awma Water Control Solutions | NEWS
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AUTOMATED TRASH SCREENS FOR URBAN WATER CHANNEL

AWMA manufacture Automated Trash Screens that safely and effectively remove seeds, weed, rubbish and other debris from waterways.

AWMA's latest Trash Screen design features fine, wedge wire filtration with a brushed self-cleaning mechanism. This provides reliable, OH&S compliant, automated screening to remove bulk and fine debris from waterways. This process protects downstream infrastructure including pumps, pipelines and irrigation spray nozzles. AWMA screens are ideal for applications requiring an economically viable option for automated screens.

Engaged by the Victorian Government's Level Crossing Removal Project via its Western Program Alliance, AWMA custom-designed twin Automated Trash Screens for an urban water diversion system in Victoria. The previous method of manually raking weed and debris was no longer safe or viable.

AWMA screens are engineered to site specific requirements and conditions. For this project that meant designing a Trash Screen that could automatically remove large amounts of weed, seed pods and a variety of rubbish out of the waterway and into disposal bins. It was crucial that the process was automated as the weed present was seasonal with quantities varying from hour to hour, day to day. A 100% capture rate was also required, to extract weed and urban debris greater than 5mm as seed pods were causing issues for farmers by clogging irrigation spray nozzles, requiring endless maintenance. A low whole-of-life cost was a key design criteria which led AWMA to deliver a product with a 50 year asset life.

To date AWMA Automated Trash Screens have been manufactured up to 3.5m wide, with no restriction on depth. The screen medium is a stainless steel wedge wire with 5mm aperture to capture weed, rubbish and debris.

The benefits of self-cleaning trash screens include:

- reduced operator risk by eliminating manual cleaning requirements
- improved efficiencies from extracting water through a clean screen
- higher water quality
- reduced damage to downstream infrastructure

Design options for AWMA Automated Trash Screens include a raked bar system for larger debris, or a brushed wedge wire design for finer filtration. Both options have a range of aperture sizes available to accommodate site-specific debris loads and characteristics.

GENERALLY SPEAKING

AWMA deliver a wide range of solutions to a diverse client base. An important part of this includes early stage solution development.

Significant resources within the business are dedicated to supporting consultants, asset owners and contractors in developing solutions during the initial concept stages of a project.

When requested to assist in developmental stages AWMA leverage from the skills and experience gained over the past 20 years. The earlier we are involved in a project the more we can offer. We take a holistic approach looking at everything from functionality, safe operation and maintenance as well as the whole-of-life cost of the asset. Consideration is given to developing solutions that minimise civil costs, schedules and installation. These costs can sometimes be significantly higher than the asset we supply.

It is not uncommon for AWMA to be supporting a project for many years before the opportunity to quote and tender. This is part of the commitment we make to the industry and the support that we offer our clients.

AWMA also provide support to the project with services including installation, install supervision/certification, testing, commissioning and training.

So no matter how early you are in your project, it is never too early to give us a call and let us partner you in developing the best water control solution that can be offered.

Brett Kelly
Managing Director

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ISOLATION GATES FOR FLOOD MITIGATION

A series of AWMA Penstocks and Flap Gates were recently delivered to replace aging flood mitigation infrastructure.

The isolation gates consist of top sealing TLF Penstocks manufactured from grade 316 stainless steel and rectangular Flap Gates. Customisation of the water control gates included engineering the mounting arrangements to cater for the inclined face of the structure.

The site's floodgates are used to control water flow between an inlet and a lagoon, which is influenced by tidal movement and drainage.

The existing penstocks, frames and spindles were removed and replaced with AWMA water control equipment, including non-rising spindles, hand wheels for manual operation and the provision for a portable actuator.

ASSET PROTECTION FOR VIETNAM

Water ingress through driveways and building access points is a common flood protection issue, worldwide.

AWMA design and manufacture a range of 'FloodFree' Barriers to protect buildings, assets and infrastructure from flood and storm water damage.

