

RUDOLPH AND SLETTEN

GENERAL AND ENGINEERING CONTRACTOR'S JOURNAL

HOOKED ON CONSTRUCTION

Collaboration
Changes
Sacramento's
Skyline

Completing Valley's
Largest Green Project

Building a Luxury Pad
for Pachyderms

INCORPORATED 1960
RUDOLPH AND SLETTEN
GENERAL AND ENGINEERING CONTRACTORS



Collaboration

We recognize the importance of a team approach to complex undertakings. The combination of strong relationships and constant communication throughout the process keeps the project on schedule without costly surprises. It is this integrated approach to building that keeps our clients coming back. Our clients have come to rely on us. They know they will receive fair dealings, ethical building practices and a team focused on quality.

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Photo by Ed Asmus Photography

To put a team to work
 on your next
 construction project,
 call Dianna Wright
 (650) 216-3600.

Speaking at Tradeline's Academic Medical and Health Science Centers

The integrated project delivery method at UCSF Cardiovascular Research Building was a topic of discussion at Tradeline's Academic Medical and Health Science Centers 2009 conference in Boston.

In the session, the speakers gave firsthand insight on how the collaborative hybrid approach to integrated project delivery along with Lean construction techniques and building information modeling can result in optimized project results, increased value, reduced waste, and maximum efficiency through the entire construction process. The speakers included Sandra Beck, Associate Director, Capital Programs at University of California, San Francisco; Shannon Holloway, Senior Project Manager for Cambridge Group; and from Rudolph and Sletten, Danielle Douthett, Senior Project Manager.

The annual meeting attended by academic program directors, planners, project managers, and administrators of academic medical and health science centers provides a benchmark for their plans and initiatives against the current, forward-looking actions of other leading institutions.

Rudolph and Sletten to Build New Manufacturing Facility for Solyndra



Rendering by STUDIOS Architecture

Veteran Employee to Lead Estimating and Preconstruction Services

Joe Francini, Senior Vice President, now heads Rudolph and Sletten's Estimating and Preconstruction Services Department effective immediately. Mr. Francini, a veteran Rudolph and Sletten employee with 31 years, will oversee the company's estimating and preconstruction team of 50 employees.

"Joe has been an integral member of both the Estimating Department as well as the Company's Executive Steering Committee. His experience and knowledge will continue the success of our vital estimating and preconstruction department."

— Martin Sisemore, CEO of Rudolph and Sletten

Mr. Francini has served as a member of the executive management team for over 18 years. After joining the company in 1978, he worked his way up through the ranks within the estimating department.

Mr. Francini holds a Bachelor of Science in Construction Management from Arizona State University.

Rudolph and Sletten will provide construction services for phase one of Solyndra's new \$733 million thin-film solar panel manufacturing facility.

The first phase of the Solyndra's Fab 2 will contain 609,000 square feet of manufacturing plant floor area, utility and support space, shipping and receiving, and administrative and professional office areas.

Solyndra's Fab 2 is designed to produce 500 megawatts per year. Combined with their current Fab 1 facility, the output will be over 600 megawatts per year, the most in the Bay Area. Over their lifetime, the two Solyndra plants will produce enough solar panels to cut over 350 million metric tons of CO₂ emissions or 850 million barrels of oil.

"We are pleased to have Rudolph and Sletten, together with their partners, construct our Fab 2 facility. Fab 2 will allow us to meet strong customer demand, lower manufacturing costs, and provide thousands of local jobs."

— Dr. Kelly Truman,
Solyndra's VP of Marketing and Business Development

Jay Paul Company's Summit Rancho Bernardo Receives LEED Gold Certification



DES Architects + Engineers | RMA Photography, Inc.

Rudolph and Sletten's recently completed five-story, 197,000 square foot Class A office tower at Summit Rancho Bernardo received LEED Gold Certification from the United States Green Building Council. Situated on a 105-acre hilltop site providing unobstructed mountain and valley views of Rancho Bernardo and Poway, the building is the first phase of Jay Paul Company's mixed-use project planned to deliver 11 architecturally distinct office towers in an amenities rich campus.

