



Australian Native Landscapes



Preventing Sediment & Pollution Run-off

FilterBales™ are a patented 7 stage sediment and run-off filtration device developed to substantially reduce the migration of sediment and contaminants into drainage systems and waterways. Filterbales are permeable and therefore allow purified water to pass through at reduced velocity.



FilterBales™ are reducing customers' time and cost by providing solutions to achieving environmental and regulatory requirements.

FilterSocks™ are a superior replacement for gravel socks or sand socks and contain purifying **Ecomedia™** that captures and treats polluted run-off. The lightweight **Ecomedia™** Cartridges and filter covers should be changed when the infiltration rate decreases allows **FilterSocks™** to be easily transported and installed prior to increasing in weight during treatment.

Durable, Dependable, Reusable

FilterBales™ contain a tough, polypropylene inner frame that is designed to last for many years and can be used from site to site or fixed into a single position for years of performance. Each **FilterBale™** contains two



Replaceable filter cartridges

replaceable **Filter Cartridges** containing **Ecomedia™** that guarantee peak performance is maintained in the long term. Cartridges and filter covers should be

changed when the infiltration rate noticeably decreases.

FilterBales™ are a durable and re-useable replacement for hay bales and other inadequate sediment and run-off control devices. They are also lightweight and easy to handle reducing the risk of injury and non-compliance with occupational health and safety requirements.

FilterBales™ efficiently retain silt and sediment run-off and in addition remove chemical, nutrient and biological contaminants using safe, "state of the art" remedial technologies. The cellular internal bale frame allows water to pass through in a motion that oxygenates, rejuvenates and re-invigorates water. Gross pollutants such as leaves, litter and other solid matter can also be trapped using **FilterBales™**. **FilterSocks™** have a unique interlocking function that allows two 1.8m socks to be joined into a 3.6m length. The **Ecomedia™** contained inside the socks can better withstand vehicular loads thus reducing the incidence of rupturing associated with gravel and sand socks.

Where Can I Use FilterBales and FilterSocks?

FilterBales™ and **Filtersocks™** are suitable for a wide range of sediment and water management situations and can be easily secured in place for long term use. The unique multi-directional filter system allows you to position WaterClean **FilterBales** in any direction without reducing performance.



FilterSocks

FilterBales™ can be fixed to concrete or bitumen surfaces using an epoxy mortar-binder or can be set into an earthen surface at a depth of 100mm. When positioning the **FilterBales** near roadways use red reflective marker tape should be used on the side facing traffic with white reflective tape facing away from traffic.

FilterBales and FilterSocks are ideal for use in all construction, civil works and environmental areas including:

- Residential Development
- Commercial Development
- Road and Transport
- Mining and Excavation
- Stormwater and Flood Mitigation
- Embankment Stabilisation
- Effluent Control
- Environmental Rehabilitation
- Agriculture and Horticulture
- Landscaping
- Utilities installation and maintenance

Situations where FilterBales and FilterSocks can be used include:

- Kerb and Gutters
- Culvert Entries
- Drainage Inlets
- Diversion Banks and Dams
- Sediment Basin Overflows
- High Gradient Slopes
- Top soil Stockpile Containment
- Effluent Containment and Treatment
- Erosion Control Areas
- Critical Natural Area boundaries
- Catchment Boundaries
- Clearing Grading and Filling Sites
- Disturbed Natural Landforms
- On-site sump pump-outs

Product Range

High FilterBale (605mm x 485mm x 460mm)

Suitable for high flow situations and higher retention time applications. Contains two standard size WaterClean Filter Cartridges in upright formation to treat contaminated waters.

Low FilterBale (605mm x 485mm x 220mm)

Suitable for low flow situations and kerb & gutter applications. Multi-directional module containing two standard size WaterClean Filter Cartridges.

FilterSock (1800mm x 160mm x 30mm)

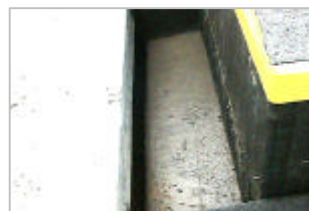
Can be used in conjunction with FilterBales to direct water. Will also provide some sediment filtration from seepage through bio-remediating media contained within the EcoSock.



FilterBales & socks preventing sediment run-off from construction site



Street view – FilterBales stopping sediment run off at a new residential building development



Drain view - FilterBales stop sediment from entering waterways

Accessories

Filter Cartridges (440mm x 400mm x 100mm)

The Filter Cartridges contain a unique blend of fixating and bio-remediating products that treat common pollutants. To achieve maximum performance, each FilterBale uses two WaterClean Filter Cartridges.

