

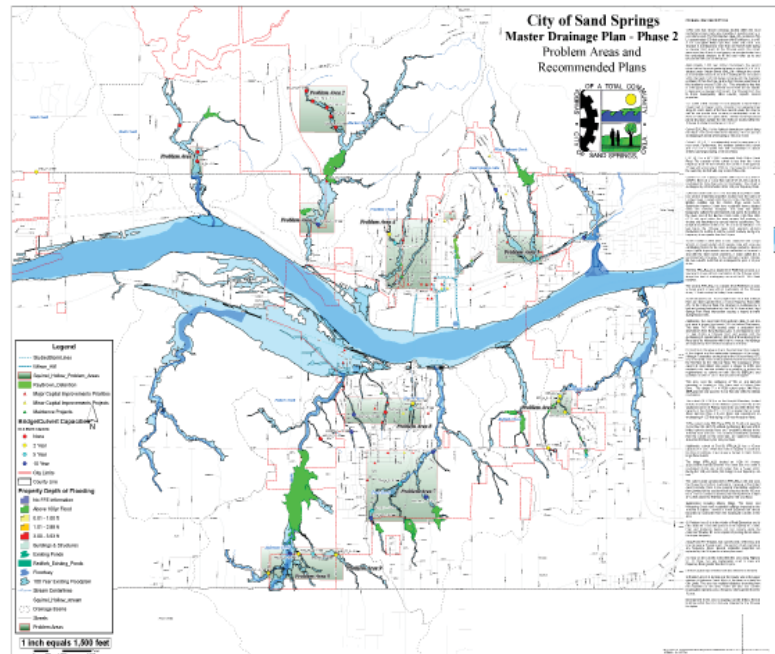
# Citywide Master Drainage Plan

City of Sand Springs, OK  
T.J. Davis, Project Administrator/ 918.246.2582

## ► Completed in May 2009

Meshek & Associates, PLC, was selected to prepare a citywide Stormwater Master Plan for the City of Sand Springs, Oklahoma. The work entailed the hydrologic and hydraulic evaluation of streams and tributaries draining to the Arkansas River, as well as the evaluations of large storm sewer systems. This project culminated in the submittal of a comprehensive plan outlining recommendations for the construction of drainage improvement projects totaling nearly \$70 million. The scope of the project included the following items:

- *Preparation of updated hydrology and hydraulics using HEC-HMS, HEC-RAS and GEO-RAS as well as ArcView, ArcInfo, ArcMap and Arc GIS.*
- *Collection of field data to prepare bridge and culvert data for HEC-RAS/GEO-RAS, as well as confirmation of land use data and channel conditions for friction estimates.*
- *Identification of flood problem areas, inadequate bridges and culverts and areas with flooded buildings.*
- *Recommendations for regional stormwater detention facilities in areas of potential development, as well as recommendations for flood mitigation projects and new bridge and culvert sizes for future capital improvement projects.*



*The illustration above, prepared as part of the Master Drainage Plan, provides an easy-to-reference summary detailing problem areas along with recommended solutions for each basin.*

A portion of the project included conversion of the 2001 Tulsa County mapping to an AutoCAD format, as well as scanning of all of the engineering plan documents in the City's files for inclusion in a GIS-based drainage structure inventory. The plans were "hot-linked" to the individual features in the storm sewer atlas, prepared in ArcGIS format, as part of the overall project.

*All floodplain mapping datasets and profiles, compiled into a DFIRM geodatabase format, were submitted and accepted by FEMA for incorporation into the Map Modernization Study.*

## Project Fee and Special Features

*Project Fee: \$500,000*

Notable aspects of this study include the study of both open and closed systems and the submittal and acceptance of a DFIRM geodatabase for incorporation in the Map Modernization Study.



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