The Summit building incorporates water efficient sinks, toilets, urinals and showers that will reduce water consumption by over 30 percent. Landscaping is designed with native and low-water use plants and will include landscaped open space that exceeds local requirements. These features cut water use by at least 50% reducing general maintenance and common area fees.

Specific LEED features include energy efficient HVAC equipment, highly reflective cool roofs, high performance glazing systems and lighting designs that maximize the use of natural daylight in order to reduce energy consumption. These features are also designed to beat California's stringent Title 24 energy codes by over 25%. During construction, waste management practices resulted in the recycling of over 93% of the construction waste. In addition, recycled materials incorporated into the building accounted for over 30% of all material used in the project.

Building materials selected to reduce environmental impacts include wood for interior finishes from sources that meet or exceed the Forest Stewardship Council's certification requirements, materials with recycled content to reduce the burden on natural resources and help close the waste-stream plus the local-sourced materials to reduce the environmental impacts resulting from transportation.

The interior build-outs will seek to reduce indoor pollutants from building materials, control indoor air quality during construction, improve indoor air quality through filtration and ventilation and improve the use of natural daylight. The building also received an Energy Star rating of 96.

Improving Homes in Vietnam

Senior Project manager, Kelli Quinn, participated in a Habitat for Humanity Global Village trip to Vinh Yen in Northern Vietnam. For 9 days she helped four families improve their standard of living while experiencing another culture.

As a volunteer, she worked alongside the family members to add bathrooms, septic tanks and small additions to homes that were little more than four walls and a roof.

According to Kelli, it was hard for the community to understand why strangers would want to help them. "We had to explain to them that we were neighbors too, but from far away," said Quinn. Their interest soon turned to additional help.

Habitat for Humanity Global Village volunteer teams travel to exciting destinations giving volunteers the opportunity to observe and contribute firsthand. Trip itineraries are balanced with plenty of work, rest and free time. During this trip the group visited a local school and distributed school supplies to the kids.

This was Kelli's second trip with the organization and she looks forward to volunteering again soon.



"I love being able to go on a trip and learn about the culture from the inside, and it gives me a chance to physically build something."
Kelli Quinn, senior project manager for Rudolph and Sletten

Hospital Construction Speaking Tour

Along with Childrens Hospital Los Angeles and Zimmer Gunsul Frasca Architects LLP, Rudolph and Sletten co-presented a case study on building a children's hospital at **The National Association of Children's Hospitals and Related Institutions (NACHRI) 2009 Facilities Design Conference** in Austin, Texas.

The conference joined children's hospitals to address increasing capacity, changes in population, family centered care, hospital IT infrastructure, energy demands, and staff needs through improvements in the design of children's hospitals.

Rudolph and Sletten's CEO, Martin Sisemore was invited to share valuable insight into the company's current involvement in the construction of Childrens Hospital Los Angeles. The presentation examined the changes that occur during a long-term design/construction process, and Lean construction methods.

The presentation was also included in the **Healthcare Facilities Symposium & Expo (HFSE)** in Chicago. The HFSE focuses on how the physical space directly impacts the staff, patients and their families and the delivery of healthcare. For this presentation the presentation team of Anne Marie Floyd RN, MSN, Director of Transition and Occupancy and Mary Dee Hacker RN, MBA, Vice President, Patient Care Services and Chief Nursing Officer from Childrens Hospital Los Angeles; Greg McCants AIA, Principal for ZGF Architects LLP; and Martin Sisemore, CEO for Rudolph and Sletten discuss strategies for effective decision-making throughout a 10-year planning, design and construction process for a new hospital building in the middle of a densely packed urban campus.

THE TOP 100 GREEN CONTRACTORS

Rudolph and Sletten and its parent company, Tutor Perini Corporation, was listed as number two among the top 100 green contractors in the United States. With approximately 38% of our staff LEED Accredited, Rudolph and Sletten has the highest percentage of LEED Accredited staff of all contractors.

This year, four projects constructed by Rudolph and Sletten have received LEED certification. Jay Paul Company's Moffett Towers Amenities Building and Parcel 1 both received LEED Gold certification and Parcel 3 is on track to match that accomplishment. Sierra College Truckee-Tahoe Campus completed early in 2009 also received LEED Gold certification. It became the first community college in the state of California to receive Gold certification. Another Jay Paul Company project, Summit Rancho Bernardo received LEED Gold with 37 points, only 9 points away from Platinum.

