

Fairfax Drainage District Stormwater Study Kansas City, Kansas

Fairfax Drainage District

In an effort to better understand the performance of their current stormwater infrastructure, the Fairfax Drainage District contracted **DRG** to prepare a hydrologic and hydraulic model that would identify all bottlenecks in the system. A survey was performed to collect data on every manhole in the drainage area using GPS equipment. Along with manhole locations the flow lines, diameters, the material and condition of all sewer lines was collected. The information was recorded and integrated into a GIS database and map.

Using the initial information that had been gathered on the existing pipe network, several flow meters and rain gages were set in the watershed to collect flow and rainfall data that was used to calibrate hydrologic and hydraulic models. The final part of the information-gathering phase was to meet with the client to identify areas with flooding problems. The model was then calibrated using the three rain gauges and 10 flow meters that had been installed. A final report was prepared detailing the areas in the watershed where the existing stormwater conveyance system was insufficient to handle the stormwater runoff. The District also used the model to calculate the effects of future development in the watershed. The model has shown the direct effects of future growth on the stormwater system in any part of the watershed. Once all of the models were completed, a cost estimate and priority ranking was developed. The ranking was used by the District to develop capital improvements.



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