



# ECOVIE Residential Rainwater Collection System

## Application:

Stormwater Management and High Efficiency Irrigation

## Project Location:

Residential: Virginia Highlands, Atlanta.

The rainwater collection system designed and installed by ECOVIE residence in the City of Atlanta solves a major storm water issues that had plagued this residential property for a long time. As part of their landscaping upgrade this savvy homeowner decided to do something about their flooding problem. On every large rain storm, water from the roof and driveway collected along the garage with no place else to go. Water would get as deep as a foot as times and was a breeding ground for mosquitoes.

ECOVIE's solution was a combination of active and passive rainwater harvesting. Rainwater from the 2,700 square feet of roof and driveway goes to a 1,700 gallon underground tank. This is the active part of the rainwater system which is projected to capture around 2/3 of the runoff. ECOVIE installed a high efficiency irrigation system for the new landscaping to use the water before the next rainfall. When the cistern is full, excess rainwater (about 1/3 of the runoff) overflows to a 300 square foot rain garden. This bioswale was constructed by excavating 30" deep. 12" of drainage gravel with a geotextile fabric on top was placed over a water distribution pipe. 8" of topsoil was placed over the fabric for new plantings. Finally, 4" of mulch was placed over this. This left a 6" depression to hold any excess water for water loving plants to soak up after really heavy rainfall.



Finished Landscape with a Bio-Retention Area



Rain Garden in the Construction Phase

### Project Summary:

Roof Square Footage: 2,700

Tank Capacity: 1,700 Gallons Underground

Projected Annual Water Supply: 33,000



Underground Collection Tank

The results have been excellent. The flooding problem has been completely eliminated. The new landscape looks fantastic and is watered by pure rainwater. The bioswale is completely integrated in the landscape design to provide a storm water mitigation solution that also looks great.