

HYDROTURF® Z INCREASES HYDRAULIC CAPACITY IN AN OVERGROWN DRAINAGE CHANNEL

Ferguson Waterworks assisted Freeland and Turk Engineering in achieving better hydraulic capacity for a large drainage channel in Selma, Texas. Over 8-months, we answered material-related questions at town hall meetings, created proposals, and supported the contractor, J3, with installation.

**Location:**

Selma, Texas

Stakeholders:

Freeland & Turk Engineering -
Contractor was J3

Product/Solution:

Hydroturf Z

Date:

February - October 2025

WHAT PROBLEMS WAS THE OLYMPIA HILLS DRAINAGE CHANNEL IN SELMA, TEXAS, EXPERIENCING?

Overgrown vegetation in the drainage channel reduced its hydraulic capacity. It could no longer withstand heavy rain events. As a result, the channel could not efficiently direct runoff, increasing flooding and erosion.

WHAT FACTORS DID FREELAND & TURK ENGINEERING AND FERGUSON WATERWORKS NEED TO CONSIDER?

Because the Olympia Hills Drainage Channel ran behind residential homes, the city held multiple town halls to discuss the project, address concerns, and share the plan. Ferguson Waterworks participated in these town halls, answering material-related questions.

In addition to the multitude of stakeholders, the team needed to strategically work around existing pipelines and utilities. Complicating the project further was its tight timeline. However, Ferguson Waterworks delivered the HydroTurf system quickly and supported installation efforts to streamline the project.



HOW DID HYDROTURF Z INCREASE THE DRAINAGE CHANNEL'S HYDRAULIC CAPACITY?

HydroTurf revetment technology, developed by Watershed Geo®, is a hard armor system that resists erosive forces under high-velocity conditions. This revetment system combines engineered synthetic turf with a high-friction geomembrane. Full-scale laboratories have extensively tested HydroTurf's hydraulic performance, validating its ability to handle 40 ft/s velocity without instability or damage.

WHAT ARE THE KEY FEATURES AND BENEFITS OF HYDROTURF?

Hydraulic performance: Extensive testing showcases the ability to withstand high hydraulic applications without system failure or subgrade erosion.

50+-year lifespan: Long-term weathering tests predict functional longevity when properly maintained.

Cost-effective installation: In comparison to traditional hard armor revetment systems such as rock riprap and articulated concrete block, HydroTurf typically reduces construction costs by 50%.

Low-impact construction: Install HydroTurf quickly and with minimal environmental impact using small, lightweight construction equipment.

Low maintenance: HydroTurf requires minimal maintenance and therefore has a lower total-life expense.

Sustainable: HydroTurf's carbon footprint is ¼ - ⅛ lower than traditional hard armor revetment systems.

Aesthetically pleasing: HydroTurf Z blends in with the environment, creating a natural look.

DOES IT TAKE A LONG TIME TO INSTALL HYDROTURF REVETMENT SYSTEMS?

No. For large projects, a construction team can install approximately 1 acre per day.

HydroTurf Z is installed with 5 layers:

- Subgrade
- PE Extruded Backing
- PP Woven Geotextile
- Engineered Synthetic Turf
- HydroBinder® Infill

WERE SELMA, TEXAS, HOMEOWNERS SATISFIED WITH THE HYDROTURF SOLUTION?

Yes! Both homeowners and the city report satisfaction with the project. Not only have the flooding and erosion subsided, but the channel's finished look is aesthetically pleasing - much preferred over slope paving. Furthermore, the city is at ease knowing the hard armor solution will not support vegetation and will require little maintenance.

Ferguson Waterworks is a start-to-finish solutions partner specializing in geosynthetics and stormwater management. With local experts, strategically placed distribution centers, and relationships with top manufacturers, we provide expertise, fast turnarounds, and long-lasting, sustainable results. Contact us today or send us a message to talk about your next geo or stormwater project.