CASE STUDY

CANOE BAY - COLUMBIA RIVER

Riverbank Restoration - Portland, OR

Location: Portland, OR

Year Constructed: 2013

Application Type: Riverbank

Project Size: 11,000

Client: Private / City of Portland

Reinforcement: Geogrid Cinch, Earth Anchors

Vegetation: Live Plantings

Engineer: Race Engineering Associates

Contractor: xxxxx

+Project *Snapshot*

Prior to being home of a successful boat construction and repair business, the project site was used as a dumping ground of various construction materials. Many of these materials were dumped along the river's edge as a means of protecting the bank. High water levels and routine flood conditions continually damaged and began to erode the banks.

Envirolok®

Designed with Nature, Engineered for Life

Shoreline Protection | **Slope Stabilization** | **Stormwater Management**

Erosion Control | **River / Streambank Restoration** | **Retaining Walls**

+Contaminated Banks

As the property owner began to work with the City to look at bank repair options and dredge the on-site marina, extreme levels of contaminants were found in the riverbank soils and the water. In order to complete improvements to the boatyard and marina, the property owner was required to cap and remediate the site at the riverbank. The Superfund project was transferred to the state and the land owner, state and City of Portland worked together to find a solution that would meet the above criteria and still withstand the forces of the river.

+A Collaborative Approach:

Through collaboration with the project engineer, Envirolok was recommended for it's ability to create a reinforced and vegetative solution that could also limit contaminates from reaching the waterway. In addition to sealing the contaminated soils, the Envirolok system would need to show successful vegetative results while withstanding the challenges of the Columbia River.

+Successful Results

To address the contaminated soils, the Envirolok units were used as a seal against the existing riverbank. By incorporating a cinched pattern of geogrid wraps with earth anchors, disturbance and excavation of the contaminated soils was limited. In addition, this section of the Columbia River experiences seasonal water level changes between 6-8' in height, numerous high water flood events and tidal influences that change the water level and average of 2' each day. The City required assurance through bonds that the project improvements would; (1) provide 90% vegetative cover within the first year, (2) provide 100% vegetative cover by year 2 , and (3) reduce contaminates to an allowable level by the end of the first year. By the end of the first year beyond construction, vegetative cover was over 90% and at 100% by year two.

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