

Stormcrete® Precast Porous Concrete Panels (PPCP)

Doral, FL



“The ‘Stormcrete Concept’ engineered and delivered by Ferguson worked as advertised and promoted. Ponding at one of the city’s most visited intersections in downtown Doral was finally cured without the need for tearing up the roadway for a new inlet system or re-leveling of existing flow channels. The Stormcrete panels installed within the existing curbing footprint worked like a charm, absorbing all the previous ponding issues during our last two rain events; not a drop of water remained. The cost savings and minimal construction impact to the surrounding area, its patrons and visitors were immeasurable.” – Julio Amedeo, Chief of Construction, City of Doral, FL

PROJECT OVERVIEW

CUSTOMER:

City of Doral

PRODUCT(S):

Stormcrete® Precast Porous Concrete Panels (PPCP)

LOCATION:

Doral, FL

CHALLENGE:

Continuous standing water in front of a pedestrian ramp at a downtown corner which limited accessibility of the crosswalk and affected pedestrian safety.

SOLUTION:

Create a porous gutter line in the area with standing water to allow stormwater to infiltrate and keep the area dry and functional.

PRODUCT ADVANTAGES:

- Allows for water to infiltrate at the rate of 250 inches per hour into a stone reservoir below.
- Stormcrete is ideal for eliminating standing water (i.e. puddles), runoff reduction in the right of way, and creation of pervious bike lanes, sidewalks or parking.
- Stormcrete panels are pre-cured allowing them to be driven/parked/walked on immediately after installation.
- R-Tank subsurface detention modules can be used below Stormcrete to increase storage volume or reduce the depth of excavation.

BACKGROUND

Standing water was plaguing a pedestrian ramp area in busy downtown Doral. Following a rain event, stormwater would form a puddle in the area and beyond. This prevented pedestrians from using the ramp to directly access the crosswalk to cross the street. Instead, they had to walk outside of the crosswalk to cross, creating an unsafe environment, particularly for those with ADA needs or those with strollers. The ponding water would only go away with evaporation. In Florida, the nearly daily rain events during the summer would keep the puddle in place for weeks, making this a constant challenge for the city.

PROJECT SCOPE

The city wanted a solution that would eliminate the ponding water at this location to get the crosswalk functional as soon as possible—especially before the next rainy season began. Ripping up the curbing, regrading the area and installing new asphalt to restore the original flow of water was not an option given the cost and disruption to traffic in the downtown location. They needed a cost-effective solution that would be efficient to construct.

METHOD

The city of Doral had plans to make improvements to the existing crosswalk, but that work didn't include a solution for the standing water. The city worked with the Ferguson Waterworks team to explore a solution that worked within their project budget. The final solution was to install approximately 28 linear feet of Stormcrete PPCP in the gutter line where the standing water was an issue. The city chose to use 2' wide Stormcrete panels to closely resemble the existing gutter line. A 12" rock reservoir was installed under the panels to provide structural strength for vehicle traffic and provide storage for stormwater runoff. The addition of the Stormcrete panels fit the city's project budget, and the community received more than an improved crosswalk. Now, pedestrians can utilize the area safely following a rain event.

THE SOLUTION: FERGUSON WATERWORKS

The Ferguson Waterworks team of specialists introduced the idea of using Stormcrete PPCP based on past experiences solving similar challenges with municipalities. City staff were very excited to learn of this option to mitigate long-term ponding issues and restore the crosswalk to full functionality after common rain events. The Ferguson Waterworks team worked with the city on the system design, while the engineering team from Ferguson provided the construction plans and specifications for the project. Ferguson worked closely with the contractor and were onsite during construction to provide support to maximize project success. The project was so successful that the city is actively compiling a list of other areas in the community with standing water issues with a focus on pedestrian ramp areas.