



PACE
PACIFIC ADVANCED
CIVIL ENGINEERING, INC.

Recreational Water Features

In Partnership With Nature

INV. 38.5

In Partnership with Nature

*Maximizing system efficiency while
minimizing long-term operations costs*

Adding value to the surrounding community

Respecting nature by designing in harmony with it

*Building water features that are as beautiful
as they are functional*

Turning our clients' dreams into realities

— This is PACE.



For over twenty years PACE has time and again successfully combined the inherent beauty of water with responsible design to create water features that are as breathtaking as they are functional.

Signature entry features, manmade lakes, streams and waterfalls, community pool systems and interactive, choreographed water features are cornerstones of our experience. But we know that external beauty and functionality is only part of the challenge to creating lasting, value-added water features.

The PACE value engineering pledge means we work closely with clients throughout the development process, starting with design that takes into account the responsibility of the water feature within the ecosystem of the community. Then, combining a wide variety of engineering disciplines, our engineers develop a water feature that serves the builder, the community and the environment.

Engineering Services:

*lakes, streams, pools and water features
grading and water feature layout
liner, shoreline and manmade rock design
hydraulic and pump station design
controls and instrumentation
structural and filtration design
chemistry control
recirculation systems
water quality management systems*



Johan Perslow, P.E.

Professional Engineer: AZ, CA, CO, NV

Johan Perslow has more than 30 years of engineering and construction experience in both public and private sectors. Over that time he has been the principal designer, consultant and construction manager for more than 700 water feature projects. Mr. Perslow has been at the cutting edge of developing and applying new technology to solve both commonplace and unique problems.



Cory Severson, P.E.

Professional Engineer: AZ, CA, CO, HI, NV, TX

Cory Severson has over 20 years experience and been involved in over 200 projects in the fields of civil engineering and construction related to water feature systems, site grading, mechanical engineering for pumping systems, drainage studies, flood-control routing, subdivision/public works improvements, utility relocation/coordination, and hydraulic design for channels and pipelines.



Mark Krebs, P.E.

Professional Engineer: AZ, CA, CO, KY, NM, NV, UT

With over 15 years of engineering and construction experience with both public and private sector projects, Mark Krebs is highly experienced in the design of lakes, water features, infrastructure, grading, drainage, roadway, water, sewer, reclaimed water, storage, distribution, and wetlands.



Sonny Sim, P.E.

Professional Engineer: AZ, CA, OR

Sonny Sim has more than eight years of engineering and construction experience relating to lake and pond systems, site grading, pool systems, the mechanical engineering of pump systems, and hydraulic design for pipelines. As Vice President of the Recreational Water Feature Division, Mr. Sim is directly involved in all of PACE's recreational water feature projects, seeing each one from concept to design to construction.



Zirang Song, M.S., P.E.

Professional Engineer: CA

For over 14 years, Zirang Song has been actively designing lake systems, water features and fountains, pump stations and swimming pool filtration systems for hundreds of projects around the world. With an M.S. in International Construction Management, Mr. Song provides construction management and coordination support along with mechanical design expertise.



Andrew Komor, M.S., P.E.

Professional Engineer: CA

Andy Komor has over five years of water resources civil engineering experience. With an M.S. in Civil and Environmental Engineering, his expertise lies in wetlands treatment, hydrogeology, lake water quality, wastewater treatment plant design, hydraulics, and pump station design.

Our Value Engineering Pledge

Our commitment to value engineering — responsibly advising our clients from conception through design, construction and operations of their water features — is proven every day in successful PACE projects worldwide. Our engineering team brings years of experience in a wide variety of engineering, design and construction disciplines to every project.

