ each, disinfection via gas chlorination

9

Effluent Outfall

2 x gravity effluent outfall pipes, 400 m

10

Feed Water Lagoons

2 x 4 ML feed water storage lagoons

11

Glenelg RWTP

Low pressure ultrafiltration plant, 0.04 μ m pore size, UV and gas chlorination

12

Storage Water Lagoons

2 x 7 ML product water storage lagoons

13

Co-digestion Tanks

2 x 30 kL tanks, high strength organic waste to boost gas production

14

Anaerobic Digesters

5 x anaerobic digesters, 10,000 m³ biogas/d

15

Biogas Engines

3 x Jenbacher J316 engines (540 kW each)

16

Solar Array

4000 solar panels (1.1 MW system)

FNQ Operators Share Experiences



After missing 2020 due to COVID, it was great to participate in the annual FNQ Interest day followed by the optional TRILITY Charity Bowls afternoon in Cairns on Friday 8 October 2021.

All up, over 50 water and wastewater staff from FNQ Councils and Corporate members attended the technical information presentations in the morning. Around 40 stayed on for the optional charity bowls afternoon which was a great opportunity to meet and network with each other. The opportunity for the Far North Community to get together again face-to-face was really appreciated.

The Keynote address was delivered by Duncan Middleton (Seqwater) and covered the issues and concerns with Chlorates and THM's in water supplies. It was interesting to see and hear how others are dealing with these issues. It provided some ideas on options to overcome these issues.

There were a number of presentations by the local councils and organisations. Jon Ham provided an overview of the major filter refurbishment project currently underway at the Freshwater Creek WTP. It was good to hear about the lessons learnt with the first filter refurbishment and how these lessons were incorporated into the future refurbishments.



Jon Ham from Cairns presents on the Freshwater Creek WTP Filter Refurbishment.

David Thienenkamp-Jamie presented on Blue Green Algae management within the Townsville raw water supply. I found this presentation quite interesting. A number of the councils in the Far North don't have this problem as the majority of their water supplies are from run of creek supplies and algae is not a problem.

Douglas Shire Council was represented by Peter White, who presented an informative paper on the recent blower replacement undertaken at the Douglas WWTP and how this replacement resulted in a number of process improvements.

It was great to see presentations by Jon Turner from Tablelands Regional Council and Manu Gravatt from Cassowary Coast Regional Council, and their journey towards water quality improvements. These presentations highlighted the number of various water schemes each were responsible for and the adverse water quality events they had experienced. The journey to provide a reliable water in line with the DWQMP was very interesting.

Finally we had a quick update from Carlie Sargent from **gldwater** on the Regional Skilling Challenges and Initiatives. This was followed by a quick WIOA update from George Wall, both on Zoom.



Gloves were off, & the water flowing when the 2 Cairns RC teams faced off in the main tapping competition.

The technical side of the day was sponsored by Cairns Regional Council and Reece Civil. After a very tasty lunch and "networking" with fellow colleagues and suppliers, we headed out for the running of the FNQ Water Main Tapping competition.



Commentator, MC and head judge Chris lightened up the day.

Chris from Cairns Regional Council was the head judge and MC and provided a turn by turn description of the competition. Reece Civil supplied all the tools and equipment and were onsite to ensure everything was used correctly.

The winners in 2021 were the Cairns Regional Council team.

Thankyou to our FNQ day sponsors.



The final part of the day was the Charity Bowls afternoon sponsored by TRILITY along with Amiad Water Systems, Hach, Professional Pump Services and Irrigation, Xylem, McBerns, Water Treatment Services, Aquatec Maxcon, Endress + Hauser, ProMinent, and Royce Water Technologies. This was also a time to have a chance to talk to fellow staff from other Councils and all the suppliers. All in all, an enjoyable afternoon was had by all who participated.



Simon & Zak (QLD AC members) are all smiles after Zak won the long bowl.



The winners of the Tradies cup was the team representing Reece Civil - Dean Rust, Stephen Slowcroft and Geoff Parkes. The winner of long bowl across the green was Zak Floyde-Smith.

Each year WIOA rotates the responsibility for nominating a charity to receive the proceeds from the bowls afternoon and this year it was Cairn's Regional Council's turn. The cheque for \$2,200 was allocated to the Cairns Domestic Violence Service.

