Kleinfelder and Legacy Simon Wong Engineering pool resources and talent to provide extraordinary solutions to the industry’s most complex problems.
**Combined Strengths Empower Multi-Market Edge**

**In December 2012, Kleinfelder**, a global engineering, architecture and science consulting firm, acquired Simon Wong Engineering (SWE), a 115-person, multi-discipline provider of structural and bridge engineering, construction management, inspection and public relations services, specializing in the California transportation and water markets.

The acquisition was touted as a way for Kleinfelder to enhance and strengthen its capabilities and services in multiple markets.

Soon after the acquisition, Kleinfelder’s CEO Bill Siegel said, “SWE’s strengths in the areas of structural engineering, bridge design and construction management, as well as its existing relationships and proven track record of high-profile project success, make it the ideal partner. By bringing the firm on board, we strengthen our talent pool and resources, which will allow us to provide deeper and more extensive services to our global client base.”

Former president of SWE and current vice president of corporate development at Kleinfelder, Simon Wong, PE, SE, agreed, adding, “We are a great fit for Kleinfelder, because our capabilities assimilate into the company with ease, providing both our clients and our employees the ability to leverage the benefits of a larger geographic footprint and more robust disciplinary capabilities available with the company.”

Looking back over the last 18 months, the vision that Siegel and Wong anticipated is a reality, perhaps best illustrated by the collective goodwill among members in both companies. The success of the acquisition is visible in the integration of processes and the range and scope of projects that the joint professional teams have completed and are currently working on together.

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**Our collective knowledge creates an exceptional opportunity to help clients resolve some of their most challenging problems with speed and innovation.** -- Kleinfelder|Simon Wong Engineering

The following section will highlight a few of those projects and ways that the Kleinfelder|Simon Wong Engineering connection is helping meet client needs with speed and innovation, particularly in the transportation and water markets as lead designers and engineers, construction managers, quality assurance, environmental compliance experts and much more.

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**Paving the Way to Robust Customer Connections**

**The combined skill set of** Kleinfelder|Simon Wong Engineering offers transportation clients in the public and private sector a wealth of expertise and experience under one umbrella.

Houman Makarechi, PE, senior vice president and principal with Kleinfelder, explains, “Together, we are able to provide our current and potential clients more comprehensive, innovative solutions to challenging problems in a manner that is not possible with multiple independent consultants. Our strength is in our collective knowledge; a strength that is readily recognizable on projects in California and across the country.”

Kleinfelder has considerable experience in engineering and construction oversight on transportation projects across the country on projects that include the Utah Dept. of Transportation’s I-15 CORE design-build project, Denver’s RTD Eagle P3 Commuter Rail and the award-winning San Jose International Airport Improvement Program in California. Similarly, SWE is a recognized leader in engineering and construction oversight in California with a number of high-profile clients including Caltrans and SANDAG.

Today, construction management experts from both firms have meshed their skill sets into one highly knowledgeable construction management group.

Marc McIntyre, PE, vice president with Kleinfelder, confirms, “We are a perfect fit for our clients because we are able to offer extensive services to public and private entities of all sizes with a local team that has considerable expertise.”
Streamlined Relationship Expands Water Proficiencies

From flood control to stormwater management to dams and hydropower systems, Kleinfelder|Simon Wong Engineering is a leader in the planning, design, construction oversight and quality assurance services.

Laura Robinson, PE, QSD, LEED AP, ENV SP, senior engineer with Kleinfelder, says, “The Kleinfelder|Simon Wong Engineering connection is illustrated on successful joint projects performed in recent years such as the Miramar Clearwells Improvement project.”

Another California project that is representative of the extraordinary Kleinfelder|Simon Wong Engineering synergy is the $60-million Carmel River Reroute and San Clemente Dam Removal (CRRDR) design-build project for California American Water. The focus of the project is to remove the 106-ft-tall San Clemente Dam and begin a long-term watershed restoration process.

The project requires the construction of a diversion dike, reroute channel and combined flow reach that will convey the Carmel River through the San Clemente Creek channel and around 2.5 million cu yd of sediments that have accumulated in the reservoir. The face of the sediment stockpile, upstream of the dam, will also be stabilized. Simon Wong Engineering engineers were instrumental in helping prepare a design for an 8-ft penetration through the existing dam through which the temporary diversion pipe carrying the Carmel River will be routed.

The project also entails removal of the 1921 vintage, concrete arch dam—all while protecting fisheries and endangered species’ terrestrial habitat. As the engineer-of-record for this multidisciplinary, design-build project, the Kleinfelder team is preparing final construction documents and assisting with obtaining regulatory approval to reroute the river, remove the dam and stabilize the sediment trapped behind the dam.

Proactive Outreach Helps Denver P3 Meet Project Goals

The Eagle P3 commuter rail project, part of the Regional Transportation District’s (RTD) Fastracks program to expand rail and bus transit throughout the Denver area, is a 36-mile, $2.2-billion project scheduled for completion in 2016.

Kleinfelder is charged with implementation of the Construction Quality Assurance and Environmental Compliance Program within the public-private partnership (P3) project delivery framework. The Eagle P3 project is the first P3 project in the country to have a fully accredited ISO 9001:2008 Quality Management Program.