Community Lakes

In Partnership with Nature



Athem Community - New River, Arizona

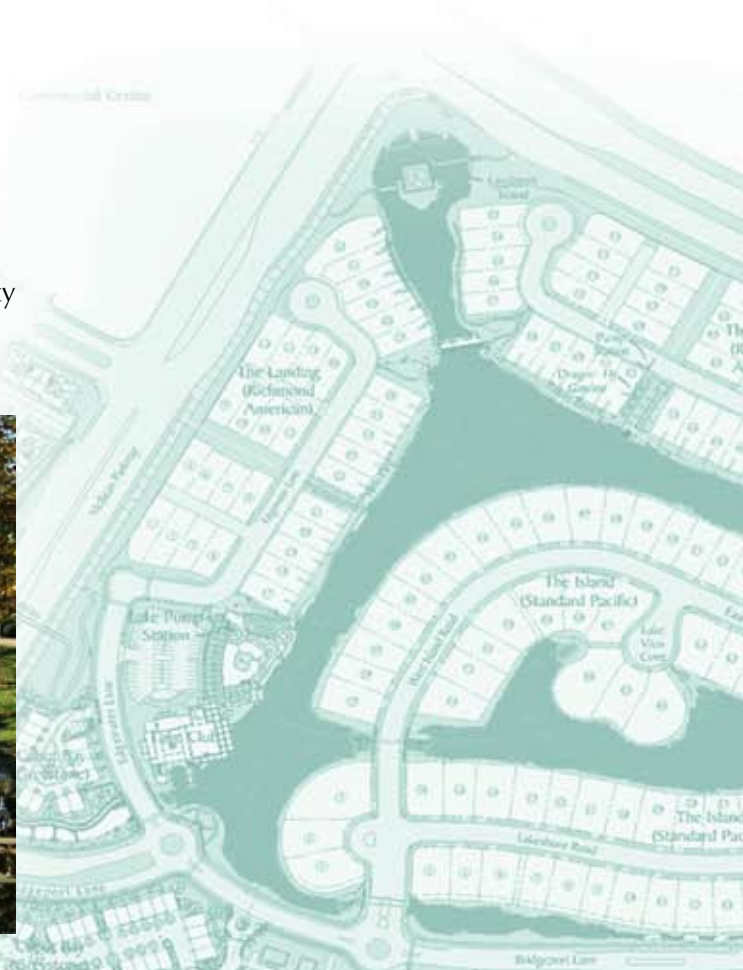


Province - Maricopa, Arizona

Community lakes bring the dream of lakeside entertainment to life. A recreational amenity that is universally appealing, a lake can also serve important environmental functions. Whether used for stormwater runoff management, irrigation or reclaimed water reservoir, lakes can serve many necessary land development needs, while adding visual stimulation and a means for community interaction. A lake is a beautiful, refreshing, fun amenity that is good for the community, the environment and your bottom line.



Crosby Estates - Rancho Santa Fe, California



Community Lakes

Streams

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The Reserve - Indian Wells, California



Trilogy at Vistancia - Peoria, Arizona

By emulating natural streams, our stream designs blend man's development with nature. Whether connecting bodies of water, acting as a well-disguised flood control system, or merely existing for aesthetics, streams add value and bring life to the community.



Trilogy at Vistancia - Peoria, Arizona



Chapparel Pines - Payson, Arizona

Streams

Freeform Water Features

In Partnership with Nature



Bighorn- Palm Desert, California



Oak Canyon Community Park - Agoura Hills, California

Water splashes over the rocks as you enter the community, light playing off the dancing falls. Somehow, it's nicer to be greeted by these excited waters. You get the feeling that you're far from home, even if home is right around the corner.



Anthem Community Park - Anthem, Arizona



Freeform Water Features

Entry Features

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Vistancia - Peoria, Arizona



Anthem Phoenix Entry - New River, Arizona

You only have one chance to make a first impression. You can put your best image forward with a memorable entry water feature. As the signature monument of your project, an entry feature adds interest, prestige and beauty. And statistics show that communities with well-designed and constructed entry features sell more homes than other communities. So let our design team work with you to create an entry feature that leaves a lasting impression.



Anthem Country Club - Phoenix, Arizona



Santo Tomas - Rancho Mirage, California

Entry Features

Swimming Pools & Spas

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Crystal Cove Recreation Center - Newport Beach, California