Thanks to all the sponsors for their involvement and everyone at WIOA for the effort in putting this great event together.

*Contributed by **Chris McCallum & Shane Bandiera**, Cassowary Coast Regional Council*

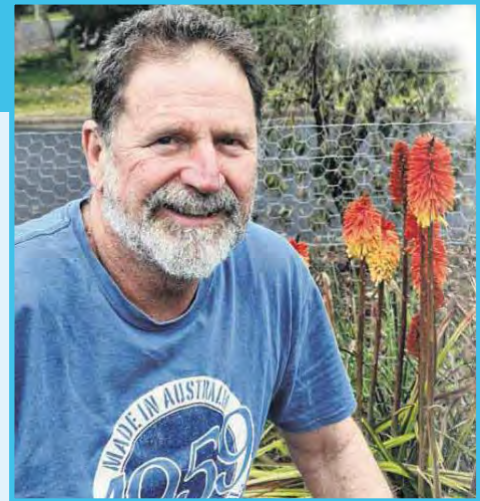
Richie Calls it a Day

One of the longest serving members of North East Water's operations team has retired after more than four decades looking after Mt Beauty's water and sewer systems. Richie Kreuzer began his career as an operator in 1980 at a time when the water supply was run by a small authority which eventually became North East Water.

His service to Mt Beauty has been outstanding for 40 years with an absolute dedication to the town's water and sewer systems. Richie was instrumental in upgrading the local sewage treatment plant in 2004 and helped to manage significant changes to the town's water treatment plant in 2008.

Richie has seen remarkable change in his time at North East Water. When I started, we had a diversity of roles – not only were we water and sewer operators, but also cleaners and accountants and cashiers. I've seen mergers, huge changes to health regulations and massive improvements in technology over the past four decades.

My proudest achievement is the town's new sewage treatment plant, where in the early days it didn't meet odour regulations. It's now a jewel in the crown of North East Water's treatment plants and the town has never had a major odour issue since. I will really miss going to the depot every day and working with a great team, but I intend to spend more time volunteering, and then following the pandemic, travel overseas.



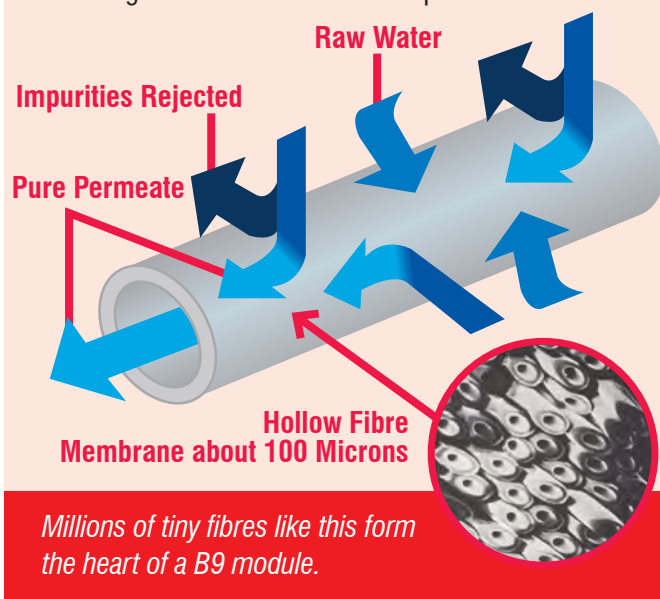
Richie is an extraordinary fellow who has an incredible love of his town - he's a man who would put his life on-hold to help at the footy club, community radio station or local op shop. Everyone at North East Water will miss his professionalism, his expertise, his selflessness and his amazing stories, which are of course all true

*Contributed by **Luke Jobson** from North East Water.*

Membranes? No they are not new!

Many WIOA members are involved with the day-to-day operation of membrane-based water treatment plants, but how many know how far back in time these technologies go?

The first commercial reverse osmosis (RO) desalination plants were developed by DuPont in the late 1970's/early 1980's using their patented hollow-fibre technology, featuring the B9 and B10 Permasep Permeators.



