

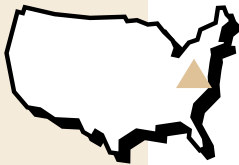


▶ CASE STUDY: WATER APPLICATION

City Saves Money By Using Keystone On Drainage Ditch.

A drainage ditch improvement project by the City of Manassas, VA was constructed with the KEYSTONE Retaining Wall system instead of poured concrete and officials were so pleased with the results that additional projects are expected. The project got started when a resident complained about the city's plan to use poured concrete for the ditch improvement, which crosses the rear of her property, instead of the red stone walls used on previous drainage ditches. At about the same time, Jim Weber, a landscape products sales representative for Betco Block Co. in Manassas, had called on the city and adjacent Prince William County officials trying to interest them in Betco's products for sewage facility construction. City officials asked about the Keystone Retaining Wall System which Betco produces. With Betco's help they decided to explore its use for the drainage ditch improvements.

According to Don Sager, the city's acting engineer, much of the existing ditch embankment had been previously constructed with a concrete bottom and huge red rocks mortared together to form the sides. "We had a hard time locating stone that was the same color, and we had this resident who wanted us to try to match the stone. We got a look at the KEYSTONE Retaining Wall



BEFORE



AFTER

- ▶ **PROJECT:** City Drainage Ditch
- LOCATION:** Manassas, Virginia
- PRODUCT:** Keystone Compac Units
- SQUARE FOOTAGE:** 6,000 s.f.
- CONTRACTOR:** City of Manassas - Public Works
Manassas, Virginia
- SPECIFIER:** City of Manassas - Engineering
Manassas, Virginia
- KEYSTONE REPRESENTATIVE:** Betco Block & Products
Manassas, Virginia

System, did a cost analysis, and saw the potential for saving both money and construction time." Betco sponsored a one-day training seminar for Sager and other city officials to instruct them how to use and install the KEYSTONE units. "We put on a certification program for the City of Manassas and Prince William County people," Weber said. "We taught them what they needed to know, and now they are trained installers."

The first phase of the ditch construction was 400 linear feet (122m) going through two back yards. It consists of about 3,800 square feet. The second phase added another 450 linear feet (137m).



The Keystone units were placed on a concrete footing.

In addition, Sager said, "Prince William County is installing the units on another portion of the same channel just outside the city." The drainage ditch in Manassas where the KEYSTONE was used is about 8 feet (2.4m) wide, with sides about 3-1/2 feet (1m) high. City workers poured the channel bottom with concrete and then built the sides with KEYSTONE Retaining Wall units. According to Sager, using the KEYSTONE system has enabled them to greatly increase the productivity of the city's ditch construction crew. "We've completed about three times the

amount (that was completed before with the old system) in about half the time," he explained.



"We've had a lot of inquiries," Sager added. "People are asking why we didn't put that kind of a ditch improvement through their property."

"It has a lot of potential", Weber said. "There could be miles of ditch improvements if they put it throughout the county."

Keystone was chosen for a drainage ditch improvement project by the City of Manassas, Virginia.