Since its first green project in 1999 with the Shaklee Headquarters, the company has constructed over 6.5 million square feet of sustainable space. Currently Rudolph and Sletten has 2,200,000 square feet of sustainable space under construction.

Rudolph and Sletten Launches New Website

On the new site you'll find an improved look and feel with up-to-date content.

Visit it at www.rsconstruction.com

Changing the Skyline

The Ed Kado-designed, 25-story, Bank of the West Tower at 500 Capitol Mall in the heart of Sacramento's business district provides 445,000 square feet of "Class A" office space with panoramic views of the Sierras, the Sacramento River, Sacramento's skyline and the Capitol Rotunda. At 396 feet, the building is the third tallest in the State's capital.



Owner: Tsakopoulos Investments
Architect: E.M. Kado & Associates
Size: 732,000 sq ft
Completion date: 04/2009

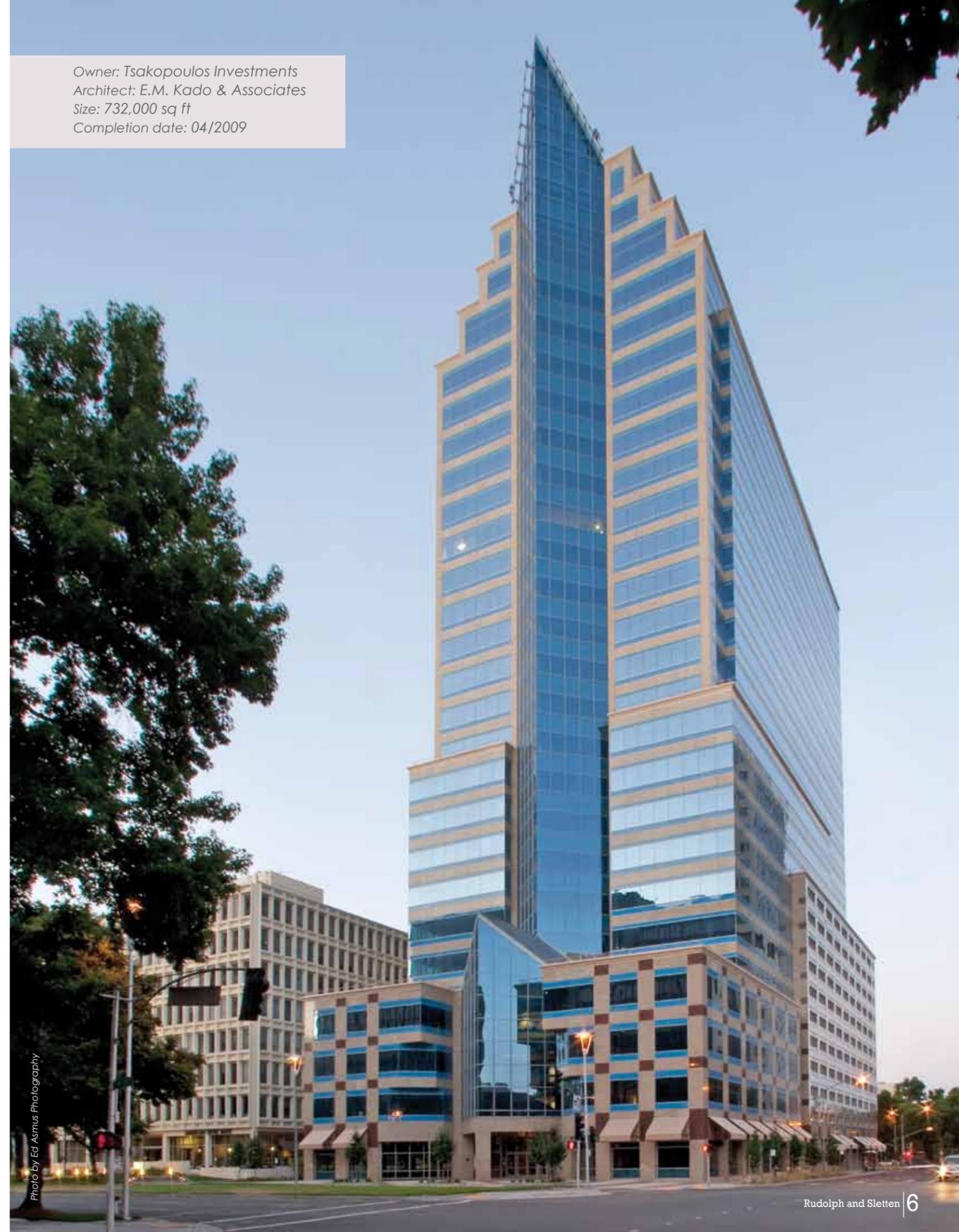


Photo by Ed Asmus Photography



Developed by Tsakopoulos Investments, the building offers a full range of amenities to attract elite clientele seeking a superior business environment. The Bank of the West Tower offers on-site building management, 24-hour security, cable-ready access, legislative audio access, an overnight express center, a planned restaurant and a state-of-the-art fitness center with showers and locker facilities, and an 800-stall parking garage.

