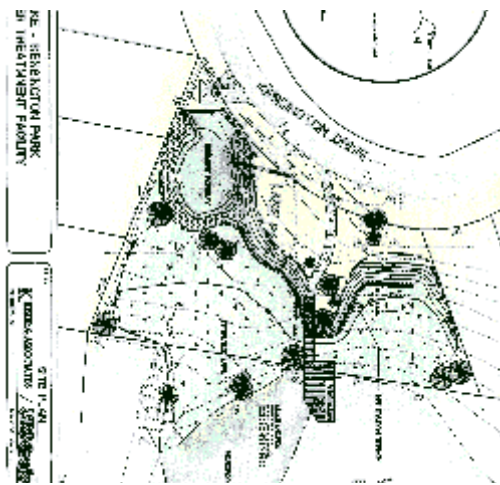




Since the submittal of the 1997 Woods Lake Water Quality Study Report, KIESER & ASSOCIATES, along with their engineering team member, URS Corporation, has initiated implementation of several key lake restoration elements. The first of these includes the creative development of a stormwater detention/wetland treatment system for nearly two-thirds of the lake's drainage area (Figure 1). Constrained by a very limited site area, system design included detailed meteorological and hydraulic analyses to determine optimal sizing of the treatment facility. Such efforts resulted in a treatment system one-third the size of that prescribed for a 5-year design storm yet capable of still treating nearly 98% of all storms. Treatment specifically focuses on phosphorus and sediment removal from stormwater while maintaining the hydraulic balance to sustain adequate lake levels. Other design elements include property enhancements into a more usable park with educational features, and boardwalk access for fishing and other recreational activities. Construction of this unique treatment facility began in July of 2002. Construction costs for this system were \$290,213 including re-routing of storm sewers. This new facility was completed in the Spring of 2003.



**Figure 1. Preliminary design for a stormwater treatment system for 65% of the pollutant loading to Woods Lake with enhancement of aesthetic features for a City of Kalamazoo park.**



**Figure 2. Active construction showing the outside of the sheet piling wall surrounding the micropool.**