

Water Resources

Whether it's controlling stormwater runoff, analyzing watershed hydrology and hydraulics, or mitigating wetland impacts, our water resource engineers have substantial experience in helping our clients through the permitting process of local, state and federal regulations. Let us analyze all your water resources and systems in place to determine what's best for your current and future water needs. We develop solutions to maximize developable land while protecting the quality of our state's important resources.

Our water resources experts know that complying with regulation requirements can necessitate a significant investment in time and money. We also know that your planning efforts are further complicated by future growth and development which will impact your water systems and infrastructure. The JSD team has the expertise to address present and future needs, focusing on the long-term sustainability without sacrificing cost effectiveness.

Services Include:

- **Individual and Regional Stormwater Management Plans**
- **Grading and Erosion Control Plans**
- **Hydrology and Hydraulics Analysis**
- **Stormwater Facility Designs**
 - Wet & Dry Ponds
 - Infiltration Basins
 - Bio Retention Ponds
 - Underground & Conveyance Systems
 - Pumping Systems
 - Green Infrastructure Design
- **Stormwater Basin Inspection & Verification**
 - Annual Inspections for Municipal Compliance
- **Stormwater Pollution Prevention Plans (SWPPP)**
- **Soil Erosion Control Design and Permit Applications**
- **Hydraulic Analysis of Structures in Streams**
- **Hydrologic Modeling for Stormwater Conveyance System**
- **Stormwater Facility Inspection and Verification**
- **Flood Plain Management**
 - Flood Plain Analysis and Mapping
 - Flood Control Studies
 - Mapping & Permit Applications
 - FEMA Applications (LOMA, LOMR, CLOMR, FLOMR)

Non-agricultural land usage is increasing, as is the burden on existing wetlands, groundwater reserves, and waterways that transport stormwater runoff. The goal for today's development is the smart growth of communities with emphasis on environmental protection, conservation and clean water. Regulations continue to evolve requiring additional attention

to the educational updates necessary to meet the ever-changing requirements of local, state and federal agencies. Our water resource experts stay up-to-date on the latest technology, techniques, and regulations to ensure your project will adhere to government regulations while enhancing the aesthetic appeal and natural hydrology of the site.

Whether we are determining ways to manage flooding, promote groundwater recharge, or reduce pollutant loading, we understand that even the most advanced design is not viable if it cannot be implemented, operated or funded. JSD has the experience to combine constructability, minimal maintenance, and reasonable material costs to achieve an optimal design. We consider all of these issues at the forefront of any project, often factoring in input from your staff into our designs. The end result is a practical, cost-effective design concept that landowners and municipal and state regulators can trust to operate reliably for the long-term.

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