

## ***CASE HISTORY***

### **EZflow Gravel Free French Drain**



### **Foundation Drain for Lowry Condominiums Denver, CO**

In Denver, Colorado, the former Lowry Air Force Base has been completely reconstructed into a modern development including residential and commercial buildings with parks, public art projects, an ice arena, a golf course, restaurants and more. The focus of the development is to give an existing urban area new life.

In a section of this project called Siena at Lowry, four complexes of high-end condominiums were constructed. Drainage specifications for these buildings initially included the traditional method of four-inch pipe, surrounded by  $\frac{3}{4}$  inch stone, wrapped in a geotextile cloth.

Belair Excavating, the earthwork and utility subcontractor on the project, suggested an alternative drainage method as part of the value engineering process. The goal was to reduce costs while providing an effective solution for draining water away from the foundations of the buildings. When constructing its own headquarters, the Belair Excavating team chose the EZflow drainage system instead of traditional pipe and stone. They were pleased with their own results and wanted to share this cost-saving method with their customers. As a result of the value engineering process, the decision was made to alter the drainage plan replacing the traditional method with the EZflow system.

EZflow is a lightweight, all-in-one drainage solution requiring no stone. The product is constructed with polystyrene geosynthetic aggregate completely surrounding a drainage pipe encased in either geotextile mesh or a resin netting. This provides a consistent infiltrative area for absorption and evacuation of water. The geosynthetic aggregate particles are uniform in size and shape for optimal permeability.



Due to site specific conditions, modifications were made to the drainage design for the Siena at Lowry project as suggested by Wade Gilbert, geotechnical engineer for Kumar & Associates. To assure adequate water movement into the EZflow system, a geotextile cloth and course sand backfill were utilized. Replacement of native soil fill with sand is a common practice in highly restrictive, fine-grained soils. Even with these additions, the cost of this project was drastically reduced. Original estimates were placed at \$45,000, and the EZflow solution, including modifications, came in at approximately \$27,000. That is a 40% cost savings for the owner of the project.



To address drainage, Belair Excavating dug a trench approximately 18-24 inches wide. EZflow was placed around the buildings in ten-foot sections at a ½ to 1% slope draining into a sump pit at the north end of the buildings. The sand backfill was placed to cover the system to a depth of 1.5 to 2 feet depending on the slope of any given area.

This easy-to-install, cost-saving method provided a new solution for an old problem...keeping water away from building foundations.