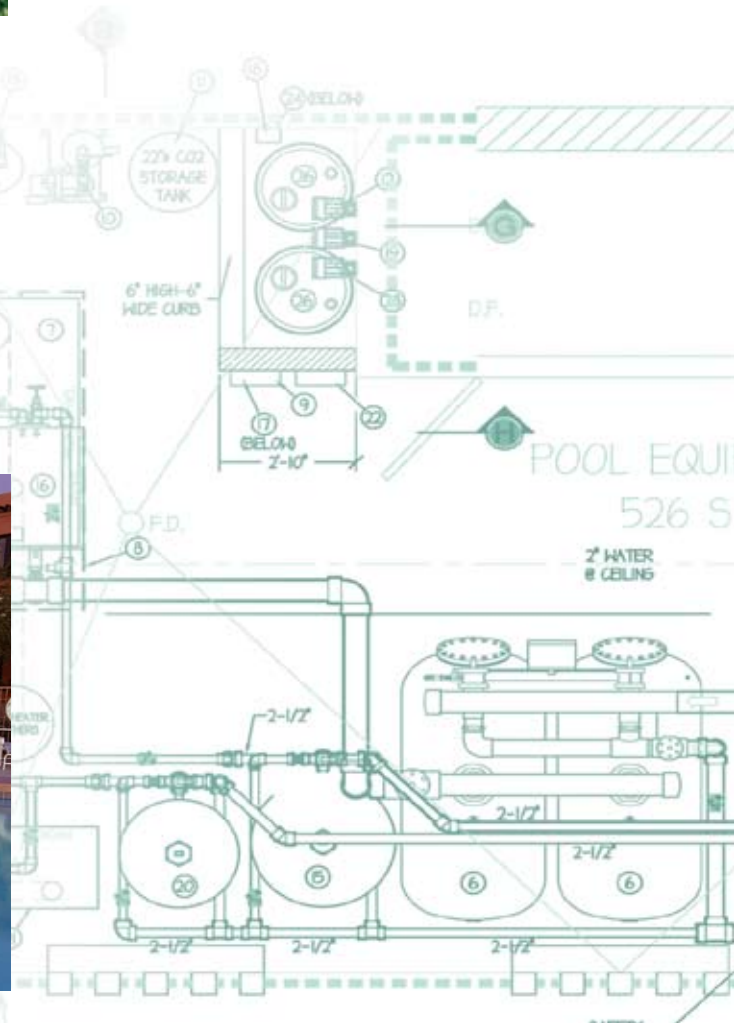


The Westin Maui - Ka'anapali Beach, Maui, Hawaii

The relationship between water and man is illustrated with a sense of adventure in our pool features – cascades, rockwork and non-traditional shaping. From the latest trend in saltwater pools, to exotic water playgrounds, to traditional community and resort pools and spas, add value to your project with a pool that's anything but ordinary.



Wild Horse Pass Resort - Chandler, Arizona



Swimming Pools & Spas

Interactive Water Features

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Pointe Hilton Squaw Peak Resort - Phoenix, Arizona



The Westin Maui - Maui, Hawaii

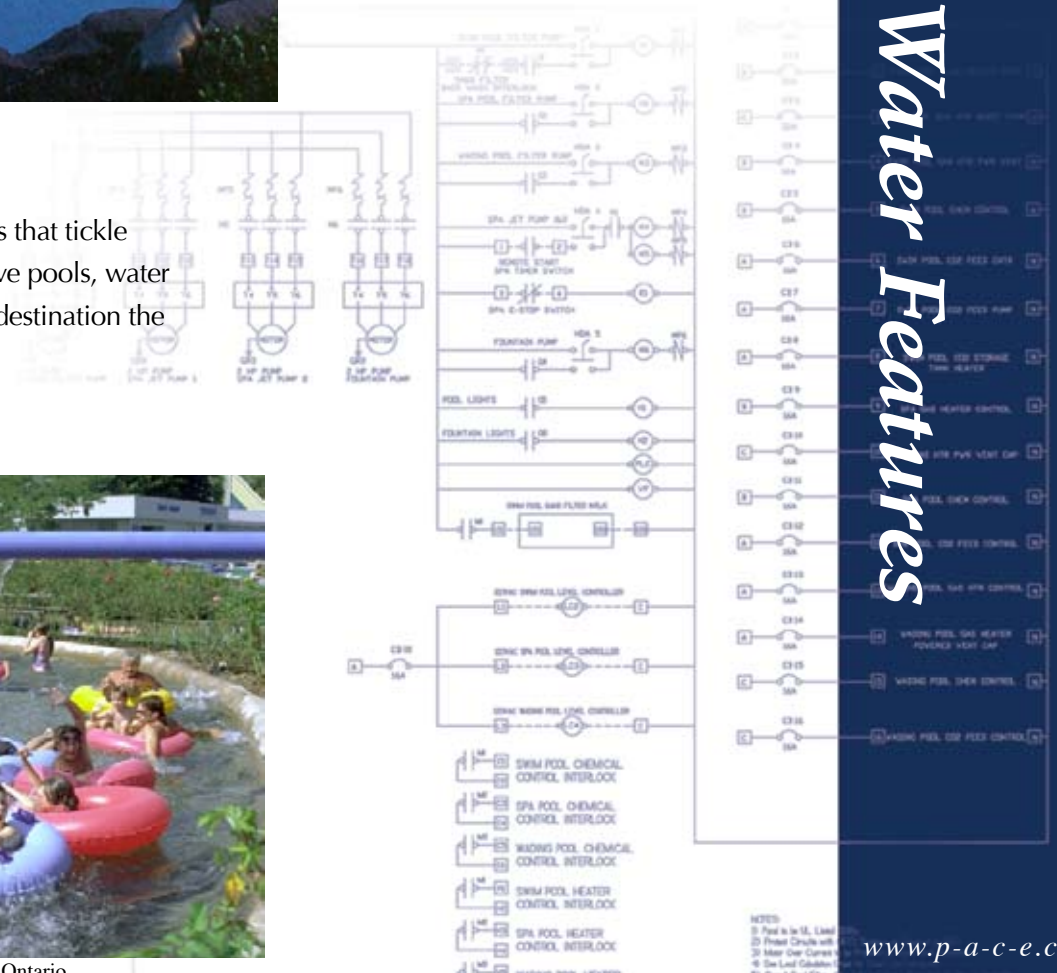
Add interest and excitement to your project with interactive water features that tickle the imagination and set the heart racing. Slides, flumes, falls, streams, wave pools, water playgrounds – they all increase your value to your guests and make your destination the one that's worth another visit.



