



HydroTurf®

Location

Melbourne, FL

Owner

Brevard County

Project Type

Channel Bank Protection

Year Completed

August 2016

Size

16,000 sq. ft.

Product

HydroTurf® Z

Two hurricane events since installation proves just how effective HydroTurf® has been in holding up to flooding and high winds in Brevard County, Florida.

Located in the north Melbourne area, the Kingsmill Subdivision, Palomino Road and Aurora Road communities have suffered extensive yard flooding and in some cases, structural damage due to major storm events such as Tropical Storm Fay (2008), Hurricane Wilma (2005), Hurricane Jeanne (2004), Hurricane Frances (2004), Hurricane Erin (1995) and Hurricane Gordon (1994). During these events, this area also experienced road closures, septic system failures and extensive erosion.

In an effort to minimize these flooding impacts, the county planned several new drainage improvement projects, and it couldn't have come at a better time. Hurricane Matthew made landfall only a couple months later.

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One project in particular included channel improvements in portions of the ditch located between Palomino and Aurora Roads. In order to mitigate overtopping, the existing channel was cleaned out and widened to increase flow capacity. The project proved to be challenging with two 90° bends and 1.5:1 side slopes. With homes being adjacent to the channel, the county wanted something that would not interfere with the natural aesthetics of the subdivision and that would reduce the potential of future repair and maintenance in order to minimize disruption to the surrounding community.

To protect the new steepened slopes from the hydraulic forces and propensity for erosion, the county chose the HydroTurf® advanced revetment system. In addition to the natural vegetated look, HydroTurf provides a 50-year minimum design life that will require very little, if any, maintenance. It will also withstand high velocities which could surge in this area during major storm events.

Just two months after final completion, the storm season raged with Hurricane Matthew, a Category 3 event. Even with heavy rain (peaking around a 50-year storm for the six-hour period and a 25-year storm for the 24-hour period) and 70 mph winds in the Melbourne area, the HydroTurf channel performed just as designed with no damage and no follow-up maintenance required. A year later, on September 10th, 2017, Hurricane Irma put HydroTurf to yet another test. Although the storm had reduced from a Category 5 to a Category 1, wind gusts still maxed out at 94 mph. The HydroTurf system stayed in place with no damage.



HydroTurf® was easily installed on steep 1.5:1 slopes.



A residential home sits adjacent to the channel.



The HydroTurf® color chosen was a blend of both green and tan to match the surrounding environment.



The HydroTurf® channel in great condition just after Hurricane Matthew passes.



Because of the high groundwater table, the design included HydroTurf® on the slopes and riprap for the channel bed.



HydroTurf® just days after Hurricane Irma hit the state of Florida in September 2017.

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