Elkhorn Park Drainage

project description | drainage improvements

location
Lexington, Kentucky

client
Lexington-Fayette Urban County Government

completion date
2005

budget
$1,200,000

CDP Engineers, Inc. conducted this project to improve the drainage system capacity while maintaining a stable stream system in the Elkhorn Park and Radcliffe neighborhoods. The main drainage system in this area is a major tributary of Cane Run Creek. Numerous properties in the two subdivisions experienced flooding problems during and after large rainfall events and was identified as one of the worst drainage problems in the City in the 1999 Storm Sewer Improvement Program scope of work.

project components

- A detailed hydraulic study of approximately 7800 linear feet of channels, culverts, and storm sewers.
- A field survey of the project area to accurately locate the drainage system, existing improvements, utilities, trees, and other features that affected the design. Cross sections of the existing channel were obtained for the model.
- Development of a public involvement process. Distribution and evaluation of drainage surveys to residents and property owners, participation in neighborhood association meetings, etc.
- Computation of peak discharges for various storm events including the 10 year, 25 year and 100 year storms using hydrologic modeling software comparable to the Corps of Engineers HEC-1 model.
- Analyses of approximately 12 different alternatives to reduce flooding in the area, including channel widening, channel lining, storm sewer replacement, parallel storm sewers, diversion of drainage flows,retaining walls, and detention basins. Three different detention basin sites were evaluated.
- Preparation of final construction drawings for the project, with applicable construction elements, easements, notes and/or details necessary to define the project requirements. Preparation of estimates of probable construction cost.