FilterBale Cover Replacements

Replaceable FilterBale covers are available in sizes to fit "High " and "Low " FilterBales. Made from specially designed geotextile, FilterBale covers have a standard aperture of 300 microns.



For more information about **FilterBales and Filtersocks** call,

Australian Native Landscapes

Terrey Hills
02 9891 3877

North Ryde
02 9887 2788

Baulkham Hills
02 9629 2588



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FilterBales Technical Information

1. FilterBales frames are a perforated high-density polyethylene plastic structure made using recycled plastic.
2. The filter medium **Ecomedia** (bio engineered soil media) used in the filter cartridges is made from a special blend of organic, mineral and biological components. The specially selected organic material hosts enhanced naturally occurring micro-organisms that aid in remediating toxic compounds. The blend also contains natural minerals that capture nutrients and heavy metals. The filter medium is as safe as normal soil.
3. FilterBales have a seven (7) stage filtration system:
 1. In through the filterbale cover
 2. Through the perforated plastic structure wall
 3. In through the filter cartridge bag
 4. Through the bio engineered filter medium
 5. Out through the filter cartridge bag
 6. Out through the perforated plastic structure wall
 7. Out through the filterbale cover
4. The filterbale cover is made from geotextile that has a 300-micron (one third of a millimetre) pore size. This is the first stage that filters much of the sediment and other suspended solids from the run off water. The geotextile is designed to stop sediment and reduce clogging but allow water to pass through easily. The filter cartridge bags are made from a similar geotextile.
5. FilterBales are working effectively for "storm events" up to "a one-in-ten years, 48 hours, 100 mm storm event.
6. FilterSocks are made using a similar geotextile to the filter cartridge bags and contain the same bio engineered soil media as the FilterBales. They appear to be able to stand up to as much wear and tear as a sandbag.
7. FilterBales are much lighter (at around 15 kgs dry weight) than hay bales. This reduces exposure to Occupational Health and Safety problems



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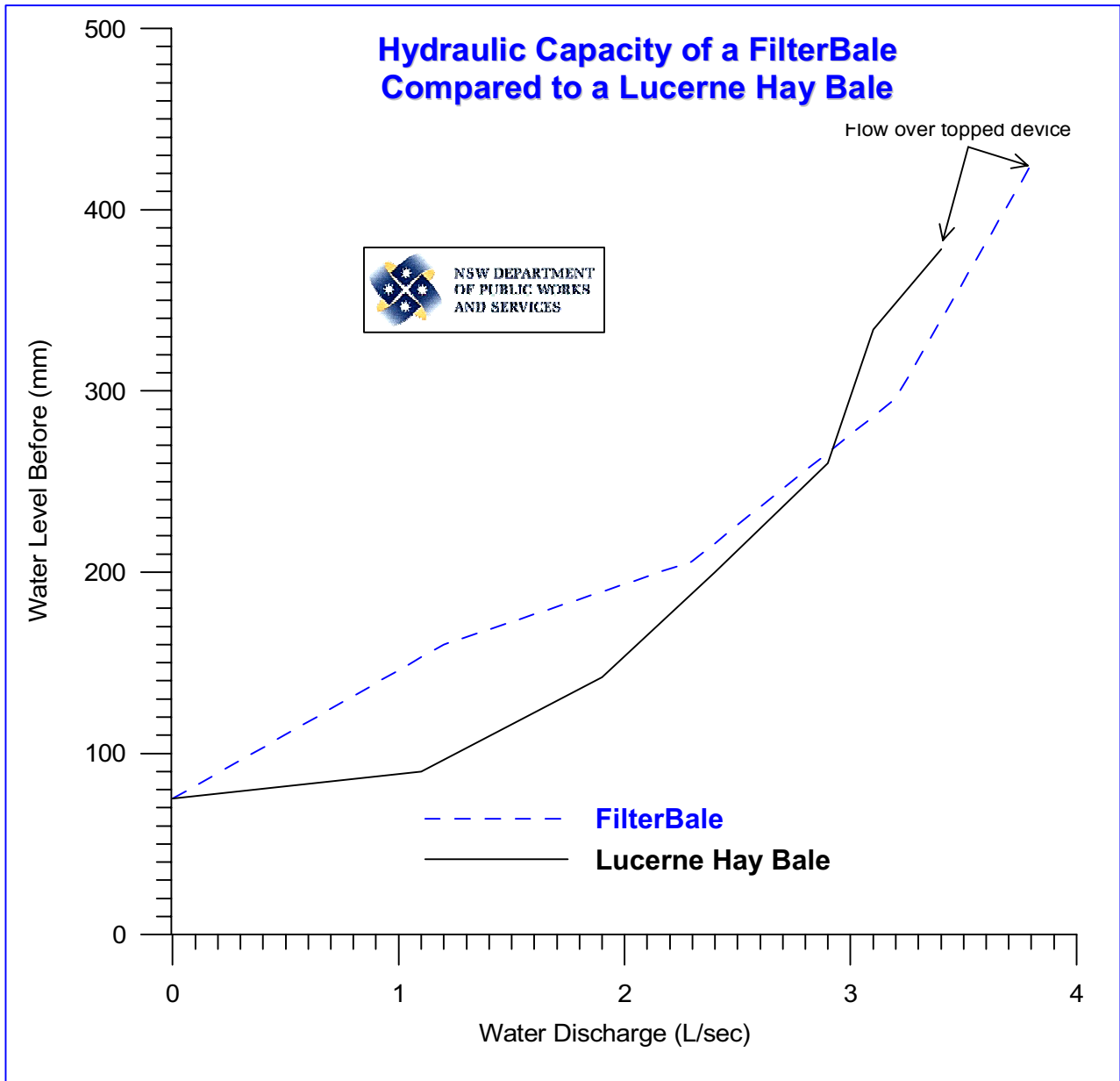
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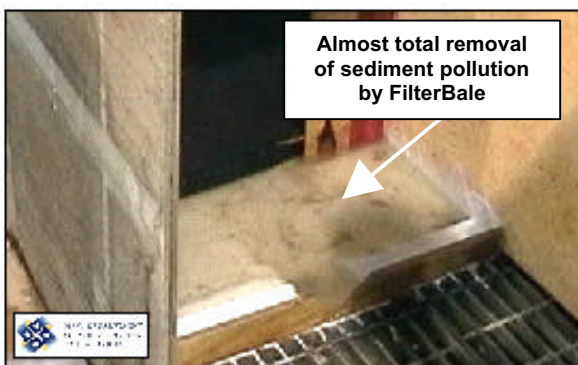