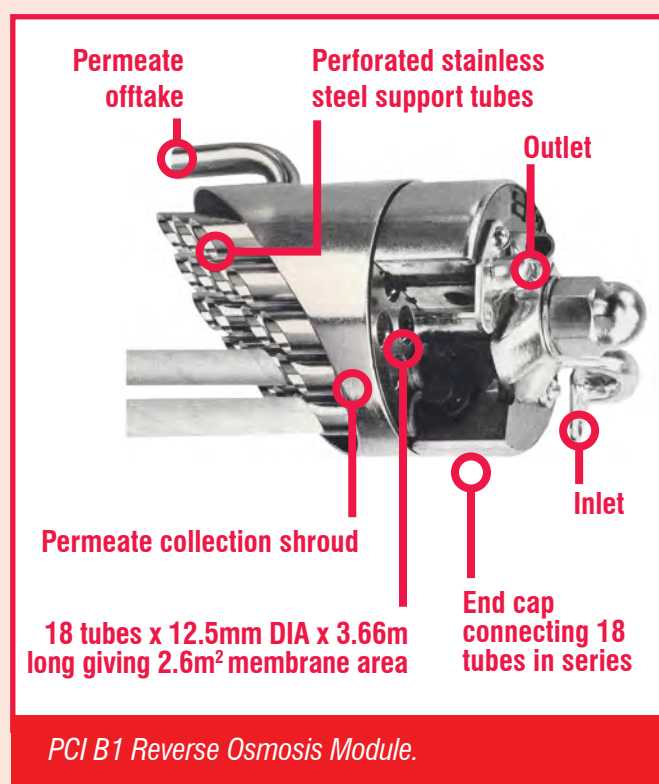
The majority of the plants we built were shipped to Saudi Arabia and the Gulf States, and were miniscule by today's standards!

The real breakthrough in RO potable water desalination came with the development of spiral-wound modules featuring a thin-film composite membrane as developed by FilmTec and Hydronautics in the late eighties in the US. This later led to the construction of the mega-plants we've got in Australia, and elsewhere around the world.

PCI developed early commercial applications of membrane processes for the food and dairy industries, with tubular cellulose-acetate (CA) RO technology in partnership with the UK Atomic Energy Authority.

Flux was extremely low by modern standards, but the CA membrane had a very useful and important advantage: it was chlorine-resistant! This meant the RO process could be used where clean-in-place and disinfection techniques were mandatory.

The B1 RO Module had 18 No. ½ in diameter tubes, each internally coated with the CA membrane and each connected hydraulically in series via a specially designed end-cap, illustrated below.



PCI B1 Reverse Osmosis Module.

BOM 2021 Spring Outlook



Australian Government
Bureau of Meteorology

In late August, the Bureau of Meteorology released a youtube video outlining the 2021 spring climate and water outlook.

The three and a half minute video provides commentary on a range of issue using the latest info available to BOM.



The overwhelming majority of their predictions have come true with above average rains in Eastern Australia, warmer than average days in the north and south-east, an increased risk of flooding in parts of the south-east. and increased fire potential in parts of the east and north-west.

You can watch the climate and water outlook video at:

 <https://www.youtube.com/watch?v=ieRze08AHt8>

PCI pioneered the use of tubular RO in the concentration of cheese whey, especially in the US in the early 1980's. Massive increases in the cost of oil forced US dairies to rethink how cheese whey could be concentrated prior to further treatment by evaporation, and the use of tubular RO fitted the bill nicely!

The whey was typically concentrated two-fold using RO (i.e. halving the initial volume), thus enormously reducing the operating cost (and size!) of evaporators.

PCI tubular RO was also successfully used in many food and effluent treatment applications in the 80's and 90's, including potato starch effluent treatment at a massive plant in the Netherlands, at Royal Avebe's Groningen factory, where I assisted with on-site pilot-plant trials. The plant was at this time the world's largest process RO plant and featured a multi-stage recycle (MSR) process. It treated 180 m³/h of effluent reducing the volume by half and comprised 5 duty and 1 standby plants, having a total membrane area of 6,180 m² made up of approximately CA membrane 2,380 tubes!

Tubular PCI membrane technology is also central to the Fyne process, whereby highly coloured surface waters are treated to produce safe drinking water using nanofiltration.

For me looking back, it was the most exciting time of my long career in the water industry: we were right at the cutting-edge, with an astonishing new technology and plenty of amazing new applications! It was incredible!

