

Water Resources Engineering and Analysis

Bohannon  Huston

- ▲ **Surface Water**
- ▲ **Water Systems**
- ▲ **Wastewater Systems**



A Range of Expertise for Better Results

BHI's multi-disciplined expertise allows our water resources engineers to collaborate with our engineering, spatial data, and advanced technologies teams to create an efficient work flow for each project. We take your project from concept to completion effectively and efficiently.

Here's an example: You have a site that needs access and utilities but must cross a river or major arroyo. Our Water Resources engineers and our Spatial Data team obtain the necessary site data to hydraulically model the crossing. We use ArcGIS and HEC Geo-HMS to streamline the hydrologic modeling requirements, saving time and money as we accurately and efficiently delineate contributing drainage basins, land use, soils, and other key watershed data. We then establish the design flow rates in the river or arroyo to guide our crossing design. To help you visualize how the crossing will look, we collaborate with our Structures group and our Images PlusSM graphic artists to create realistic and accurate renderings. Drawing upon our broad design experience and knowledge of hydraulics, we optimize the crossing concepts to minimize costs and accommodate utilities such as water and sewer lines. As we complete the plans and specifications, our Construction Inspection staff performs a constructability review and provides bid assistance. Next, we work with you and the contractor to ensure that construction adheres to approved plans and specifications. By working in concert, BHI's teams produce an aesthetically pleasing, fully functional crossing in less time and at less cost, helping you realize your project objectives.

We use the latest technology for analysis and design:

- DAMBRK
- FLO-2D
- EPASWMM
- HEC-HMS
- HEC-RAS
- HEC-FDA
- Geo-RAS
- Geo-HMS
- ArcGIS
- ArcGIS 3D Analyst
- ArcGIS Spatial Analyst
- WinFLUME
- ArcView
- AutoCAD
- MicroStation
- Civil 3D
- InRoads
- InfoWater
- H20NET
- H20MAP Water
- EPANET
- WaterCAD

Recent Projects



WALH Water System Improvements: BHI led planning and design efforts for a vital water expansion on Albuquerque's west side. Design included over 30,000 LF of pipeline installation, a new pump station, and construction of water storage tanks. Using innovative solutions, the team was able to reduce the pump station building footprint and minimize visual and noise impacts while also returning capital cost.



Paseo del Norte / I-25 Interchange: BHI led all elements of drainage design, including pavement drainage for several miles of roadway improvements; addressing several locations accepting off-site flows; providing water quality designs; assisting with 404 permitting; and providing analysis and design for the South Domingo Baca Arroyo that flows directly through the Interchange. **2015 ACEC New Mexico Engineering Excellence Award, Grand Conceptor**



Calabacillas Arroyo Grade Control Structure 7a: The BHI team designed this award-winning project that protects life and property, controls erosion in a natural way, and preserves critical open space areas. Completed in less than 4-months, this drop structure design prevents flooding and safeguards adjacent properties near the arroyo. **2015 ACEC New Mexico Engineering Excellence Award, Small Projects Category**



Pueblo of Laguna Water and Wastewater System Replacement: To improve the Pueblo's aging water system, BHI prepared PERs with recommendations to help the Pueblo secure \$31 million in funding for the design and construction of a new system. BHI designed the replacement water system which included 60 miles of new distribution pipe, rehabilitated storage tanks and the installation of a new SCADA/AMR system throughout the Pueblo. BHI also designed the replacement of 12.5 miles of sanitary sewer lines and the rehabilitation and/or expansion of 5 wastewater lagoons on the Pueblo.