The Project Management Team implemented a number of teamwork and collaborative strategies to ensure that the project was a success.

Rudolph and Sletten maintained clear and open lines of communication regarding schedule, budget, constructibility, quality, and life-cycle comparisons from the preconstruction effort that began in 2004 to the completion of the project

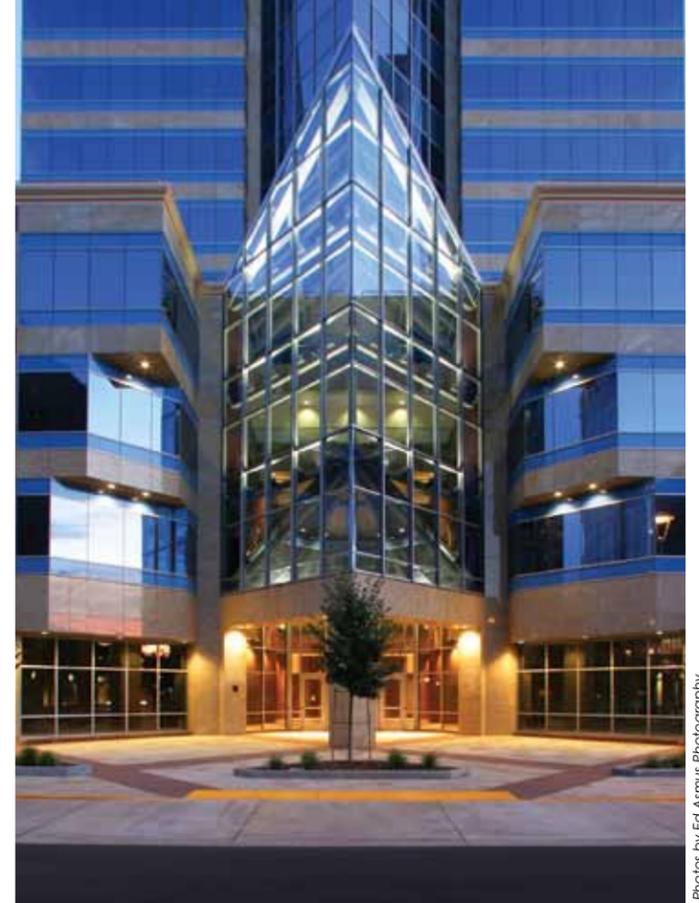
piles, production piles, foundation, structural, etc. Over 2 dozen permits were needed, between the city of Sacramento, County of Sacramento, Sacramento City Fire Department and special inspectors. More than obtaining the permits, which are by themselves a challenging task, it was important to understand the guidelines each inspector followed and what expectations each inspector had for what they would be inspecting. The team needed to construct a building per code as well as partner with each authority to meet their expectations, while building a relationship.

This was the first project to go through the city of Sacramento's Matrix system, a streamlined approach to the City's planning and permitting. The smooth progression of this project through the maze of approvals and paperwork helped convince the City to expand the Matrix program in 2006. By 2008,

by advanced payments for both the structural steel and elevators thereby eliminating the financing costs that these subcontractors would have incurred. This secured the project schedule and saved money, as well.