And now, for all you Mem-brainers out there, you've got a tremendous resource to help you: the WIOA Practical Guide to Membrane Processes. (It even mentions the Fyne process, but not by name).



A cheese whey RO plant in the Netherlands.

I thoroughly recommend this extremely well-written and superbly illustrated guide to all of you involved in membrane water (and wastewater) treatment processes, whether at the "coal-face" or at a desk!

You may have thought membranes were a recent development? No way!

They have been around for a long time, well, at least over forty years.

Contributed by Peter Gebbie.

Editors Note

The Practical Guide to the Operation and Optimisation of Microfiltration & Ultrafiltration Membrane Processes is available for purchase in print from the WIOA website and on kindle from:



[amazon.com.au](https://www.amazon.com.au)



Available on
amazonkindle

FLASHBACK

Victoria Dam, WA - 1891



Built in 1891, Victoria Dam was the first dam to be constructed in Western Australia, to serve the adjacent hills suburbs of Lesmurdie and Kalamunda, as well as Perth metropolitan area in times of peak demand.

Accidental counselling when someone confides in you

If someone you know is going through a tough time, they might tell you about it when you feel least prepared to help them. It's important to remember that you don't need to be an expert to support someone. You also don't have to help them address all their challenges during a single, unexpected conversation.

Consider the situation from their shoes - the number one reason they're seeking you out is because they trust you. Perhaps they aren't ready to talk to someone they don't know like a counsellor or a GP.

That said, it's difficult to predict how a conversation might go at any given moment. Here are some things you can ask or say to someone when they tell you they're having a hard time:

What can I do to support you?

Sometimes, it's hard to know what might help someone. It's OK to just ask what you can do for them rather than trying to guess.

I'm here to listen.

All someone might need is the opportunity to vent to you about their challenges. If that's the case, just check in with them in a few days afterward to see how they're going and if they need any more support.

I'm not sure what to do, but let's figure it out together.

It's common to feel stuck and unsure on how to help. It's OK to admit this and take a slow approach to talking through the options together.



If you think you've said the wrong thing, don't beat yourself up about it. The most important thing is that you let the person know you care. If the conversation is going well, you might want to see if they are open to the idea of seeing a professional. People find talking to a GP or psychologist useful – health professionals can give them some tools and advice to better cope with what's going on.

However, don't be surprised if they aren't ready for this. The thought of getting support can be intimidating for some people. You could offer to book an appointment on behalf of them, or call a support service to find out what's available in their area. If they decide not to go down this path, don't critique their decision. Just continue to assure them you are here to help.

Remember, the Beyond Blue Support Service is accessible via phone on 1300 224 636, online chat (3pm-12am, 7 days a week), as well as email.

Check out the Beyond Blue forums where you can find many topics and personal stories that can relate to ones affecting you or your loved ones.

Extract from Beyond Blue.



<https://tinyurl.com/bpkzytvb>



WIOA Diversity & Inclusion Group Opportunity



WIOA established a Diversity and Inclusion (D&I) group of Members in 2019 to help us to identify opportunities to embrace and celebrate Diversity and Inclusion within our organisation. This group was initially appointed for a 2-year term and has met online 12 times over this period and have greatly assisted the association with ideas and events, in the D&I space.

The opportunity exists for Members to submit an expression of interest for consideration for a position on the Diversity & Inclusion Group.

Members who would like to become engaged with this active group and help advise and assist WIOA with Diversity and Inclusion are invited to submit the expression of interest by 13 December 2021 via the WIOA website that also has a link to the WIOA D&I Terms of Reference.

We look forward to lots of new ideas and practical ways the D&I group can assist WIOA deliver more opportunities for all members as the group contributes to:

the development and implementation of the WIOA Diversity & Inclusion Plan

the types, range and scope of services and events appropriate for members

assisting with ideas for the organisation, promotion and staging of events

providing information for inclusion in WIOA publications

WIOA is committed to continue on our Diversity and Inclusion journey and consider it is integral to our culture, our values and the way we do business.



wioa.org.au/di/

Flushable Products

Standards Australia is now seeking consultation on the draft standard DR AS/NZS 5328, Flushable Products. There will be a 9-week public comment period from August 30 to November 1, in which the wider public can provide feedback. The draft standard defines criteria for material that can be flushed down the toilet, aiming to provide clarity around what products can be classified as 'flushable'.

