

ecoStorm[®] plus

STORMWATER FILTRATION SYSTEM

GRAVITY SEPARATION

PARTICULATE AND
DISSOLVED FILTRATION

protect **TODAY** by
building for **TOMORROW**


Royal
ENVIRONMENTAL SYSTEMS, Inc.
A Division of Royal Enterprises America

ecoStorm[®] plus

ecoStorm[®] plus is an affordable stormwater filtration system designed to remove sediments, heavy metals and nutrients.

ecoStorm[®] plus removes

TSS

Particulate and Dissolved Nutrients

Phosphorus

Nitrates

Particulate and Dissolved Heavy Metals

Zinc

Cadmium

Copper

Chromium

Lead

Nickel



Benefits of the ecoStorm[®] plus

Small Footprint

Cost Effective

Maintainable

Filters can be regenerated with backflushing

ecoStorm[®] plus is ideal for new construction or retrofit applications including:

Parking lots

Treatment of runoff from metal roofs (*copper, zinc and others*)

Industrial manufacturing facilities

Commercial/retail developments

Municipal/residential drainage improvements

Transportation/maintenance facilities

Water quality improvement of ponds/lakes



Removal Efficiency

Removal efficiencies for relevant pollutants meet or exceed typical standards for stormwater runoff.

Total Suspended Solids (TSS)	>80%
Zinc (Zn)	>90%
Lead (Pb)	>95%
Copper (Cu)	>80%
Phosphorus	>60%

*Removal efficiencies for additional pollutants available upon request.



ecoStorm® plus units are equipped with a maintenance pipe allowing access to the sediment storage chamber. This pipe can also serve as an emergency overflow in heavy rainfall events when design treatment flows have been exceeded. While the standard ecoStorm® plus filter additives target removal of dissolved nutrients and heavy metals, the filter can be modified to remove various target pollutants.

ecoStorm® plus Treatment Process

Sedimentation and Filtration

Sediment is removed via hydrodynamic separation (gravity) and filtration. Up-flow filtration and scour by the inlet velocities promote self cleaning of the filter. Settled solids are isolated below the cyclonic separator to prevent resuspension.

Adsorption

The adsorptive properties of the filter provides for the removal of dissolved pollutants.

Chemical Precipitation

The filter buffers the pH of the stormwater, which is typically acidic, promoting precipitation and accumulation of dissolved substances. The fine pores of the filter allow water to seep slowly through the media providing greater opportunity for interaction between water and the alkaline composition of the filter.



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Royal Environmental Systems, Inc.

"Innovative technological products revolutionizing stormwater pollution control"

Royal Concrete Pipe, Inc.

"Providing quality concrete products since 1990"

Royal Erosion Control Systems, LLC

"Concrete block mat system for the prevention of soil erosion"



ecoStorm®

Gravity separation stormwater treatment system



ecoStorm^{plus}

Gravity separation *plus* upflow adsorptive stormwater filtration



ecoStop®

Catastrophic hydrocarbon spill control system



ecoSep®

Below-grade, high efficiency oil/water separators



ecoLine™-b



ecoTop™

Above-grade, high efficiency oil/water separators



ecoLine™-a



IntraFlow®
Low-Profile Inside Drop System



Sanitary sewer inside drop system

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