The owner, architect and Rudolph and Sletten took a trip to Italy over a year before construction started to select the stone. Rudolph and Sletten also took the owner to the subcontractor's fabrication shop when the stone arrived to ensure the stone was still acceptable.

Preconstruction procurement was also required for the elevators. There were two types, one from overseas and the other from the U.S. Finally, MEP equipment, especially large items such as chillers, were coordinated to be delivered and set in place via tower crane before



Photos by Ed Asmus Photography

“We sought to build what Sacramento deserved, the best Class A office building downtown, with the intention of keeping our building in the family for generations,” said Angelo G. Tsakopoulos, Managing Partner of 500 Capitol Mall Tower LLC. “That meant the best materials and construction design both visible and concealed, from the polished granite skin to the auger-cast piles and dual-slab foundation.

in 2009. The team accomplished this goal with regular weekly meetings, special issue meetings, daily phone calls, and constant communication between Rudolph and Sletten, the subcontractors, and the client.

The city of Sacramento worked closely with the project team to divide the scopes into smaller permits to best facilitate the project schedule — demolition permits, excavation, shoring, test

the city of Sacramento's planning process rose to first place among local municipalities in an annual *Business Journal* survey of developers, contractors, architects and engineers.

Early procurement ensured quality materials, improved scheduling and the best possible cost savings.

The client obtained preferred procurement and discounted prices



the building exterior was buttoned up; otherwise, additional time and money would have been needed to bring them in pieces through entryways and reassembled inside.

Rudolph and Sletten engineered some low-tech solutions with impressive results.

Sacramento is one of the only jurisdictions to require the theatrical smoke test. The test proves the system can clear a smoke-filled floor in 10 minutes so all exit signs are visible from the furthest point from the sign. Theatrical smoke is used for the test, but the problem with theatrical smoke is that it settles while real-world smoke rises. Rudolph and Sletten used electric leaf blowers to mix the smoke at a higher rate, thus eliminating pools of dense smoke that are not realistic and can cause the system to fail the test. The inspector said he had never seen anyone use leaf blowers before and it truly made the test more realistic and proved the system to be properly functional.

It was tough fitting 487,000 square feet of offices plus a 300,000 square-foot parking garage on an area slightly less than 1 acre; however, Rudolph and Sletten worked with the city to optimize the property.

The new office tower also fills most of the site, leaving little space on-site for trucks and equipment. Located in the busiest part of downtown Sacramento, there was no staging room off-site either. The team successfully overcame this obstacle with limited lane closures, as needed and approved by the City; delivery schedules with an on-site delivery coordinator; and published haul routes to each subcontractor.

Allowed to shut only 2 lanes of 5th Street and 1 lane of N Street for all loading, unloading and moving of equipment, suppliers and subcontractors had to stick to a tight schedule. If a truck got stuck on Interstate 5 and missed its delivery window, it might have to stay in a holding pattern while the team searched for an open slot.

Extraordinary quality was the highest objective for the developer in planning the building.

Outside, the granite goes all the way to the top rather than switching to some cheaper material higher up where it wouldn't be noticed by passerbys. A quality, well-appointed lobby creates an essential first impression and sets a tone of utmost professionalism. The crystalline four-story glass-walled lobby of the Bank

of the West Tower bespeaks grace, tranquility and efficiency. Luxurious cherry wood is used throughout the building as individual solid-core suite doors and accents in the lobby and corridors. Skilled millwrights have carefully finished each piece, and tradesmen have precisely installed them.

Great thought has been given to the simplest concerns, for example, glass. It is important to enjoy a natural view, yet also important to use energy responsibly. Dual-pane glass was designed to reduce solar heat gain inside while meeting our psychological need for natural light from the outside.

The Viracon window also provides one of the most distinct features of the 500 Capitol Mall building: the blue-hue glass. This unique architectural feature provides soothing tones in the interior, while allowing two-way vision through the glass under varying light conditions.

The elevator system sets the standard for elevator performance, efficiency, and comfort while reducing energy usage by up to 50 percent compared to conventional elevators. This state-of-the-art system also features regenerative drives contributing to further energy

reductions. Regenerative drives feed energy, usually lost during braking, back into the electrical grid of the building where it can be used productively.

The designer, Ed Kado, maintained the interest in the skyline, by stepping it similarly to the adjacent high-rises providing some continuity among the buildings.