The need for the standard rose following years of contention around what can be flushed down the toilet. The issue was amplified at the onset of the COVID-19 pandemic, with people resorting to alternatives to toilet paper.

The Water Services Association of Australia (WSAA) received reports in blockages of between 20 and 60 percent in 2020, with people flushing materials like paper towels and wet wipes.

We know wipes and other items that shouldn't be flushed are an issue for water utilities around the globe, disrupting customer services, creating extra costs for water utilities and customers, and impacting the environment through sewage overflows.



Wet wipes and other non-flushable item build up.

It provides test methods for determining the 'flushability' of a product and disposal labelling requirements for easy visibility for consumers. Where a product is suitable for toilet flushing, it will have a distinct indication on the packaging.

In recent years, what constitutes a flushable product has been a source of contention across Australia, so this draft standard has great potential to be an important addition to the wastewater sector.

Stakeholders from consumer interest groups, water utilities, local government organisations, suppliers, manufacturers, and technical experts have been involved in the development of the highly anticipated standard. Public comment on the draft standard DR AS/NZS 5328 can be made on the Standards Australia website:



<https://comment.standards.org.au/>

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Mystery Goop at the Moe WWTP



Inside of screens.

The Moe WWTP operator had been experiencing problems with the plant's raw sewage inlet pumps, which had been fluctuating in performance. Investigations and a pump shutdown, revealed a few problems. An old section of pipe blocking the pump and some mysterious black goop that looked a lot like tar coating everything. With some considerable effort, the pump was opened up and cleaned and the blockages were removed.

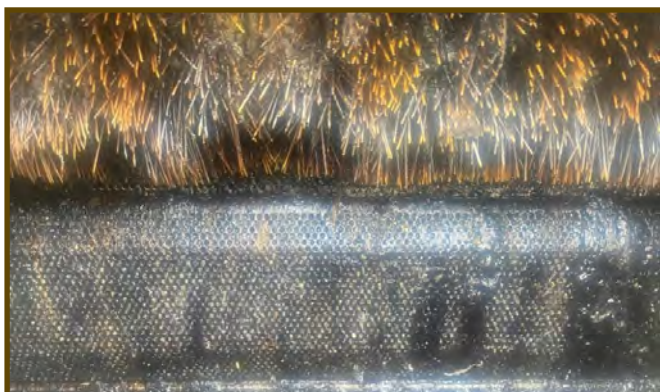


Outside and inside of the sewage inlet pump.



Section of old pipe blocking pump.

Little did we know this would be the start of a problem that would take days to rectify! The tar like substance coated the travelling screens located in the pretreatment area, significantly reducing the plant's maximum operating capacity. Bypassing the screen means large solids and rag material can make their way further into the process and block up pumps and other downstream equipment.



Outside of travelling screens (normally silver) and brushes (normally yellow).

Through some collaboration with our Field Services team, maintenance contractor and educator trucks, an investigation began within the sewer reticulation system to pin point the source of the mystery substance and identify other areas of the system that may be affected.

We used our specialised sewer camera van to determine which sections of sewer retic pipes had been affected, and were able to narrow down the cause of the issue to an illegal dumping down a manhole in Moe's industrial estate.

As the investigation continued in the field, work began on reinstating the travelling screen at the plant. It took two solid days of elbow grease using paint scrapers and various solvents to try and dislodge the gunk. We discovered that CRC cleaner helped in breaking it up, but as this would impact the microbes in the treatment process, it had to be used sparingly.



Field Services crews cleaning the sewer main.

After a thorough clean, reviewing CCTV footage in the area, door knocking, social media posts and camera investigations of the sewer main we thought that was the end of it. We placed the plant into bypass mode for the impending wet weather to make sure anything that flushed through would be diverted. However, the screens and the reticulation system blocked up again and had to be cleaned to remove more of the mysterious substance.

Over 160 Kg of the tar like gunk was removed from the sewer and WWTP over 3 days, at a cost of around \$20,000. Unfortunately we are still unsure what this mystery substance was, or where it came from... we just hope we never see it in our systems again!

