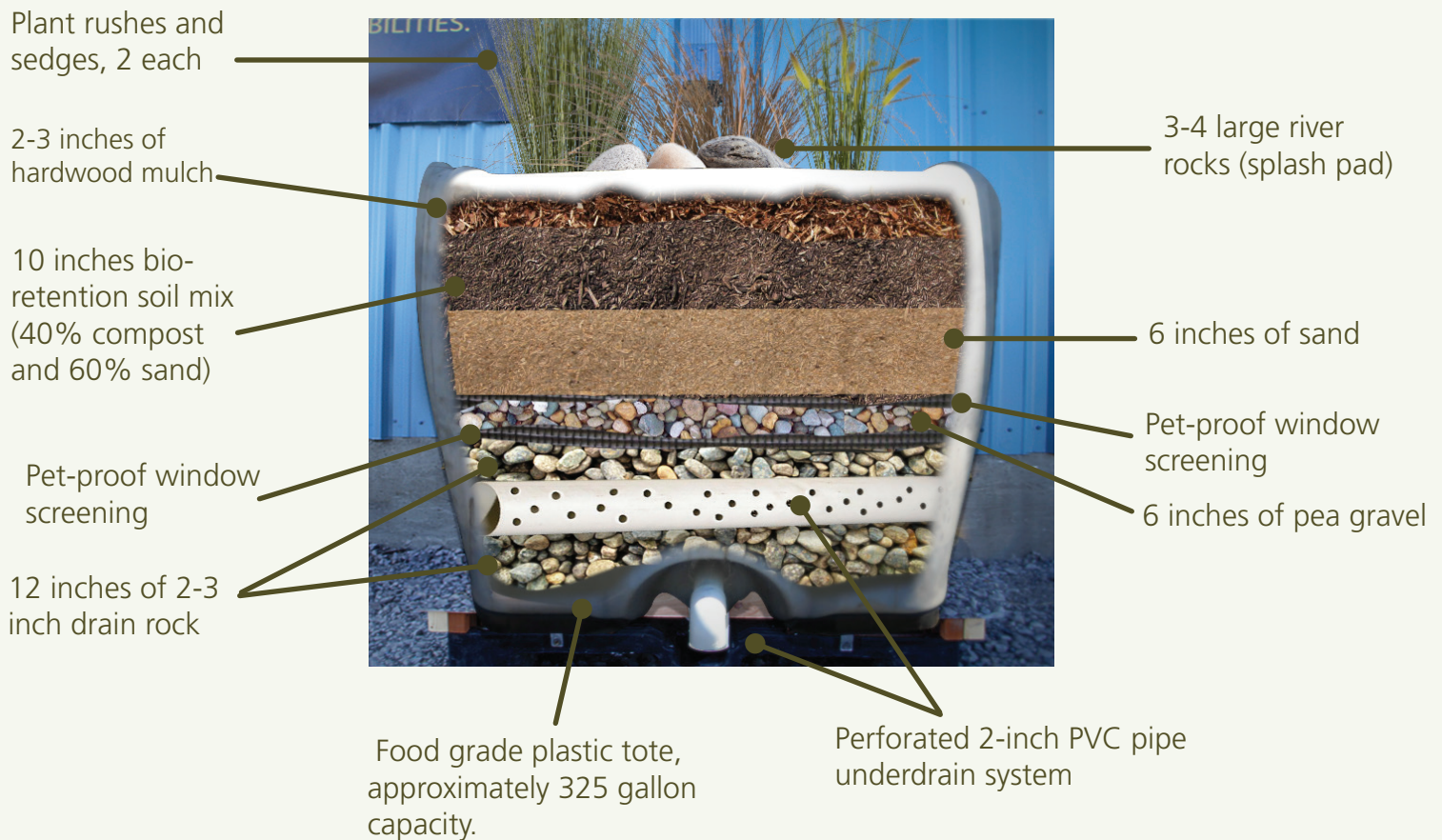


GRATTIX

RAIN GARDEN IN A BOX

Two talented port employees invented what is basically a rain garden in a box. It's an innovative system that removes zinc pollution in stormwater from galvanized metal roofs and downspouts on the terminal. Matt Graves and Mary Mattix, both members of the port's environmental team, call the new stormwater treatment system the Grattix (a combination of their last names), but many others in the environmental world are calling it innovative, inexpensive, and effective.

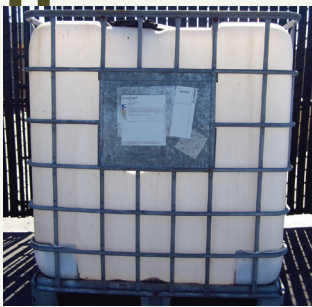
Cross Section of a Grattix



The Grattix is built using a food grade plastic tote, approximately 325 gallons. Inside, a perforated underdrain system is installed, followed by a layer of drain rock. A layer of screen is added to maintain a separation between layers. On top of the screen is a layer of pea gravel, followed by another layer of screen. Sand is then added followed by a bioretention soil mix. The finishing touches include adding plantings, a river rock splash pad and bark mulch. The plantings used are rushes and sedges, which can dry out in the summer months and withstand ponding in the winter months. If you have any questions about stormwater protection at the port, please contact Matt Graves at 360-693-3611 or mgraves@portvanusa.com.

Building a Grattix

A 10-STEP GUIDE TO CONSTRUCTING YOUR OWN RAIN GARDEN IN A BOX



STEP 1

Obtain a food grade plastic tote, approximately 325 gallon capacity.



STEP 6

Place another layer of pet-proof window screening over the pea gravel.



STEP 2

Install a perforated 2-inch PVC pipe underdrain system.



STEP 7

On top of the screening, add 6 inches of sand.



STEP 3

Add 12 inches of 2-3 inch drain rock, double-washed to prevent turbidity/clogging.



STEP 8

Then add 10 inches of bio-retention soil mix (40 percent compost and 60 percent sand).



STEP 4

Place a layer of pet-proof window screening.



STEP 9

Plant rushes and sedges, 2 each, and then place 2-3 inches of hard-wood mulch around plants. Position 3-4 large river rocks to create a splash pad.



STEP 5

Next comes 6 inches of pea gravel.



STEP 10

Position your Grattix under a down spout. For a more finished look, add a wooden exterior.