The result is a 25-story tower clad in blue glass and gold granite with red granite accents. Windows form continuous horizontal ribbons of glass across each floor. An angled section projects from the full height of the front like a ship's prow.

The exterior of the garage is disguised. From N Street, it appears to be a building with windows, but it is really a parking garage. The designer consciously did not want the cars to be seen from the street, a feature that adds to the building's refinement.

Most of the floors offer 22,000 to 23,000 square feet. The large floor plates allow tenants that might have needed two floors in some of the narrower office towers to fit onto a single floor. The design has proved attractive to tenants. Bank of the West attached its name to the tower and some of Sacramento's largest law firms have already signed leases.



Photos by Ed Asmus Photography

The law offices of McDonough, Holland & Allen tenant improvements (left and bottom of the previous page) on the 17th, 18th and 19th floors were constructed concurrently with the core and shell of the Tower. The 70,000 square-foot TI team worked in close coordination with the core and shell team to successfully complete the job ahead of schedule.



“Ed Kado designed for us a remarkable office building, and Rudolph and Sletten executed the construction of that design with skill and attention to detail that have earned the praise from those involved in the project and from public onlookers as well.”

Angelo G. Tsakopoulos, Managing Partner of 500 Capitol Mall Tower LLC.

A photograph of an elephant enclosure. In the foreground, a large elephant is partially submerged in a pool of water, its head and trunk visible. In the background, three other elephants are standing on a dirt bank. The enclosure features large rocks, a large log, and a circular observation tower. The sky is clear and blue.

Building a PACHYDERM Pad

As construction manager and advisor, Rudolph and Sletten provided design and construction phase management advisory services for the planning of animal holding buildings, related support and ancillary facilities, utility relocations, and site improvements for the San Diego Zoo's new exhibit, The Harry and Grace Steele Elephant Odyssey.

Owner: The Zoological Society of San Diego
Architect: Ferguson Pape Baldwin Architects
Size: 7.5 acres
Completion date: 05/2009

Photo courtesy of the San Diego Zoo



Photo courtesy of the San Diego Zoo

San Diego Zoo's new 7.5 acre, \$45-million elephant playground brings together the zoo's three elephants with four from the San Diego Zoo's Wild Animal Park into a single Elephant Odyssey habitat.

The exhibit, which opened to the public on May 23rd, features a 2.5-acre yard of gentle rolling hills and a 137,000-gallon pool. Additionally, it offers the half-acre Conrad Prebys Elephant Care Center where visitors can watch zookeepers and veterinarians feed and care for the massive animals.

The heavy construction in close proximity to other functional animal care and exhibit areas required a higher sensitivity to the surroundings. Coordination was required not only with the design team but the zoo's many departments for architecture, horticulture, animal care, and maintenance to make sure that all parties' needs were addressed during the project. Separate meetings were held each week to ensure the project was meeting the goals and not disrupting the zoo's daily operations.

Visitors will get the chance for more nose-to-nose contact at the new exhibit. The "trunk wall," an 8 to 9-foot wall, low enough for elephants to reach over, will allow the elephants to accept treats from zookeepers as they demonstrate the elephant's ability to use their trunks for virtually all situations. Other interactive aspects of the exhibit include a tar pit replication, fossil dig, and children's play area just to name a few.

While the elephants are large, they are not the largest animals in the exhibit. Featuring animals of the past and present, the habitat also highlights eight life-sized replicas of extinct animal species that dotted the Southern California landscape more than 12,000 years ago.

In an adjacent 4.5-acre area of the new habitat, a series of secondary exhibits showcase lions, jaguars, horses and camels in naturalistic environments, while smaller habitats house pond turtles, rattlesnakes, tree sloths and dung beetles.

