

# Storm King® Swirl Concentrator: For Managing Storm Flows at WWTPs

Wet weather flow can wreak havoc at WWTPs. The conventional solutions to managing storm flows are not always feasible ...

- Increasing the capacity of the WWTP is **Expensive**
- Building a wet weather detention tank upstream of the inlet works requires a **Large Footprint**
- Allowing wet weather flows to bypass the inlet works creates **High Maintenance**

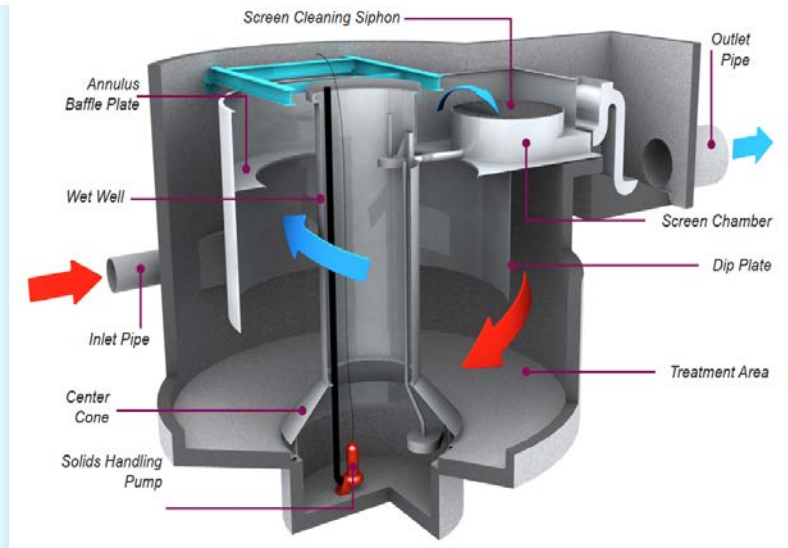
What can be done besides these conventional solutions?

## Swirl Concentrators such as the Storm King® offer a small-footprint, low-maintenance alternative.

Swirl concentrators such as the Storm King® by Hydro International, provided in Australia by VoR Environmental, intercept wet weather flows and use swirl technology to concentrate screenings, heavy grit solids, and large organics from the flow into a small underflow.

The concentrated underflow - approximately 5 to 10% of the total wet weather flow - then goes on to the WWTP where the plant's screening compactors, grit classifiers and/or sludge thickeners process the concentrated solids.

The remaining 90 - 95% of the flow from the Storm King® is then discharged, usually without further treatment.



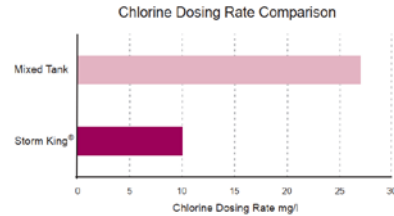
The Storm King®, represented by VoR Environmental ©Hydro International

## Storm King® offers design flexibility.

- Wide Range of Treatment Options
  - Use with or without self-backwashing 6mm screen
  - Size to remove coarse grit, fine grit or even primary organics!
  - Can be used as a disinfection contact vessel where up to 99.9% disinfection of effluent is required
- Options for Location of Installation
  - Can be installed at remote emergency sewer overflow points within the upstream sewer system; or
  - Install at the WWTP directly upstream of the inlet works

## O&M benefits of the Storm King® include:

- No power requirements to operate the swirl concentrator
- No wear parts or replacement parts
- The (optional) screen is self-cleansing using a siphon-actuated backwash
- When the option to use it as a disinfection vessel is elected, the Storm King®:
  - uses nearly 1/3 of the disinfectant as a standard mixed tank
  - requires approximately 1/3 of the footprint and residence time as a serpentine weir tank



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## Enquire

To enquire about a Storm King® for your application, contact VoR Environmental. To best assist with your enquiry, please let us know:

- Dry weather flow rate vs. peak storm flow rate
- Installation location: in-network or at the WWTP
- Level of treatment required, e.g.:
  - Screening and coarse grit removal only
  - Grit and primary solids capture
  - Primary solids capture and disinfection



The Storm King® has been treating sewer overflows to the Bowies Flat Wetland in Brisbane for more than 15 years ©Hydro International