



Chicago Metropolitan Agency for Planning

Project Name: **Parking Lot Runoff Pollution Prevention-Village of Brookfield**

Grant Recipient: Village of Brookfield

Project Location: Village of Brookfield

Project Budget: Total Project Costs - \$67,420 / 319 Grant Amount \$30,000

Project Summary: The Village of Brookfield's Parking Lot Runoff Pollution Prevention Project addressed stormwater runoff from a municipal parking lot serving the Village Hall and Police Department, located adjacent to a park and Salt Creek. The Village parking lot and roof system had approximately 2.28 acres that contributed polluted runoff directly to Salt Creek. Pollutants associated with parking lot runoff include sediment, trace metals, organic compounds, nutrients, deicing salts, and oil and grease (hydrocarbons). The northern most portion of the Village parking lot is primarily utilized for commuter parking on weekdays, and by local residents visiting the recreational park on evenings and weekends.

The purpose of the project was to prevent nonpoint source pollution from entering Salt Creek using two innovative best management practices (BMP): 1) a bioinfiltration cell, and 2) an oil-grit separator (OGS). In addition, the project was to serve as a demonstration project to educate residents and upstream communities about nonpoint source pollution and possible solutions. The bioinfiltration cell collects all run off from the 0.91-acre portion of the parking lot. During rain events water will collect up to 6" in depth. A method of addressing floatable and sediments is use of structures which screen and direct flow in a circular motion to create a vortex or swirl to the flow. One type of vortex style separator utilizes a single circular chamber. The flow enters the chamber and is deflected to create a vortex. The sediment is concentrated to the bottom of the vortex. Flow leaving the chamber is typically directed tangentially through a screen. The screen captures the finer sediments and prevents floatable debris from continuing downstream. The use of an internal trap is used to reduce the passage of oils/grease through the structure. The debris is removed from the structure utilizing a vactor truck which suctions the debris from the chambers or sump.



South end of Bioinfiltration Cell – Fall 2004 (looking north)



South end of Bioinfiltration Cell – Summer 2005 (looking north)