

A building roof may seem a peculiar place to grow plants, but for Bonita Bay Group, the 2,400-square-foot green roof atop the golf course storage building at its Shadow Wood Preserve master-planned community is all about water quality, the environment, and finding new ways to protect the fragile ecosystem. Bonita Bay Group has a history of environmental stewardship, and the company's golf courses, like their communities, are designed with these concepts in mind.

The experimental green roof was installed in 2003 to evaluate which plants can reduce the volume and increase the quality of storm water runoff. The project, one of several in an ongoing partnership between Bonita Bay Group, the Florida Department of Environmental Protection (FDEP), and Johnson Engineering was the first unirrigated experimental green roof in Florida and is now in its second phase with more than 1,200 new plants.

Most of the original plants have been replaced. "First, we learned that a green roof in Florida must have irrigation which creates a need for a cistern, and second, we know what plants don't work and which ones to use on greenroofs in South Florida," said Eric Livingston, chief, bureau of watershed restoration for FDEP. As a result of phase one of the study a cistern has been installed and is now the source of irrigation water for the roof, using runoff that would have made its way to the waterways. The cistern increases the effectiveness of the green roof by reducing runoff by as much as 80 percent.

The knowledge learned from the Bonita Bay greenroof and the subsequent University of Central Florida greenroof is being used in the new statewide stormwater treatment rule. The team members of this public/private partnership have also evaluated several other low impact development practices. As a result, stormwater treatment credits will be provided for low impact design practices including green roofs, permeable pavement, stormwater reuse, and Florida-friendly landscaping.