

Dartmouth Subdivision Detention Basin Retrofit

City of Wildwood, MO

Designed and constructed in 1994 under less stringent design standards, the City of Wildwood was receiving complaints regarding the Dartmouth Subdivision detention basin. The basin is a dry pond with approximately 70 acres draining to it. Streambank erosion and flooding was occurring during frequent storm events, adversely effecting residential properties downstream of the basin. Intuition & Logic was hired by the City to evaluate the performance of the basin, and to develop alternatives aimed at reducing the flow rates from smaller storm events, without increasing flow rates from larger storms.



Intuition & Logic modeled the existing basin to determine how it was performing with the existing outfall structure. After reviewing a number of options, the preferred alternative was to retrofit the existing basin outfall with a bulkhead and a 12-inch low flow pipe over the existing 42-inch RCP. By choking off the existing pipe, the 1-year 24-hour peak discharge was reduced by 63%, while the 100-year 24-hour peak discharge was reduced by 22%. The project was completed in May of 2007.

