

Water Underground

The city of Santa Fe, N.M., added a Walmart Supercenter to the Entrada Contenta subdivision, a mixed-used development that consists of residential and commercial land uses. SMC Consulting Engineers P.C. was retained by Walmart to engineer approximately 17 acres of the watershed planned for the Supercenter, including the building, parking areas, driveways and landscaping.

Initially, the site was undeveloped and covered with native grass and trees. The development increased the impervious area of the site, requiring the engineers to design a storm water management system to mitigate the impact of the increased runoff volume and the higher rate of flow. The limited area available for the Walmart development did not allow for an above-ground storm water management system; the engineers needed an underground solution.

Aside from the space constraints, Santa Fe County also experiences severe drought conditions, which make water resources scarce. With conservation in mind, the decision was made to collect the storm water runoff from the store's roof catchment area for irrigation purposes. Using the harvested storm water for irrigation would reduce the use of potable water, especially at times when outdoor irrigation

is limited due to water rationing restrictions imposed by the city. Native desert plants were selected for site landscaping to further reduce irrigation demands.

Several factors were considered in the selection process for the underground storm water storage systems. Durability, long-term performance and ease of access for inspection and maintenance were important. Additional consideration was given to the speed and ease of installation, as well as a system's accommodation of the existing subgrade conditions. Last, the overall footprint and a cost-benefit analysis were considered for each of the underground systems.

StormTrap provided one DoubleTrap system for storm water detention and a second system for rainwater



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