Westin Mission Hills - Rancho Mirage, California



Confederation Park - Hamilton, Ontario



Interactive Water Features

Manned Rockwork

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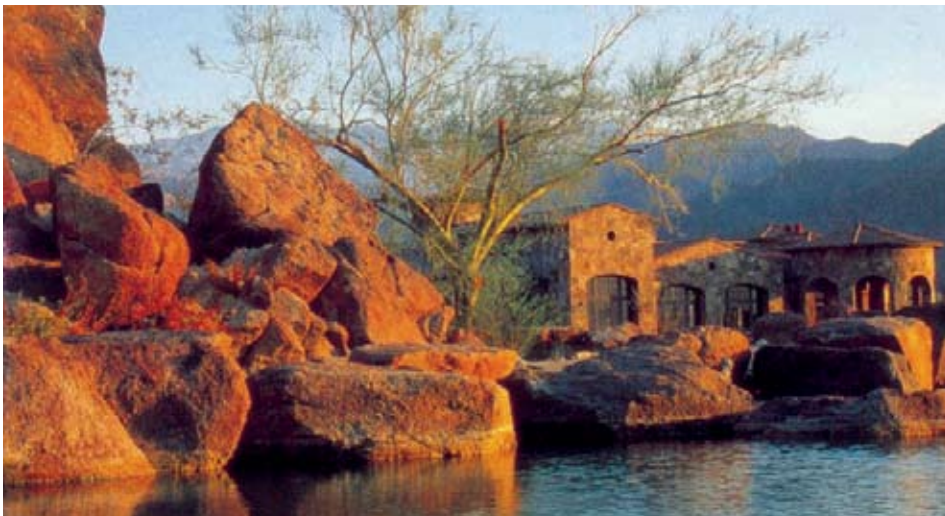


