CASE STUDY

SOLMAX

SECTION 29 BASIN, CALIFORNIA

PROPEX to protect cities from flooding from tropical storms

Industry: Water
Sub-industry: Flood mitigation
Location: California
Product: **PROPEX**® Armormax®

Overview

In August 2023, Tropical Storm Hilary brought unprecedented rainfall to the City of Palm Desert, resulting in significant flooding and infrastructure damage. The storm delivered a record-breaking 3.18 in (8.1 cm) of rain in a single day, marking the region's most intense precipitation event in history. This highlighted the urgent need for robust flood control measures to protect the city against future extreme weather events.

Challenge

During the early 2000s, the City of Palm Desert experienced substantial growth and development. In response, the Section 29 Basin was constructed in 2008 to provide flood control for new developments. This basin, essential for protecting surrounding areas from flooding and erosion, was fortified with **PROPEX** Armormax on its 2:1 slopes to stabilize sandy soils and prevent erosion.

For over 15 years, **PROPEX** Armormax effectively safeguarded the Section 29 Basin. The city valued **PROPEX** Armormax for its long-term protection and vegetated solution. However, in 2023, Hurricane Hilary brought unprecedented rainfall, causing widespread flooding and mudslides. The destruction revealed

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Plans were made to connect the existing basin to two new basins using **PROPEX** Armormax. All basins and the mile-long Mid-Valley channel was armored with a total of 40,000 yd^2 (33,445 m^2) of **PROPEX** Armormax. These installations will provide flood protection to a larger area, benefiting both residential and commercial developments around the basins and channel.

Projects utilizing **PROPEX** Armormax for resilient flood protection have been featured in FEMA's mitigation action portfolio and recognized as a nature-based solution for flood mitigation. The **PROPEX** Armormax system is designed to promote reinforced vegetation and provide resistance against both hydraulic and non-hydraulic stresses. Additionally, systems using HPTRM for erosion control have been recognized by the EPA as a Best Management Practice (BMP) to improve water quality.

Challenge

In response to these challenges, Solmax offered a comprehensive solution for the City of Palm Desert. This integrated approach not only addresses immediate flood control needs but also aligns with long-term urban planning goals, demonstrating Solmax's commitment to innovative and sustainable infrastructure resilience solutions.

The largest of the two new basins will be converted into Millennium Park, a centerpiece of a large property development that showcases the multifunctional benefits of modern flood control infrastructure. Utilizing **PROPEX** Armormax in the project provides a sustainable and long-term solution for the community. By implementing these measures, the City of Palm Desert will improve its capacity to manage extreme weather events while creating valuable community assets that contribute to the city's livability and sustainability goals.