

Pilot Travel Centers Knoxville, Tennessee

Case Study



Pilot Travel Centers, LLC

Pilot Travel Centers LLC is the nation's largest retail operator of Travel Centers, catering to the professional driver and traveling motorist in more than 40 states with over 300 retail interstate properties. Headquartered in Knoxville, Tennessee Pilot Travel Centers employs 13,000 nationwide.



Project Challenge

An important part of Pilot Travel Centers operations is its commitment to the environment. This commitment ensures the travel centers are constructed and maintained to be in compliance with applicable health, safety and environmental regulations. Like other companies in the travel and convenience store industry, Pilot maintains an environmental department designed to manage and prevent environmental problems from occurring throughout its nationwide travel center operations. One aspect of Pilot's environmental commitment is the maintenance and water quality improvement of stormwater runoff from its travel centers. To support this commitment Pilot decided that it would identify and implement additional Best Management Practices (BMP) to improve stormwater quality at specific store locations. The BMP would be designed to filter stormwater runoff and stop accidental spills of hydrocarbons from entering the stormwater drainage system. Additionally, the BMP would be easy to install and maintain and be installed without infrastructure modifications.

Working with the Environmental Management Department, stormwater consultants and contractors the AbTech Industries patented Smart Sponge® Filtration Technology was selected for installation at a specific catch basin at the Pilot Cumberland Avenue store in Knoxville, TN. Filtration of hydrocarbons in the stormwater runoff is the primary treatment objective at this catch basin location.

AbTech Smart Sponge® Filtration Technology was chosen because it adapts to the existing infrastructure without modifications, provides easy maintenance and installation and is a proven pre-engineered BMP. AbTech Ultra Urban® filters (UUF®) and other Smart Sponge® products have a proven track record in the petroleum industry and convenience store industry. Smart Sponge® products are installed in over 13,000 locations throughout the US.




Smart Sponge Performance

At the Pilot Cumberland Avenue store, (1) DI2020N UUF filter was installed at the catch basin stormwater drain on the property. The UUF was suspended from a galvanized steel mounting collar designed to drop into the catch basin drain to protect against accidental spills of gasoline, and related hydrocarbons. Additionally, the UUF is designed to capture sediment and debris common to stormwater runoff at gas stations and fueling facilities. In May, 2010 AbTech was advised by Pilot of a gasoline spill at the store and requested replacement of the UUF.

The AbTech distributor partner Water Quality Solutions, LLC visited the store to complete an environmental assessment of the filter and determine if filter replacement was necessary. The UUF was removed, inspected and weighed.





Completion of the environmental assessment confirmed the UUF had turned dark black and increased in weight by 60 pounds. These two criteria—color change and weight gain, are used in the field to verify filter performance and filter life.

Each DI2020N UUF weighs 20 pounds when newly installed. The measured weight of 80 pounds confirmed a 60 pound weight gain in absorbed hydrocarbons, filtered trash and debris. The total debris was estimated to be 5 to 8 pounds leaving 52-55 pounds of absorbed gasoline. Which translates to 8.5 to 9 gallons of captured gasoline. Inspection of the catch basin sump confirmed there was no gasoline, hydrocarbon sheen or hydrocarbon odor present. The filter was fully spent and exhausted and a new replacement filter was installed.

In conclusion, the UUF performed as engineered and designed, it absorbed and encapsulated the gasoline spill and stopped the spill from entering the stormwater drainage system.

SMART SPONGE® – An Ideal Solution for Airport Stormwater Management Programs

Smart Sponge® Technology has a unique molecular structure based on polymer technologies that are chemically selective to hydrocarbons. Polymers are composed of molecules that chemically react to form large molecules. The non-leaching Smart Sponge® permanently bonds with gasoline, jet fuel, grease, oil, and diesel fuel, transforming these liquid petroleum hydrocarbons into a manageable solid waste that forms a gel-like structure. The filtration material is fully recyclable, environmentally friendly, and provides a complete closed loop solution for removing pollutants from stormwater.

For more information about the Smart Sponge® technology, visit www.abtechindustries.com or call **1-800-545-8999**.