*Contributed by **Stephanie Badger** from Gippsland Water.*

CORPORATE MEMBER NEWS

Pump Upgrade Stops Pump Blockages at Luggage Point

Utilita Water Solutions is a joint venture between Broadspectrum and Downer Utilities, delivering maintenance services for Queensland Urban Utilities from July 2016 through to July 2021.

Queensland Urban Utilities is one of the largest water distributor-retailers in Australia, supplying drinking water, recycled water and sewerage services to a population of more than 1.4 million across Brisbane, Ipswich, Lockyer Valley, Scenic Rim and Somerset.

Utilita carries out a range of work for Queensland Urban Utilities including mechanical and electrical maintenance and repairs, water and sewer mains and fittings maintenance, reservoir maintenance and vegetation management.

As part of their client commitment, Utilita like to implement changes that improve processes, WHS conditions, and reduce downtime. As part of this commitment, David Tolliday, Leading Hand Mechanical with Utilita at the Luggage point WWTP, wanted to address a continued downtime issue with his digester turnover pumps. Although he had Gorman-Rupp Super T Series pumps on the job, the heavy loading of rags was causing blockages to the pumps twice or three times per day, per pump!



David met with Darren Jones of Hydro Innovations to find a solution. Darren suggested a trial with Gorman-Rupp's new "eradicator" solids management system, which was designed to greatly reduce blockages by stringy materials.

This system can be retrofitted to Gorman-Rupp Super T or Ultra V Series sewage pumps, so David was keen to try it. The trial eradicator retrofit kit was duly installed in late March 2021.

The pump with the eradicator fitted had not had a single blockage in an 8 week period, aleading to upgrade kits for the balance of the digester pumps.

Gorman-Rupp designed the "eradicator" to address blockage issues associated with the increased use of wet wipes and their infiltration into the sewage system, ragging issues, and industrial issues such as feathers in poultry processing. The eradicator works by continuously cleaning the leading edge of impeller vanes, and passing the materials through the pump without impacting performance or interrupting service.

 info@hydroinnovations.com.au



CONTRIBUTE TO CORPORATE MEMBER NEWS

WIOA's quarterly publication Operator is produced in February, May, August and November each year and is an effective way of keeping the WIOA community in touch.

Each edition we feature a number of news items from corporate members on new products or services to the industry. Content is not to be overtly promotional like an advertisement or advertorial, but more information that would be of interest to our members.

 wioa.org.au/publications/operator.htm

Operator

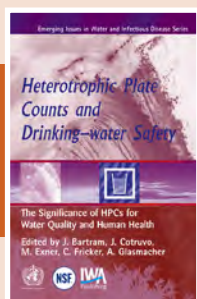
**Do you have something
to contribute to Operator?**

CORPORATE MEMBER NEWS

Heterotrophic Plate Counts

Heterotrophic plate counts (HPC), commonly referred to as heterotrophic colony counts (HCC) or total plate counts (TPC), measure all culturable aerobic bacteria in a water sample. Regular monitoring of HPC can be beneficial in assessing and monitoring water quality and the performance of water treatment and distribution systems.

Research has confirmed that elevated levels of heterotrophic microorganisms found in water can be linked to increases in waterborne infections. As a result, global health organisations, such as the World Health Organization (WHO), recommend monitoring heterotrophic levels to ensure water quality, where a higher level of heterotrophs can indicate higher risk for water contamination. The WHO has several publications related to Heterotrophs, HPC, and water sanitation.



Heterotrophic Plate Counts and Drinking-water Safety: The Significance of HPCs for Water Quality and Human Health.

Traditional HPC methods such as pour plate and spread plate, are time consuming and require media preparation days before testing is required. IDEXX EasyDisc is available in three formats and is a ready-to-use HPC test with a 12-month shelf life.



EasyDisc plates also come with laser-etched gridlines and colonies exhibit a bright blue color. Both these features help make the counting process easier for analysts.



1300 44 33 99



idxx-anz-water@idxx.com



idxx.com.au/en-au/water/

High Efficiency Grit Removal

Independently tested grit removal technology that achieves 95% efficiency down to 105 microns over 10:1 turndown was introduced at the WIOA Queensland Conference. CST Wastewater Solutions installation and service specialist Peter Bambridge introduced the Smith & Loveless PISTA® VIO™ grit removal system, for which it is exclusive Australian distributor.