Kleinfelder’s Program Director Scott Sammons explains, “The P3 creates a unique dynamic amongst the public and private entities as related to quality assurance and environmental compliance. Even though we work directly for Denver Transit Partners, we are RTD’s eyes and ears for environmental compliance, since RTD is responsible for the 404 permit even while the P3 concessionaire operates and maintains the line for 29 years.”

Kleinfelder is working with program stakeholders, contractors and regulatory agencies to maintain compliance with local, state and federal regulations. The entities involved include the RTD, the Colorado Dept. of Transportation, the Colorado Division of Wildlife, the city and county of Denver, Denver International Airport, Adams County and the cities of Arvada, Wheat Ridge, Westminster and Aurora. The project also requires coordination and concurrence with BNSF and UP RR.

“The public has been waiting for these new lines with great anticipation, and they’ve been very engaged in the process from the start,” says Kevin Flynn, RTD’s public information manager for the Eagle P3 Project. “So it is essential that RTD keep its promises to them through effective responses to the inevitable concerns that arise in design and construction.”

In addition to the coordination efforts with the local municipalities, the quality assurance and environmental compliance program provides oversight to a project workforce of more than 1,000 employees.

“A key part of our job is to find common ground amongst all these groups and help them be part of the solution. We do this through proactive outreach and positive engagement,” concludes Sammons.

Now three years into the project, the rail line is on schedule and communication across the involved parties continues to be positive.

The Kleinfelder|Simon Wong Engineering connection is expected to provide powerful opportunities to support other aspects of the project in the near future.
City of San Diego is Early Beneficiary of Acquisition Synergy

The six-year, $500-million-plus Miramar Clearwells Improvement Project for the city of San Diego, Calif., is one of the first projects to benefit from the strong relationship and combined expertise of the two companies in perhaps some unexpected ways.

As the prime consultant on the Miramar Clearwells project, Simon Wong Engineering (SWE) was initially charged with the design of two modern clearwells totaling 58.3 million gallons of capacity, an advanced chlorine contact chamber and new staff accommodations (including a maintenance building). One of the tasks prescribed in the contract was to verify that the chlorine contact chamber meets the California Dept. of Public Health requirements for disinfection.

Immediately after the acquisition, the SWE project team contacted Kleinfelder’s Larry VandeVenter, a well-respected, award-winning expert in membrane separation technologies, desalination, coagulation, high-rate clarification, filtration, ozonation, reuse, disinfection and control of disinfection by-products. VandeVenter worked with the Clearwells project team to review all design parameters and verify the ultimate design decisions. The team also called on Kleinfelder water/wastewater staff to support permitting, environmental issues, hydraulics and much more.

Since those early days in 2013, the scope of the clearwells project is growing to possibly include a new 215-million-gallon-per-day lift station and consideration of a 1-MW solar array installed on clearwell roofs—two tasks that the Kleinfelder | Simon Wong Engineering team is uniquely equipped to complete with the combined expertise of both companies.

The owner looked to the company’s engineering experts to model the pump station per the Hydraulic Institute’s requirements and to its Energy Group to recommend a 1-MW photovoltaic system solar generating solution that could be installed on the roof of the clearwells.

The Clearwells project also provided the Kleinfelder | Simon Wong Engineering team a unique opportunity to demonstrate value engineering capabilities. Experts from the company evaluated the project solution approach and made recommendations for improved performance and/or cost savings.

New National Bridge Practice

With thousands of structurally deficient or functionally obsolete bridges across the country, state and local bridge owners are challenged to find a way to fund necessary bridge inspections, repairs, renovations and replacements and, once funded, to facilitate the most efficient improvements with minimal impact to the public.

To support owner needs, Kleinfelder | Simon Wong Engineering has established a National Bridge Practice, a team of bridge design, engineering and construction management experts from both companies to support state and local transportation agencies and planning organizations across the country.

The mission of the practice is two-fold: 1) Help bridge owners find funding for bridge work and, 2) Engineer the best solutions for repair or replacement.

Kleinfelder | Simon Wong Engineering has already applied the principles of the new National Bridge Practice in San Diego County. The city of Del Mar’s North Torrey Pines (NTP) Road Bridge was identified as an FHWA high-profile bridge that was structurally deficient/functionally obsolete. Kleinfelder | Simon Wong Engineering worked closely with the coastal city to achieve 100% federal and state funding for construction.

Once the city was ready to engineer a solution, Kleinfelder used advanced engineering techniques including a comprehensive nonlinear time history analysis to model the seismic retrofit and rehabilitation of the 550-ft-long NTP Bridge. To maintain the bridge’s historical status, engineers developed a method to seismically strengthen the piers, pilings and columns, some of which were skewed by as much as 63 degrees. The project included the replacement of the entire upper deck of the bridge’s concrete tee beam and the repair of deteriorating concrete in such a way that the historical character of the bridge was maintained.

Mark Creveling, chief bridge engineer with Kleinfelder, says, “Our bridge experts have decades of experience in bridge engineering and are intimately familiar with state and federal funding programs. Through the National Bridge Practice, we can help bridge owners upgrade their bridge inventories with cost and time efficiencies.”

RIGHT: North Torrey Pines Road Bridge, Del Mar, Calif.

BELOW: Kleinfelder | Simon Wong Engineering assisted the city of Barstow, Calif. with successful HBP funding applications to replace the North First Avenue Bridge and the Mojave River Bridge.

To learn more about Kleinfelder capabilities, visit kleinfelder.com