Thanksgiving Point - Lehi, Utah

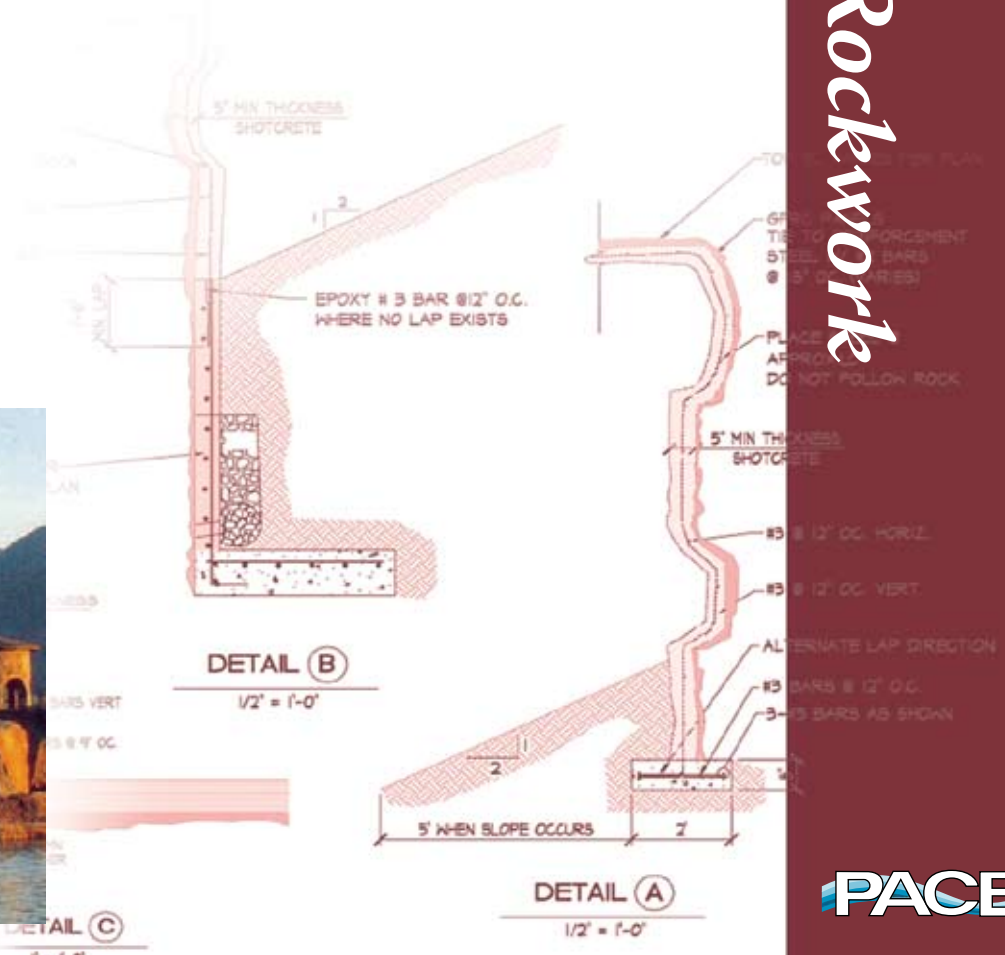


Trilogy at Glen Ivy - Corona, California

PACE's approach to designing manmade rock ensures that your rock feature will not only emulates nature's beauty, but last for years with minimal maintenance. We provide structural design of rockwork, water feature layout, and interconnected grading to provide you with a complete engineering services package.



The Reserve - Indian Wells, California



Manmade Rockwork





Bridgeport



In the idyllic community of Bridgeport in Valencia, CA, over 180 homes grace the shores of Bridgeport Lake. Bridgeport residents enjoy both the visual serenity and leisure-time activities the 15-acre lake affords them, whether they're paddling through its coves, or strolling its 1.5 miles of shoreline trails. Waterfowl and wildlife find refuge and life-sustaining water, all the while oblivious to the important role the lake is playing below the surface.

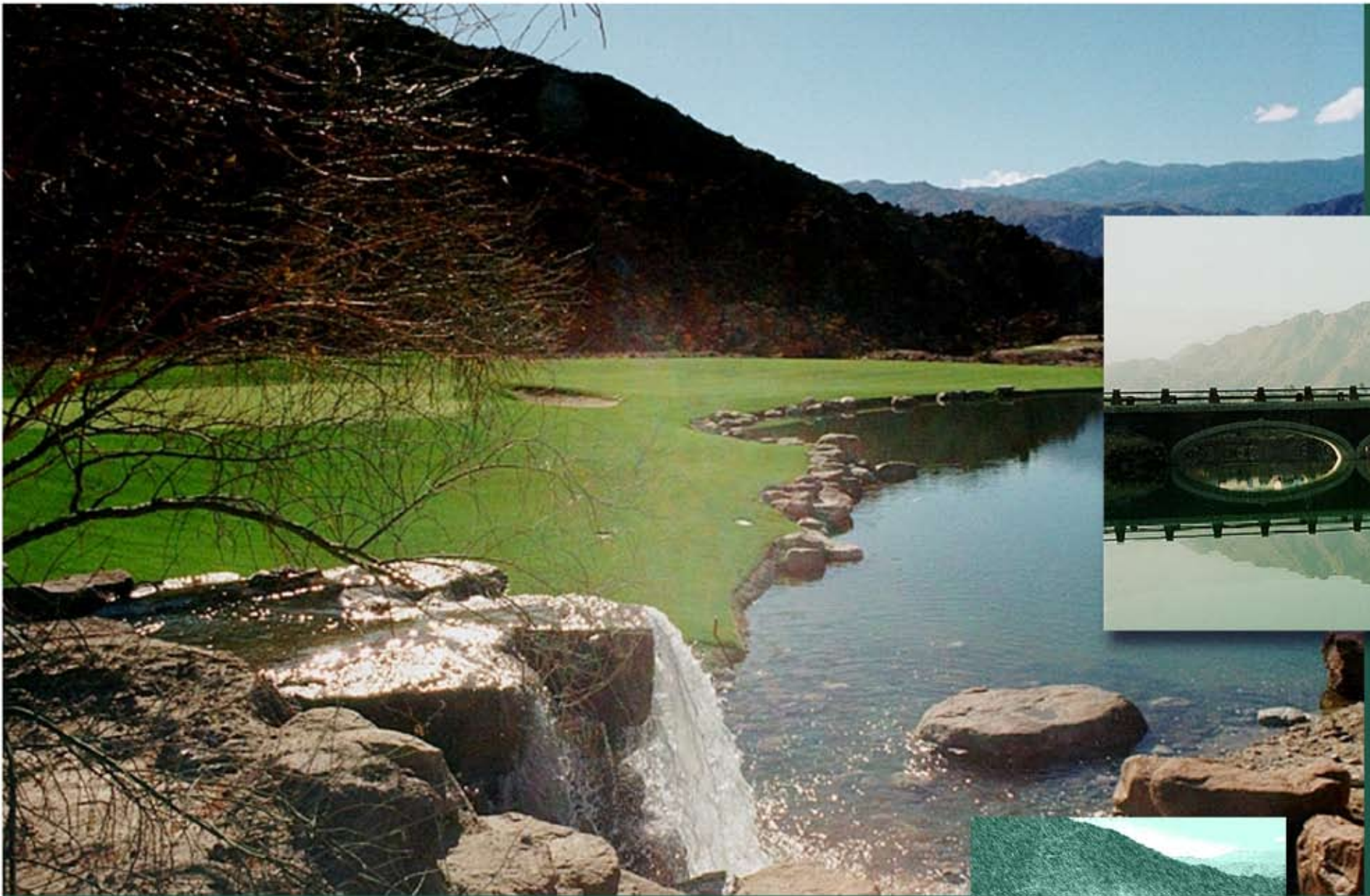
With a tributary drainage area of 70 acres, Bridgeport Lake boasts advanced urban stormwater pollution treatment and water quality maintenance features that exceed the stormwater quality requirements of local and regional regulatory agencies. Eighteen aesthetic wetland planters adorning the perimeter of the lake filter waste from runoff via physical, chemical and biological processes by collecting initial runoff and retaining it long enough for the majority of water pollutants to be removed.