Smith & Loveless says most grit removal systems are designed only to remove grit in the 200-300 micron range, but typically 40-80% of grit in wastewater is in the 105-200 micron size range. These findings motivated the company to develop a superior grit removal system down to 105 microns.

"With so much of Queensland and Australia's population living near the coast and in often remote sandy areas, such markedly superior grit removal offers immediate and long-term benefits in helping to prevent common grit problems in municipal and industrial water and wastewater systems," said Mr Bambridge.

Left unchecked, grit build-ups create troubles throughout the entire wastewater process. They expose plants to wear, blockages, breakdowns, flooding and hazardous recovery operations by public and private wastewater operations staff. The Smith & Loveless technology provides clear benefits to municipal and industrial organisations plagued with grit issues. The system has been independently tested to confirm its performance, reaching the 95% benchmark it was designed to achieve.

The PISTA® VIO™ grit removal system features full variability of inlet and outlet channels. It also features a hydraulic vortex grit chamber design that utilises a new baffle system. This type of grit removal system provides the ability to design the inlet and outlet channels at any variable angle up to the full 360° of the chamber. Designers can arrange the system to fit existing sites, or maximise space during construction on new sites.



02 9417 3611



info@cstwastewater.com



cstwastewater.com

CORPORATE MEMBER NEWS

Books Celebrate First Nations People's Water Knowledge

IoT technology company mIoT has partnered with the charitable foundation for Books in Homes Australia to distribute books through their school network. Books in Homes provide reading resources to socio-educationally disadvantaged children living in urban, rural or remote communities.

The children's books were chosen for their water theme and embed a First Nation's perspective, either having been written or illustrated by Indigenous authors and artists. The books recognise First Nations people's longstanding knowledge of protecting and sustaining Australia's water and lands for over 65,000 years. Some of the titles include River, Coming Home to Country, and Wilam, A Birrarung Story.

mIoT provide IoT data loggers to some of Australia's largest water utilities, which allow for comprehensive and reliable monitoring of their water networks, detecting and preventing leaks and overflows, and subsequently saving water.

The five schools that received the pack include Dajarra State School, which is situated in outback Queensland. Water is so scarce in Dajarra that non potable water has to be brought into town by tanker once a week. The Council also supplies eight litres of drinking water per household per day. Another school is Bulla Camp Primary in remote Northern Territory, situated in the Big Rivers Region of which local rivers act as a life source for the community and school.



Kaurna Plains School students reading some of the books including Wilam, A Birrarung Story.

The three other schools are East Kalgoorlie Primary School in the outback goldfields region of Western Australia, Brungle Public School in regional New South Wales, and Kaurna Plains School in Adelaide, SA. Indigenous student enrolment is between 92% to 100% in these five schools.

mIoT strives to create long-term sustainability solutions, not only for the businesses they service, but for the greater community.

📞 0450 953 528

✉️ leilani.johansen@miot.com.au

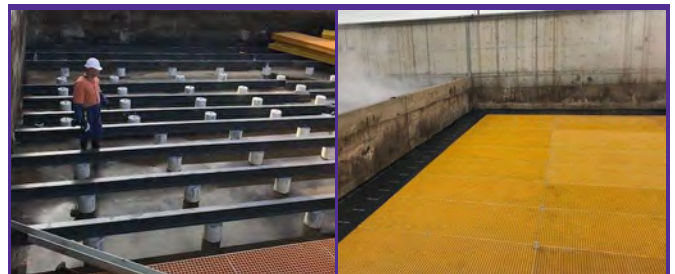
🌐 miot.com.au

Biofilter Upgrade

A Treadwell client who is a major contributor to the Australian agricultural industry, runs a plant that produces renewable fuels and high-performance feed ingredient solutions.

This recycling plant processes animal by-products, water and plant waste. They manage ponding systems on their site that produces biogas as well as treats water to a reusable standard. They are committed to ensuring positive environmental performance across all areas of their business.

The internal structure of the biofilter had deteriorated and needed to be replaced. Treadwell was engaged to supply an FRP solution that would integrate seamlessly with their processes, taking into consideration the environment the products would be applied in.



Treadwell biofilter upgrade.

