

OFFICE PARKS

Gardens Office Park at Barton's Corner, West Warwick, RI

Effectively managing stormwater runoff from urban development, while at the same time designing a cost-effective solution for the developer, is an increasing challenge for the engineering community.

That was the case at the Gardens Office Park at Bartons Corner in West Warwick, RI. Leonard Bradley, Jr., P.E. of DiPrete

Engineering Associates in Cranston, RI had to design a detention system to handle the stormwater runoff from two buildings (approximately 45,000 ft² each) and the surrounding impervious surfaces. He specified a subsurface stormwater management system utilizing CULTEC, Inc. RECHARGER[®] 180 chambers.

The chambers are manufactured from high quality polyethylene and feature a repeating, fully formed end wall for superior strength and performance. Because of this vertical end wall, each connection at the joint is the strongest part of the system, according to Fred Dotson, Vice President of CULTEC. He added that with other types of systems the joint connection could be the most vulnerable point. The open bottom design of the chambers and perforated side walls provide higher infiltrative capability and groundwater recharge.

Bradley confirms that the site had its challenges. Besides a high water table and grade limitations, he had to contend with limited space for the stormwater management system. "There was no room

(continued on back)



Gardens Office Park at Barton's Corner

for a detention pond so the system had to go under the pavement,” according to Bradley. One of the reasons he chose the RECHARGER® 180 heavy duty chambers was due to the vertical dimension of 20.5 inches. Bradley said “The CULTEC system fit the site and served the purpose.”

The stormwater management system consisted of 620 RECHARGER® 180 chambers including a chamber-type High Volume, Low Velocity Header System (HVLV™) that is installed in-line with the RECHARGER® 180 chamber bed.

The space constraints faced by the engineering firm were also a problem for Project Manager, David Manocchio of Horton Construction Company, E. Providence, RI. “We couldn’t get equipment into the hole. The system needed to be handled by hand”. The RECHARGER® chambers are lightweight so workers can easily maneuver them around the job site without the need of heavy equipment. Installing the RECHARGER® chambers was a “simple step-by-step process” according to Manocchio. The chambers have a patented rib connection; one unit overlaps the next without the need for additional parts or screws. They are “very contractor friendly” he added.

By using the CULTEC chamber system, the project team was able to minimize cost and the amount of fill to be hauled in. Another advantage of taking stormwater management underground, is that you can save valuable surface space for other uses — in this case a paved parking area for the office buildings was installed above the chamber system.