Water within the lake is circulated through fifteen submerged biofilters, which strip water of algae-promoting nutrients and aid in the creation of aerobic conditions. And aeration, a third water quality management tool for the lake, increases dissolved oxygen levels, promoting circulation of water to prevent stratification.

A natural oasis for wildlife, a recreational amenity for its residents, a critical player in the stormwater conveyance, retention and treatment for the Bridgeport community – all these things make Bridgeport Lake the perfect combination of engineering expertise and environmental beauty.

Valencia, California



The Reserve

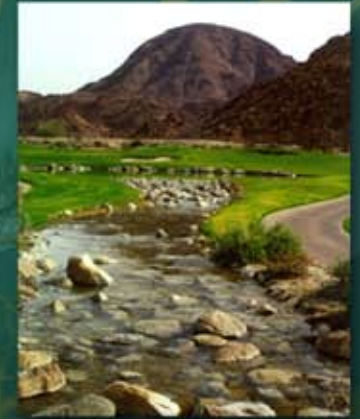


Nestled up against the Washington Mountains in California's Coachella Valley, The Reserve golf course and exclusive residential development faced serious challenges. Located directly within a large alluvial fan, The Reserve was the potential target of severe flash flooding.

PACE, along with Lowe Corporation, worked together towards a solution. At the onset of the project, the PACE and Lowe team utilized a physical hydraulic model to test an innovative flood control system conceptualized by PACE. The flood control solution being tested stood to manage the 35,000 cfs of potential floodwater with image enhancing streams, waterfall mimicking spillways and a 6-acre signature entry lake.

Not only did the model verify that the flood control system could manage the capacity in the event of a flood and gain project approval from the Coachella Valley Water District, it showed that Lowe Corporation's capital investment for stormwater management would be reduced by over 40%.

Additional premiums were incorporated in the design, including over 20 acres of lakes, a 260-foot bridge spanning the largest of the lakes, and a plunge pool sediment basin to handle overflow. 3,000 linear feet of streams, along with five recirculation pump stations, numerous waterfalls, and picturesque manmade rockwork seamlessly blend the project into its natural desert landscape.



Indian Wells, California



Louisville Waterfront Park

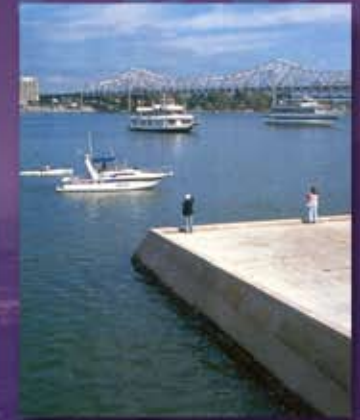


On warm summer evenings, Waterfront Park in Louisville, Kentucky bustles with activity. Ships of all sizes dot the river, couples stroll hand in hand, and parents watch as children tease the dancing waters. The union of water and lights captivates passers-by who don't mind being a few minutes late for their dinner reservation. Designed to be an artistic transition from land to river, Waterfront Park spans the length of three city blocks.

