

Irrigation

Providing an integrated approach to irrigation engineering and water management

AMEC's water resource professionals offer a full range of environmental, engineering, and management services to irrigation water users, agricultural and urban water districts, and resource management agencies.

No matter how simple or complex the job, AMEC professionals meet client needs by adapting their technical skills and services to individual project requirements.

AMEC offers a broad range of services for agriculture, irrigation, and drainage, including:

- Water Supply, Development, and Storage
- System Development and Rehabilitation
- Water Quality Management
- Soil, Water, and Energy Conservation
- Field Instrumentation and Automation
- Pump System Planning and Design
- Water Rights and Interbasin Transfers
- Soil Classification, Testing, and Analysis
- Inventory and Condition Assessments
- Operations and Maintenance Programs
- Water Use and Supply Analysis
- Drainage and Soil Salinity Management
- Master Planning
- Water Recycling and Reuse

In North America, AMEC is one of the largest water resources, irrigation, and drainage consultants. AMEC's international experience in irrigation and water resources development includes projects in nearly every continent of the world. Specific international experience includes large irrigation and drainage development projects in Egypt and India of 59,300 and 69,200 acres (24,000 and 28,000 hectares), respectively.

The heart of any irrigation system is its pumping system. Proper planning and design of a state-of-the-art irrigation pump station is crucial to the outcome of the entire irrigation project. AMEC professionals are well versed in the engineering requirements of pump systems.



Irrigation Water Management

Sharp population growth trends dictate the necessity of conserving natural resources. As non-agricultural uses of water increase their demand for a share of the limited fresh water supplies, it is important for irrigated agriculture to improve efficiency of use and conserve its share of the available water.

AMEC's irrigation experts understand the important interrelationships that exist between district- and farm-level irrigation operations that influence water use efficiency. They also understand the economic, environmental, institutional, and cultural factors affecting water availability and use.



AMEC irrigation engineers and scientists understand the influence of soil salinity on crop production and the importance of good irrigation management. In addition, AMEC staff offer specialized experience in the development and evaluation of water conservation improvements such as:

- Irrigation Canal Lining
- On-farm Efficiency Improvements
- Modifications to Flow Control Structures
- Regulating Reservoirs
- Operational Improvements
- Tailwater Recovery Systems
- System Automation

Augmenting the firm's irrigation management qualifications, AMEC professionals have expertise and experience in crop-soil-water relationships, soil salinity management, irrigation district operations, and irrigation scheduling.



Innovative Technologies

AMEC has specialized expertise in computer modeling to optimize water resources development, operate drainage and flood control systems, upgrade and improve irrigation system efficiency, increase project cost-effectiveness, and conserve water and soil resources.

AMEC is a world leader in the development and application of innovative planning models, irrigation design, drainage optimization models,



GIS, and computer aided design techniques. In addition, AMEC can help clients successfully meet today's standards for utilizing recycled water.

AMEC professionals have experience in using seawater for irrigation of halophytes. Halophytes are salt-tolerant plants ranging from succulents to sea grass, that when properly used, can help meet the needs of people and livestock in dry, salty environments where traditional irrigated agriculture has long been phased out or as an alternative water source in lieu of potable/fresh water.

Halophytes are considered a dynamic emerging technology as the search for solutions to global environmental and social problems continue to challenge industry and governments. This technology is revolutionizing not just the food and agriculture industries, but also providing the water and environmental consulting industry with another tool for innovative project solutions.

AMEC can help clients consider the feasibility and effectiveness of using halophytes for carbon dioxide sequestration, bioremediation of a variety of water contamination problems, and development of alternative bio-fuels.



For a list of office locations, company contacts and other services refer to:
www.amec.com/earthandenvironmental