

CASE STUDY

BA • 1 CANAL BANK RESTORATION



833 • 222 • 4SOX
WWW.SOXEROSION.COM

Reconstruction of Canal Walls and Stormwater Control Structure

City of Palm Coast, Florida

SOX
Erosion Solutions™

WWW.SOXEROSION.COM

So, SOX Erosion Solutions was put to work on the ailing B1-A. The SOX crew covered the rip rap rock and created new canal banks by utilizing their Shoresox breathable material and filling it with soil and compost mixture.



Using our amphibious work boat, we pump excess sediment from the canal to fill the SOX containment system.

They also employed their Dredgesox system to dredge the shallow sediment from the canal and used it as a base inside the Shoresox banks—which acted as a stable shoreline. Then they blew in topsoil. When the embankments settled, the entire structure was restored with a natural landscape. Johns River Water Management District.”

“The SOX Erosion Solutions’ part of the project was completed in a week,” says Brennan. “They restored the walls of the canal and under and over the culvert.”

The SOX Erosion Solution has stood the test of time. The turtle population is safe. The homeowners are ecstatic at how natural it looks. The project mitigated flooding and safety issues, as anticipated.

“We are able to control the water, maintain elevations, secure footing, and give the area a natural look,” says Brennan. “It’s a more stable and environmentally-friendly option to erosion control.”



The second tier of the SOX is filled and all of the anchoring stakes are pounded sub surface.

Reconstruction of Canal Walls and Stormwater Control Structure

City of Palm Coast, Florida

SOX
Erosion Solutions™

WWW.SOXEROSION.COM

PROBLEM:

STEEP CANAL WALLS ERODED CAUSING SAFETY, FLOOD AND WILDLIFE HAZARDS

SOLUTION:

REPLACE RIPRAP CANAL WALLS WITH SOX EROSION SOLUTIONS BIOENGINEERED LIVING SHORELINES.

When a canal and stormwater structure presented unacceptable risks to people and wildlife, the City of Palm Coast and the St. Johns River Water Management District in Florida evaluated the options to reconstruct the steep banks of the canal and the embedded culvert structure.



The SOX System is put into place while the canal bank is prepped and our patented anchoring and channeling system is secured to solid ground.

The original construction material, rip rap rock, had failed and presented safety risks to the public and maintenance workers, and



PROJECT PROFILE VIDEO

flooded often. The consequent erosion had become an issue and homeowners feared losing ground. The situation also brought to light that the rock embankments presented a serious threat to the Florida turtles that transverse the culvert structure and canal embankments to reach important territory in their lifecycle.

The Stormwater Manager of the City of Palm Coast, Captain Mike Brennan, knew what he wanted and the proven solution that would be most effective, "I had employed SOX Erosion Solutions previously on a reconstruction of embankments and a weir at BS-2 in Palm Coast, and the results were beyond my expectations and those of the St. Johns River Water Management District."

Reconstruction of Canal Walls and Stormwater Control Structure

City of Palm Coast, Florida

SOX
Erosion Solutions™

WWW.SOXEROSION.COM

ADDENDUM:

Hurricane Matthew slammed into the City of Palm Coast one year after the reconstruction using SOX Erosion Solutions. Despite record rains, there was no impact on the shoreline. Zero erosion was reported.



The sod is brought in and installed shortly after installation.

The patent registration was filed in March, 2009, and granted in December, 2011. The major claims of the patent define the use of an open or bag system to protect shorelines or hillsides from erosion. The patent also protects the use of the unique rope and staking system developed by Daniel Schaaf. This patent is specific to the area of erosion control and broad in its scope of application in that area.

US Patent No. 8,070,387 B2 Date of Patent: December 6, 2011