Part of a \$60 million, 150-acre downtown riverfront redevelopment and revitalization project, Waterfront Park replaces decades of abuse from highway traffic and industrial decay. Paying homage to Louisville's roots in the Ohio River, the park emulates the angular shapes of the river flow while bringing a modern feel to the historical city.

The engaging water feature is brought to life by 19 pumps, 112 valves and over 220 lights. Water cascades from pool to pool over descending limestone steps that lead to the Ohio River. Water cannons shoot 15-foot high arches over five pedestrian bridges.

By combining the lure of water with engineering expertise, PACE created a waterfront attraction that will delight Louisville residents of all ages for generations.



Louisville, Kentucky

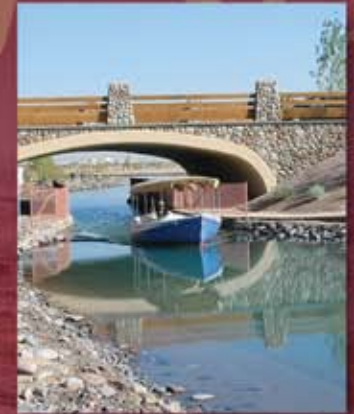


Wild Horse Pass Resort



Centuries ago, the Gila Indian tribe of Southern Arizona settled along the banks of the Gila River. The river provided much needed water for the people and their crops. As development grew in the region, dams upstream reduced flow in the river, denying future generations of Gila Indians the strong relationship the tribe had with the river.

In order to reconnect the tribal people with their river roots, the Gila community hired PACE to turn their vision of recreating the river into a reality. PACE provided complete design services for a 1.5-mile replica of the historic river. Meandering along Sheraton Wild Horse Pass Resort's entry road, the river features rapids, rock outcroppings and manmade rock formations scattered along the river's edge. Wetland planters and sand bars recreate the natural flow of the desert river that ends in a 3.5-acre lake at the rear of the 550-room resort.



The river's circulation system provides variable river flow of up to 9,800 gpm to simulate dry and wet season conditions. An additional .5-mile river defines the front of the resort, and is not only aesthetically appealing, but also a functioning boat taxiway for guests going to and from the hotel, golf course and casino. For guests who prefer to walk, PACE designed a river-spanning 36-foot wide arch bridge.

PACE's design was not limited to the river. The resort pool complex includes a main pool, sports pool, two spas, a children's pool and a twisting water slide, all of which enhance guests' enjoyment of the property. Finally, PACE designed a signature rock formation and waterfall, which drops three floors into the hotel's main bar, for the hotel lobby. By bringing the river back to life through the Wild Horse Pass Resort river project, the Gila community can once again share the spirit of the Gila River.

Chandler, Arizona

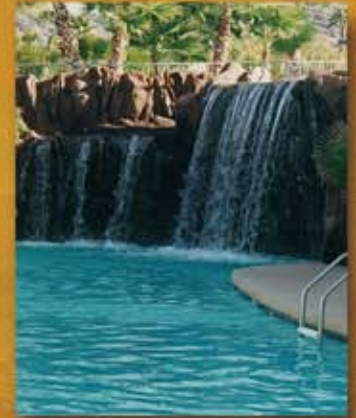


Pointe Hilton Resort



Why just swim when you can play? This was the philosophy that PACE brought to the Pointe Hilton Resort in Phoenix, Arizona. In order to distinguish themselves from other prestigious resorts in the area, Pointe Hilton wanted to build more than a pool. They wanted to build an experience.

A centerpiece since the resort opened, the Pointe Hilton water park was designed by PACE to blend seamlessly around existing natural rock formations. Amenities include a 5,000 square foot free form swimming pool complete with crashing waterfalls, a 2,000 square foot sport pool featuring two water volleyball courts and a water basketball court, a 90 square foot spa, a 250 square foot wading pool, and a 135 linear foot water slide with 18 vertical feet of drop into a 300 square foot pool. All of these are a warm up to the main attraction – the quarter mile long lazy river, “Rio Rico”, which floats guests through and around the natural and manmade rock formations.



Appealing to the young and old, the lure of the Pointe Hilton water park keeps guests coming back for more.

