

## BACKGROUND

Washington State has some of the most stringent industrial stormwater treatment standards in the United States with exceptionally low benchmark requirements for zinc, copper and turbidity aka Total Suspended Solids (TSS) or sediment.

Within the Port of Tacoma there are three industrial sites that were exceeding their benchmarks for a variety of pollutants in their stormwater runoff.

## CHALLENGE

The Port of Tacoma has spent \$175 million dollars on wild-life habitat restoration and clean up after decades of metals and oil pollution landed them on the Federal Superfund site in 1982.

An administrative order gave all three of the industrial sites within the port until December of 2014 to have installed stormwater treatment systems to address their effluent discharge problem.

Conventional stormwater treatment solutions such as stormwater ponds and bio filters haven't been shown to remove the kinds of dissolved pollutants (particularly metals that are proving to be the largest problem on this site.

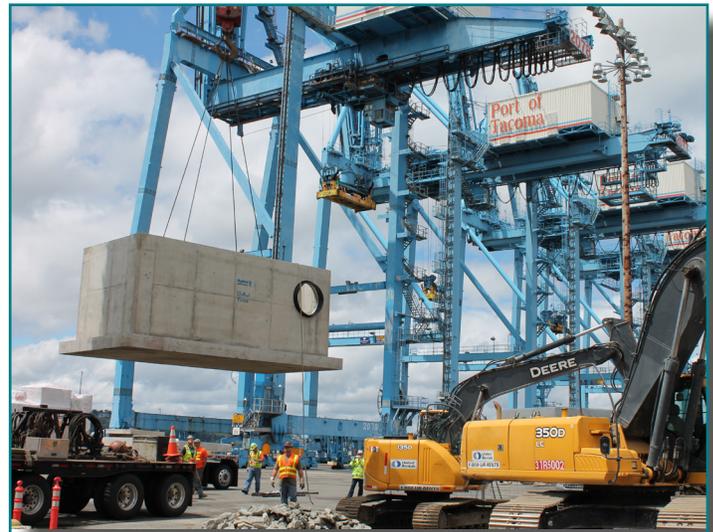
## SOLUTION

The Up-Flo® Filter was selected as one of three treatment filters installed on site because of its proven ability to remove dissolved metals, particularly TSS, zinc, copper and lead.

The Up-Flo filter is a high performance, low maintenance filter option that offers higher loading rates and longer media life allowing it to go longer periods between servicing. Its efficient design offers pretreatment, screening and filtration in one device and no moving parts means there's less opportunity for treatment disruption or breakage.

## OUTCOME

Among other pollutants, the Up-Flo Filter was proven to reduce turbidity by **75%** and remove **60%** of total zinc.



The Up-Flo® Filter is being installed on the Olympic Container Terminal site at the Port of Tacoma



A fully installed Up-Flo® Filter at the Port of Tacoma

75% TSS  
aka Turbidity  
Removal

60% Zinc  
Removal