
RBF CONSULTING
A Baker Company

## RBF Consulting

RBF Consulting, a Company of Michael Baker Corporation (RBF) - one of the largest engineering, design and construction management firms in the Nation - has more than 3,200 professionals nationwide with gross engineering revenue of more than $530 million. The firm's combined resources serve local, national and international markets, with the capability to provide a comprehensive range of services on a national scale for all sizes and categories of projects. Expertise includes water and wastewater engineering; transportation and traffic engineering; civil, structural, mechanical, and electrical engineering; architecture, landscape architecture; environmental; survey/mapping; GIS and construction management.

## Role in the Santa Ana River Watershed

Watershed management's underlying principal is that people, land, and water are connected. People use land in a variety of ways, and affect ecosystems, and ultimately, their own communities for better or worse. Managing and protecting the environment while providing a high quality of life for people is a complex process that is most successful when governing bodies, community members, and experts in various fields are true partners in the planning process. Navigating local, state, and national regulatory standards can also be a daunting task for many watershed management groups. The watershed management approach brings all these factors together to provide long-term wellbeing for communities by integrating people, land, and water in a watershed.

RBF has a fully integrated team of experienced professionals working with public agencies and private special-interest groups, helping to accomplish the main goal of ever stakeholder within the Watershed – manage and protect its resources and make the world a better place.

RBF's professionals have provided the following services within the Watershed:

Watershed Management and Implementation Plans
- Watershed Characterization
- Water Quality Modeling
- Outreach and Stakeholder Facilitation
- Policy Formulation
- Interagency Agreements
- Decision Making & Prioritization Tools
- Integrated Water Resources Planning
- Grants and Funding Agreements

Water Supply and Wastewater Engineering
Stormwater and Flood Management
Impaired Water Bodies
Lake Design & Restoration
Monitoring Program Design and Implementation
Regulatory Permitting
Geographic Information Systems

## The SAWPA Connection

RBF has performed a variety of services for SAWPA and its member agencies for over 30 years, most recently having provided environmental, design, survey, and construction management services for SAWPA's Brine Line repair project. RBF has been the presenting sponsor of the SAWPA OWOW Conference for the past 3 years.

## Work in the Santa Ana River Watershed:

### Santa Ana Regional Interceptor Pipeline

Scouring in the Santa Ana River created a hazardous condition with the trunk sewer line threatened by the ever-changing riverbed. RBF has been providing survey monitoring of the pipeline and the riverbed for more than eight years. Extraordinary rainfall in the winter of 2005 presented emergency conditions requiring immediate attention. RBF coordinated with the U.S. Army Corps of Engineers to dispatch survey crews during low flow of Prado Dam, and surveying and cross section surveys were completed to install emergency measures.

In 2010, RBF prepared a Technical Memorandum that addressed repair strategies, costs, environmental impacts and a recommended work plan for repairs to sections of unlined reinforced concrete pipe (RCP) upstream of the Prado Dam, within Reaches IV-A and IV-B. The SARI line conveys primarily highly saline, non-domestic wastewater from industrial discharges and municipal desalter facilities within several Southern California counties. The three primary sections of the SARI line network encompass approximately 5 miles of 27-inch, 3 miles of 36-inch, and 3 miles of 42-inch pipe. Various repair strategies were evaluated, including segmental slip-lining, continuous slip-lining, cured-in-place pipe rehabilitation, and complete relocation outside of the environmentally sensitive Prado Basin area.

RBF prepared and processed state and federal regulatory permits for the project and completed the Delineation of Jurisdictional Waters and Environmental Impact Report (EIR) for the proposed repairs to Reach IV-A and IV-B, which consisted of biological technical studies, noise and air quality impact analyses, an evaluation of the environmental impact associated with the various repair strategies being considered and mitigation methods and ratios to address the impact of each repair alternative. The team processed permits through the U.S. Army Corps of Engineers, Santa Ana Regional Water Quality Control Board and the California Department of Fish and Game for repairs that occurred within jurisdictional areas. The project site also included significant habitat for the least Bell's vireo; therefore, RBF coordinated Section 7 Consultation between the Corps and the U.S. Fish and Wildlife Service.

