



HYDROLOGY

Hydrologic analysis and hydraulic studies are necessary for almost all development, industrial, and brownfield projects. These are divided into various categories.

Flood Plain Studies

Any development on property noted as being in within a Flood Zone on Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) is impacted with regulations related to fill in the floodplain, floor elevations of structures, and impacts on adjacent properties. Often the flood studies creating the maps are outdated or based on inaccurate mapping. In order to proceed with the projects river basin studies are necessary to quantify the flood flows and flood elevations.

Stormwater Impacts and Detention

Any development that alters the flow of stormwater direction or quantity is regulated to mitigate impacts to neighbors and downstream properties. A number of methods are available to manage stormwater. Detention ponds, "Green" low impact development designs, and buffer zones are part of the tools. Pre and Post Development runoff studies are developed using various softwares. Detention ponds are modeled and drainage basin studies are created to determine impacts.

The Toolbox

SynTerra utilizes a number of computerized analysis tools including:

- HEC software produced by the US Army Corps of Engineers
- NRCS TR-55 and related software
- SedCad stormwater and sediment control analysis
- StormCad and EaglePoint software packages for pipe and culvert design



Customized Services

Services vary based upon client needs and typically include:

- River basin studies
- FEMA Flood Plain analysis
- FEMA Letters of Map Revision
- FEMA No Rise Certificates
- Storm water detention studies
- Roadway drainage studies
- Calculations for SC DHEC Stormwater NOI submittals
- Erosion control and sedimentology
- Culvert design
- Bridge crossing design
- Small pond dam design