Phoenix, Arizona

Additional Services



Wastewater / Potable Water

- Water / Wastewater treatment facility design
- Water / Wastewater system upgrades and expansions
- Domestic water storage tanks & pump stations
- Supervisory control & data acquisition (SCADA) systems
- Well design & rehabilitation
- Groundwater recharge & surface water treatment facility design
- Bio-solids processing & dewatering
- Water & wastewater permitting
- Sewage collection & reclaimed water distribution systems
- Groundwater recharge
- Domestic water supply, transmission & distribution
- Treatment facility operation & maintenance plans



Palm Valley Water Reclamation Facility - Goodyear, AZ





Newhall Ranch - Valencia, CA

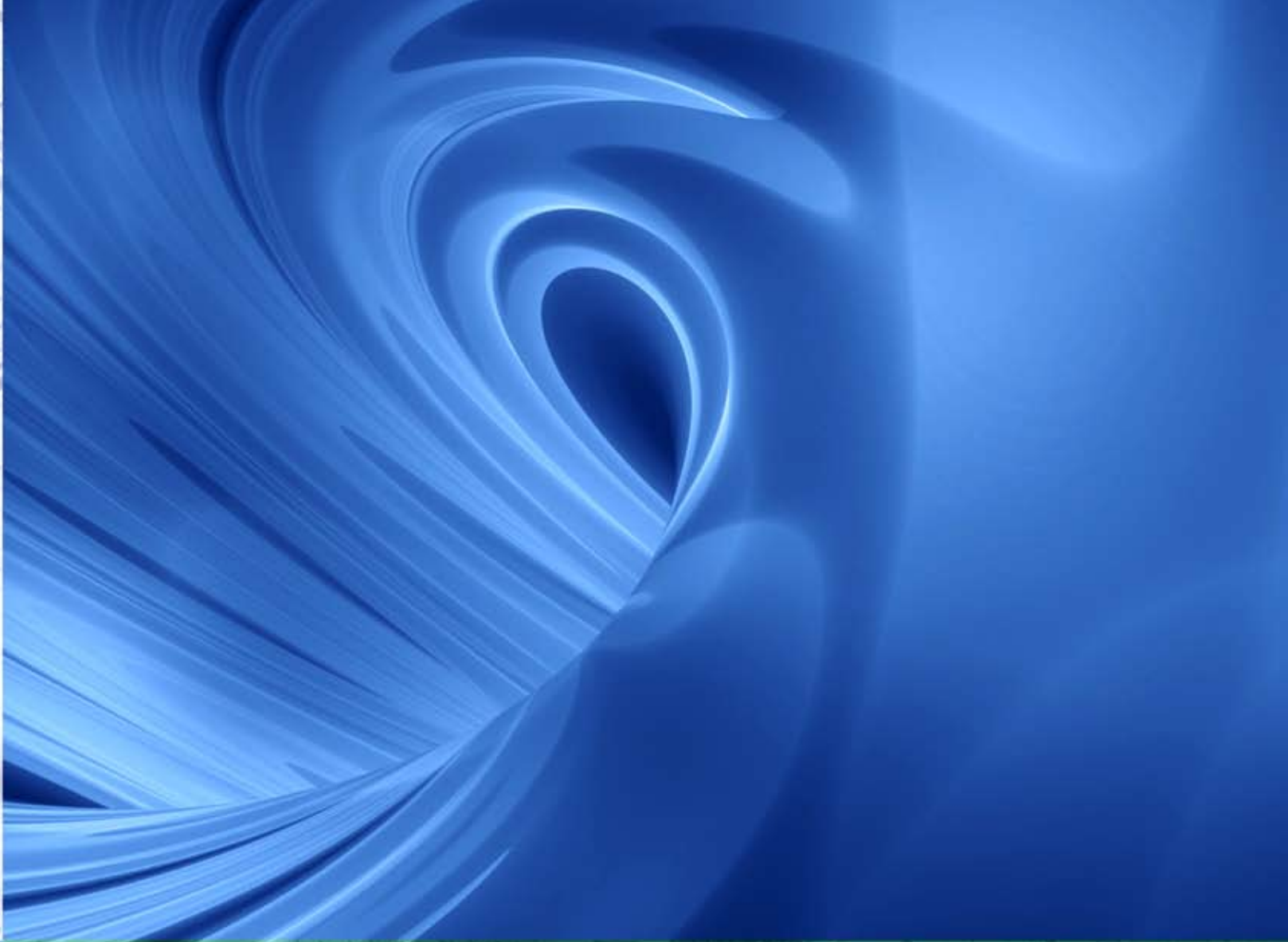
Stormwater Management

- Stormwater facility planning and feasibility studies
- Combined aquascape / flood control facilities
- Stream corridor planning
- Floodplain / Floodway delineation
- Runoff water quality modeling
- Stream geomorphology
- River engineering
- Physical modeling (hydraulic)
- Sediment transport / fluvial systems
- Streambed stabilization / bioengineering
- Watershed management & modeling



Additional Services





www.p-a-c-e.com

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(714) 481-7300

Northern CA Office
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Stockton, California 95207
(209) 472-3737

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