The project challenges included:

1. Constant exposure to corrosive environment.
2. Maintenance of the structure in the long run was a concern based on previous experience with traditional materials.
3. Grating had to allow debris to pass through.
4. Grating also had to facilitate proper ventilation.

The solution included:

1. The access systems mesh grating allows for debris to fall through as well as provide proper ventilation to prevent a build up of gas.
2. The I-beams provided the support for the grating.
3. This FRP solution was specified as it was tested to withstand long term exposure to corrosive environments.
4. FRP is simply fabricated and modified on site. This means there is no need for any hot works permit.
5. Being lightweight and easy to install, FRP is very manageable during construction.
6. Given the nature of FRP, any system utilising it is virtually maintenance free, keeping maintenance costs to a minimum.

📞 1800 246 800

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New Members

Welcome to the following people and companies who have recently joined our Association as a Member or Corporate Supporter.

New Individual Members

David Sutton, Anthony Hill, Stephen Jessett, Andrew Stansell, Luke Chapman, Joshua Bolt, Jessie Wright, Joshua Whitehead, Luke Gantzias, Andrew Rassip, Braeden Middleton, Mark Rowe, Allan Surha, William Kracmer, Jacob Mallon, Jeremy Gallagher, Peter Brown, Jayden Atlas, James Leavold, Jess Littlejohn, Simon Robertson, Peter Westbrook, John Walker, Timothy Fitzpatrick, Peng Zheng, Ian McNamara, David Webster, Nathan Williams, John Booker, Philip Hood, Rick Phillips, Rob Hood, Ben Adsett, Mithclel Gormley, Hamish Staines, Melissa Carroll, Lachlan Fleming, Stephanie Rogers, Connor Darroch, Lisa Campbell, Adam Pearson, Paul Lynch, Stephen Williams, Graham Dove, Paul Judge, Murray Watson, Andrew Elliott, Michael Rae, Peter Schuster, Robert Carmichael, Benjamin Atkins, Michael Hawton, Ruan Heit, Jessie Barassi, Rohan Pell, Michael Watson, Ellie Lorensini, Bradley Warner, Nick Boyd, Coen Mitchell, Harley Taylor-Lloyd, Adrian Cameron, Jonathan Bell, Michael Murphy, Colin Fogarty, Michael Hodges, James Wallace, Ryan Giblett, Thomas MacBeth, Gary Wright, Benajmin Webster, Aaron Lane, Steve Langevard, Richard Dowers, Song Li, Reece Lloyd, Joshua McIndoe, Mike Sahayam, Joan Barry, Hugh Stewart, Robert Clough, Sean Hughes, Thomas Jenkins, Brendan Lewis, Colin Clarke, Andrew Volk & Ben Pennell.

New Utility Corporate Members

Walcha Council.

New Corporate Members

Remrton, Replas, WEG Australia, A1 Evolution, Sexton Engineering Services, Australian Valve Group, Vaisala, Australian Conveyor & Culvert Cleaning, James Cumming & Sons, Bluey Technologies & 3rd Eye Movement.



Welcome Patrick



Congratulations to WIOA Committee Member Elise O'Keefe and her partner Hugh who welcomed Patrick Allan Sinclair into the world on Sunday 21st October, weighing in at 8 pounds. Everyone is doing well. Congratulations from everyone at WIOA.

WIOA Conference & Exhibitions in 2022

We are monitoring the COVID-19 situation and Health Department advice across Australia, hoping to be able to conduct face-to-face Conferences.

23 & 24 February	83rd Victorian Conference & Exhibition, Bendigo
6 & 7 April	14th NSW Conference & Exhibition, Tamworth
3 & 4 August	47th Queensland Conference & Exhibition, Logan
20 & 21 September	3rd South Australian Conference & Expo, TBC

Advertisers in this Edition



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Mark Samblebe
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Vice President
Sally Shepherd
0409 800 534



Secretary
George Wall
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Bill Collie
0416 098 719



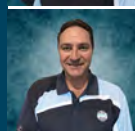
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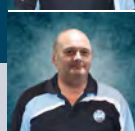
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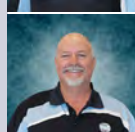
Elise O'Keefe
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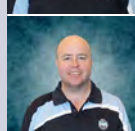
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