Examples of testing of FilterBales

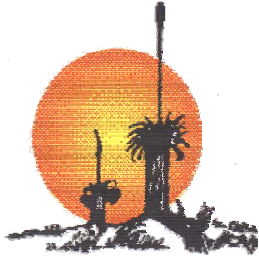
Hydraulic Performance



Pollution Prevention Performance



Independent testing by Manly Hydraulic Laboratory (Department of Public Works & Services)



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Stormwater Treatment Using Infiltrating Ecomedia



Australian Native Landscapes (ANL) has released a range of "ECOMEDIA"[™] that treat polluted stormwater.

"ECOMEDIA"[™] is a specifically engineered infiltration medium that uses selected organic matter or a blend of selected organic matter, minerals such as sand and soil and other proprietary ingredients that are used to physically, biologically and chemically purify or treat contaminated air, soil and water.

Treatment and purification is achieved by physically filtering sediments, and through chemically binding and biologically degrading contaminants.

ANL's specially designed and certified "ECOMEDIA"[™] physically, chemically and biologically degrade and remediate toxic chemicals that are contained in stormwater as the result of daily urban and industrial activities.

These toxic chemicals including, Organophosphates, PCBs, PAHS, coal tars, pesticides and herbicides are carcinogenic to humans and their accumulation in

soils and waterways are a major health and environmental concern.

"ECOMEDIA"[™] infiltrating treatment soils contain selected naturally occurring micro-organisms and other proprietary ingredients which transform toxic chemicals into natural, non-toxic elements.

Even some heavy metals such as arsenic, chromium and selenium can also be biologically degraded using ANL's "ECOMEDIA"[™].

ANL's "ECOMEDIA"[™] range of engineered, structured soils can where necessary be specifically designed to meet engineering requirements such as compaction ability and load bearing capacity, while maintaining peak infiltration rates that can handle typical urban rainfall events.

The unique design of "ECOMEDIA"[™] provides maximum compaction, infiltration and treatment that cannot be achieved by most natural or manufactured structural soils.

As contaminated stormwater and other runoff

infiltrates through the remediating "ECOMEDIA"[™] various micro-organisms work away at the toxic chemicals. The water can then be re-used for watering landscaped areas or infiltrate through the soil profile for recharging ground water reserves.

"ECOMEDIA"[™] can be used in conjunction with specifically recommended plant species that can also be used to help degrade toxic chemicals and consume heavy metals such as lead and zinc by digestion.

Other pollutants such as nitrates and phosphorous which cause algal blooms and other environmental damage in our land and waterways can also be successfully treated using "ECOMEDIA"[™].

A range of ANL "ECOMEDIA"[™] is available for any specific water contamination situation including landscape gardens, roadways, railways, wetlands, sporting tracks and fields and leach drains.