The Australian-made FloodFree Barriers are being delivered through a global sales and service network to benefit commercial and residential buildings from Melbourne to Townsville to Saigon!

Pictured, is the installation of a Concealed Flood Barrier in Southeast Asia. The flood barrier is permanently installed below the driveway entrance at the isolation point. Rising water levels causes the flood barrier to automatically deploy. Engineered on the principles of buoyancy the aluminium flood barrier rises out of the ground to 'float' above the water height, isolating the property from tidal, flood or storm waters. The Saigon property is prone to flooding on every high tide so automatic deployment is critical.

INTAKE SCREEN ON SUBMERSIBLE PONTOON

Pumped intake systems that deliver water for irrigation centre pivots require reliable flow volumes and high quality water, to operate efficiently.

Installing Fish Exclusion Screens on pumped intakes protects water control infrastructure, whilst following best practice guidelines for fish protection.

Fish Exclusion Screens maximise operational efficiencies to deliver reliable irrigation flows, whilst reducing maintenance issues associated with pipe and nozzle spray blockages.

An irrigation operator in the South Island of New Zealand recently replaced the intake screen on the property's pump station that draws water from Lake Benmore. The original screening system had a mesh type screen which used water pressure to keep the screen debris-free. This method and type of screen wasn't effective for the Lake conditions which resulted in inefficient operation and high maintenance. Additionally, the requirement for increased flow prompted the decision to look for an alternative screen solution.

An AWMA self-propelled, self-cleaning cylinder screen was supplied to provide a sustainable pump intake screening solution.

Due to factors including; variable lake levels, lake conditions in high winds, rain events and high silt movements in the lake, it was determined that the AWMA Submersible Intake Screen was the ideal solution. This system consists of a 12m long suction line of 500mm diameter pipe with a twin pontoon and self-propelled, self-cleaning screen. The innovative pontoon system allows for the intake screen to be lowered to sit on the lake bed and then raised to the water surface as required for inspection and/or maintenance. The self-cleaning screen functionality has a unique internal and external brush system, with self-propelled operation for applications where there is no power source available.

The AWMA Submersible Pontoon operates by filling the suction lines and pontoons with water to lower the infrastructure to the lake bed. Replacing the water with air then raises the pontoon to the water surface.

The Lake Benmore Submersible Intake Screen can be lowered to sit on the lake bed at a depth up to 2m, it is designed to operate with low velocities to ensure minimal silt disturbance. It is also compliant with 'Fish Screening: best practice guidelines'.

"It's working a treat - all is going well and I'm enjoying the time I'm not spending at the pump shed. We are currently running 236 litres / second which is fantastic" – Mike King - Farm Manager.

RETRACTABLE BARRIERS

Every AWMA product is tailor-made, to meet site requirements and client specifications.

Pictured is a permanently installed, custom-designed Retractable Flood Barrier.

The Retractable Flood Barrier is 2900mm wide x 1500mm high. It was requested when a new travelator was installed at the existing shopping centre.

Situated on the wall adjacent to the underground shopping centre entrance, this barrier is manually pushed along a permanently installed track to protect the glass doors, shopping centre entrance and travelator from water ingress in the basement carpark.

Covers located on the track system and end panel protect the infrastructure when not in use, but are easily removed in emergency situations.

Locking pins at each end allow the Flood Barrier to be locked in place, for both the open and closed positions.

RECENT PROJECT GALLERY

INNOVATIVE - CUSTOMISED - SUSTAINABLE

FLOOD | ENVIRONMENTAL | IRRIGATION | WATER TREATMENT | DAMS | ENERGY & RESOURCES

awma Water Control Solutions

HEAD OFFICE
Phone +61 3 5456 3331 Email info@awmawatercontrol.com.au
118 Roviras Road, PO Box 433, Cohuna, Victoria 3568, Australia.
www.awmawatercontrol.com

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