RBF also provided final design of repairs to the approximately 11 miles of 27-inch, 36-inch and 42-inch unlined RCP, including addressing a number of infiltration leaks on Reach IV-B using pressure grout injection. The project identified twelve joints with varying degrees of infiltration. Each joint was sealed followed by a video inspection of the completed work. The project also included clearing of a 10-foot wide access road along the pipeline to provide access to existing manholes.

## Why is it important to take a regional approach to management of the watershed?

The Santa Ana River is the largest river in Southern California. Its drainage basin spans four counties and is approximately 2,800 square miles. Residing within this Watershed are more people than 35 of the States within the US, a total of more than 5 million water-using residents. In addition, the Watershed's population is anticipated to grow to over 7 million by 2020. Human activities can affect the natural resources within any watershed. The watershed approach is about recognizing those consequences by seeing the entire system and creating strategies to manage resources and human activities in a coordinated way. In applying this approach, the Watershed provides us the opportunity to further strengthen the region's water quality, reliability of supplies, economic vitality and stewardship of our environment.

## How does the One Water One Watershed (OWOW) planning approach help you do your work?

The watershed approach changes the fragmented approach we have used in the past. Historically, we have managed resources within specific disciplines, and within spheres of influence created by people, not by the laws of nature. We have developed separate laws to protect water, air, soils, fisheries, forests and communities. We have also created separate agencies to administer these laws at federal, state, and local levels and on public and private lanes. Property and political boundaries are usually unrelated to watershed boundaries. Of particular note, many of our resource management programs are driven by regulation and enforcement, creating a mindset of seeking the minimum necessary compliance as the best way to "optimize" activities.

The watershed approach changes this mindset to develop a recognition among members of the community of the value of their own resources, and to guide a holistic, balanced program of stewardship that achieves community goals while complying with rules. A watershed approach integrates biology, chemistry, hydrology, economics, and social considerations into decision-making. It recognizes needs for water supply, water quality, flood control, navigation, hydropower generation, fisheries, biodiversity, habitat preservation, recreation, and development; and it recognizes that these needs can compete. It establishes local priorities, accounts for state and national goals, and coordinates public and private actions.

Watershed management is proactive, scientific, uses agreement-based approaches to achieve multiple benefits, and is driven by the self-interest of stakeholders.

## Ron Craig: Senior Vice President, Water Resources Department

Mr. Ron Craig is Senior Vice President in RBF's Water Resources Department, as well as Office Manager of the regional office located within the Watershed. Mr. Craig has extensive experience in the field of water and wastewater engineering and has been directly involved in master planning, engineering management, administration, and finance of water related projects throughout the region for 36 years.

## Ruth Villalobos: Vice President, Planning and Environmental Services

Ms. Ruth Villalobos is Vice President of Planning and Environmental Services at RBF Consulting. Prior to joining RBF in 2007, Ms. Villalobos served as the Chief, Planning Division of the USACE, Los Angeles District where she worked for 34 years. As such, she has been involved with the Santa Ana River since 1986 acting as the Project Director for the Corps' six Environmental Impact Statements / Reports and numerous supplemental NEPA/CEQA documents for the $1.9 billion flood control project stretching across San Bernardino, Riverside and Orange Counties. Since joining RBF, Ms. Villalobos continues to serve an active role in resolving stakeholders' Watershed issues all the way up to a federal level.

## Cindy Miller: Vice President, Water Resources Department

Ms. Cindy Miller, PE, is Vice President in RBF's Water Resources Department. Ms. Miller was a pioneer designer of the Watershed's desalters, having served as the project manager for the Arlington Desalter project in 2000, and the Chino I Desalter Expansion and Chino II Desalter Projects later that year. These projects provided a new local water supply to the Inland Empire and strengthened the water supply reliability of many cities and water agencies in this area, including the cities of Chino, Chino Hills, Norco, and Ontario and the Jurupa Community Services District and the Santa Ana River Water Company.

## Michael Rudinica: Executive Vice President

Mr. Michael Rudinica, Executive Vice President is a registered Civil Engineer experienced in all aspects of water resources engineering. Mr. Rudinica supervises the water and wastewater engineering planning, design and construction management services for the Company. He has served as Principal-in-Charge or in a key technical capacity on projects in the western United States and internationally. Services have included comprehensive master planning and engineering design for complex water, sewer, and reclaimed water systems. In addition, Mr. Rudinica has been at the forefront of leading-edge technology for water and wastewater treatment facilities.