For further information call

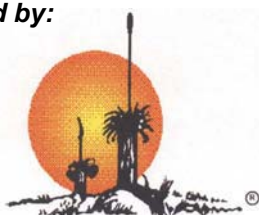
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Product Range

Product Code	Product Type	Description
RENS010	Roadway Ecomedia (non structural grade)	Specifically designed for swale type applications on roadways and railways, Roadside Ecomedia provides a higher drainage performance standard required to treat high levels of first flush contaminated run-off. Treated water can then be either directed to on-site detention, ground water recharge or stored and re-used to irrigate landscaped areas.
RES011	Roadway Ecomedia (structural grade)	Specifically designed for using for structural applications such as kerb gully by passes on roadways, Roadside Ecomedia provides structural integrity combined with a high infiltration rate and drainage performance standard required to treat high levels of first flush contaminated run-off. Treated water can then be either directed to on-site detention, ground water recharge or stored and re-used to irrigate landscaped areas.
LGE012	Landscape Garden Ecomedia	Designed for a wide range of landscape applications, Landscape Garden Ecomedia allows for the efficient infiltration and treatment of contaminated water run-off from roads or other impermeable surfaces. The purified water can then be stored and re-used to irrigate landscaped areas. A wide range of plant species can be grown in Landscape Garden Ecomedia that can also take up stored water by natural capillary action.
RWE013	Retaining Wall Ecomedia	A free draining structured media with high hydraulic conductivity, Retaining Wall, Ecomedia is engineered to be used in conjunction with Drainage Cell for all retaining wall applications. Contaminated water is purified through the media and directed away from retaining walls by the drainage cell and can be stored in drainage tanks for re-use or for recharging depleted ground water reserves.
RGES014	Roof Garden Ecomedia (Standard Weight)	Designed for use on concrete structures that can bare a standard weight soil, Roof Garden Ecomedia (Standard Weight) has a dry weight density of approximately 1,525 Kg's per cubic metre. It is a free draining mix in which a wide range of plant species can be grown and contaminated surface water run-off from impermeable paving or roofing can be bio-remediated. Contamination is eliminated in the process and water is safe for recycling.
RGEL014	Roof Garden Ecomedia (Light Weight)	Designed for use on structures that require a lightweight planting media, Roof Garden Ecomedia (lightweight) has a dry weight density of approximately 660 Kg's per cubic metre. It also has a free draining structure in which a wide range of plant species can be grown and contaminated surface run-off can be bio-remediated.
PBE015	Planter Box Ecomedia	Specifically designed for growing in confined spaces or in areas of high wind turbulence, Planter Box Ecomedia is suitable for either light weight or standard weight structures and has a dry weight density of approximately 660 Kgs per cubic metre. Holding good humidity levels, it has a free draining structure which bio-remediates contaminated surface run-off from impervious paving and is suitable for a wide range of both indoor and outdoor plants.
SFES016	Sports Field Ecomedia (Standard Formulation)	Specifically designed for a wide range of playing field applications, Sporting Field Ecomedia also provides superior drainage performance and maintenance characteristics. Allowing all weather usage, it ensures better nutrient management, which saves on fertiliser cost and protects surrounding environments from nutrient and pesticide run-off and leaching.
SFEH017	Sports Field Ecomedia (High Performance)	Designed for use on high traffic playing fields, Sporting Field Ecomedia (High Performance) also provides superior drainage performance, low compaction characteristics, effective hydraulic conductivity and bulk density and better maintenance characteristics. The high wearing characteristics provide cost saving benefits and minimise the risk of injuries.
GCE018	Golf Course Ecomedia	Specifically designed for golf course application this mix provides superior drainage performance, low compaction characteristics, good hydraulic conductivity, bulk density and improved Turf recovery. The mix also ensures better nutrient management, saving on fertiliser cost and protects surrounding environments from nutrient and pesticide run-off and leaching.
RTE019	Race Track Ecomedia	Designed for high impact performance and to treat accumulated toxins, Race Track Ecomedia is a free draining media which in conjunction with drainage cell systems provides a better water management solution than conventionally used systems. Nutrient run-off can also be effectively managed and retained water can be re-used for irrigation.
LDE020	Leach Drain Ecomedia	Designed as a free draining biochemical media to treat effluent and drain water, Leach Drain Ecomedia bio-remediates accumulated toxins contained in run-off. The water is can then be passed through drainage cell systems for re-use.

Manufactured by:

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Note: The standard Ecomedia product mixes described above are based on use in normal soil and water conditions. Responsibility for performance cannot be guaranteed without the provision of site soil and water analysis by the customer prior to Ecomedia manufacture.