

# HYDROLOGY & SURFACE WATER ENGINEERING



From master plans and analysis, to design and construction administration, since 1985 Entellus' Hydrology & Surface Water Engineering Department has provided clients throughout the Southwest with innovative hydrology and hydraulic solutions. These solutions enable our clients to live safely with the powerful forces of water. Listed below are some areas of expertise.

## Entellus Offers:

### Drainage Master Planning

- ✓ Hydrologic Watershed Modeling
- ✓ Stormwater Feasibility Studies
- ✓ Solutions to Existing Storm Water

### Related Problems

- ✓ Watershed GIS Analysis
- ✓ Doppler Reflectivity Analysis
- ✓ Real Storm Simulations

### Regulatory Agency Coordination

- ✓ Hydraulic & Hydrologic Studies for Support of ADEQ and Army Corps of Engineers 404 Permitting
- ✓ NPDES Stormwater Discharge Permits

### Regulatory Flood Control

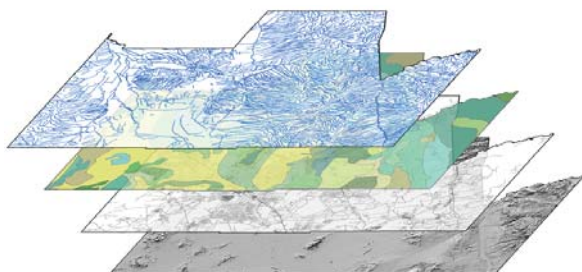
- ✓ Floodplain Delineation
- ✓ FEMA Map Revisions
- ✓ CLOMR/LOMR & Drainage Report Review

### River Geomorphology

- ✓ Sediment Transport Studies
- ✓ Scour Analysis
- ✓ Bridge Scour Analyses

## REPRESENTATIVE PROJECTS

- ◀ Glendale/Peoria Area Drainage Master Plan ♦
- ◀ Granite Reef Wash Drainage Master Plan
- ◀ 64th Street Improvements, McDowell Road to Thomas Road



### Drainage Infrastructure Design

- ✓ Hydraulic Analyses of Bridges
- ✓ Culvert Design
- ✓ Surface and Underground Detention Facilities
- ✓ Facilities Inventory
- ✓ Field Data Collection
- ✓ Channel Design and Improvements
- ✓ Roadway Drainage Systems
- ✓ Erosion and Sediment Control
- ✓ Geospatial Technology Services
- ✓ Storm Drain Design
- ✓ Hydraulic Structures Design

- ◀ Southern Avenue Storm Drain Improvements
- ◀ Maryland Lakes Basin Rehabilitation
- ◀ Flood Insurance Restudies, FEMA Region IX
- ◀ Wittmann Area Drainage Master Study Update ♦
- ◀ Luke Wash Zone A Floodplain Delineation Study ♦
- ◀ Palo Verde Watershed Zone A Floodplain Delineation Study ♦
- ◀ Pinal County Area Drainage Master Plan
- ◀ East Mesa Drainage Master Plan
- ◀ Southern Parkway Hydrologic Analysis

# ENTELLUS PHILOSOPHY AND APPROACH

Entellus' goal is to provide services that are both cost-effective and timely through intelligent engineering and proactive environmental solutions. To achieve our goal, we offer a high level of reliability, technical excellence, and responsiveness. We are committed to work as a team with our clients to build valued long-term relationships.

An example of our technical experience is that our staff is trained and has experience in the use of state-of-the-art software programs including:

- ✓ WMS, River Cad, RMS, SMS
- ✓ HEC-HMS, HEC-1
- ✓ HEC-RAS, HEC-2
- ✓ FLO-2D
- ✓ ArcMap
- ✓ ArcHydro
- ✓ H2O Net
- ✓ Geo HEC-RAS
- ✓ Geo HEC-HMS
- ✓ Storm CAD

Entellus has been successfully involved in the analysis, planning, design, and construction administration of transportation projects in Arizona. Entellus offers our clients a complete range of civil engineering services from design through inspection. We are experienced in the unique dynamic of maximizing the end user's satisfaction while keeping a strong focus on our clients' objective of minimizing costs and time to market.

## ENTELLUS CORE PURPOSE:

To provide solutions that have a positive impact on our community, the world and the way in which people live, work and play.



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## OTHER TECHNICAL SERVICES:

**Transportation Services**

**Water/Wastewater Services**

**Development Services**

**Airport Services**

**Funding**

**GIS**

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