The new exhibit also marks the return of the California condor to the zoo for the first time since the 1980s, with the endangered bird having spent the last quarter-century at the Wild Animal Park. Some of the animals that will live in Elephant Odyssey are endangered or threatened with the same fate. The San Diego Zoo works to conserve these species, including the California condor, a species that

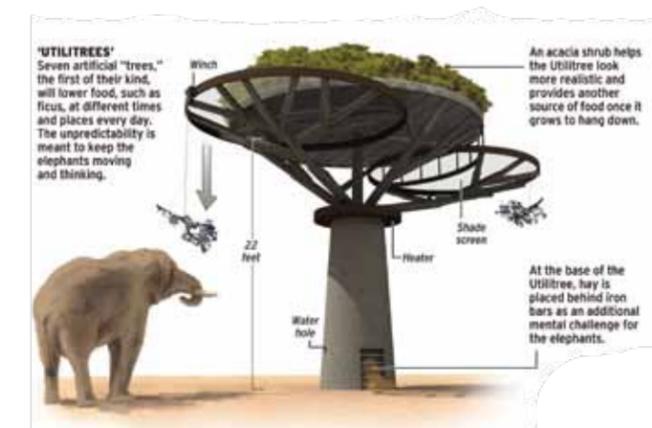


survived the Pleistocene when the mammoth and saber-toothed cat did not.

Asian elephants have dwindled to between 25,000 and 32,000 in their native lands, according to the World Wildlife Fund. African elephants are better off, with about 500,000 in the wild.

This is the second major project for Rudolph and Sletten at the San Diego Zoo. In 2008, the company completed work at the Zoo's Wild Animal Park including a replacement of the Park's monorail.

“ To see the same diversity of animals when mammoths and saber-toothed cats roamed Southern California, you would need to travel the world,” said Rick Schwartz, Elephant Odyssey ambassador for the San Diego Zoo. “Elephant Odyssey offers fun, up-close animal encounters with elephants and jaguars, relatives of those now-extinct animals.”



Illustrations courtesy of the San Diego Zoo

Five first-of-their-kind artificial trees, topped with acacia shrubs, provide food at different times of the day to add a mental challenge to the elephants' daily routine. These "Utilitrees" will also provide shade for those hot days and heat during the cooler months.

The Largest **GREEN** Project in Silicon Valley

Owner: Jay Paul Company
Architect: DES Architects + Engineers
Size: 1,800,000 sq ft
Completion date: 07/2009

MOFFETT TOWERS

Photo by Rien Van Rijthoven

The Amenities Building and Parcel 1 awarded LEED Gold Certification.

Jay Paul Company's Moffett Towers is not only the largest project to be built in the area, it is also the City's first high-rise project and the largest green project in Silicon Valley.

Located along the southern edge of historic Moffett Field, a former U.S. Naval Air Station, stands a series of beautiful Spanish limestone, Italian granite and glass towers. This new office and R&D campus is the first large-scale speculative Class A office construction project in Silicon Valley. Occupying a 52-acre site, the new construction includes 7 eight-story office buildings totaling 1.8 million square feet, an amenities building with cafeteria and credit union, three parking garages with 3,488 spaces, a site parking lot with 1,200 spaces, new roads, demolition and associated site work. Pedestrian and bike pathways connect to an adjacent VTA light rail station.

As the centerpiece of a 52-acre corporate campus, the Moffett Towers Club serves as a 48,000 square foot world-class fitness and spa facility as well as an upscale destination for large company meetings and informal gatherings. A striking point-counterpoint of curves and linear forms is apparent in the light-filled two-story lobby which is surrounded by glass and steel elements.

The club's interior design references natural forms such as ginkgo leaves and reeds, bringing a sense of natural tranquility indoors. The natural pattern is carried through in the details of the stained concrete flooring and in carpeting. The color palette takes advantage of the light in each space, according to the building's orientation. Forest Stewardship Council-certified cherry wood, bamboo, locally fabricated custom-cast concrete counters, recycled-content ceramic tile and Greenguard-certified furniture are among the sustainable materials used in the LEED Gold certified Amenities Building.

First-floor amenities include a day spa, a café with indoor and outdoor seating and a game room. The 25-yard,

seven-lane, solar-heated pool accommodates lap swimming, as well as therapeutic rehabilitation programs. The gymnasium boasts a full-size court with equipment for both basketball and volleyball. The building's second floor includes a state-of-the-art fitness center, as well as group exercise studios for Pilates and yoga.

The office buildings have been certified LEED Gold CS and new tenant build outs will be contractually required to attain a minimum of LEED Silver CI.

The design incorporates environmentally responsible design through the use of energy efficiency, water use, indoor environmental quality, materials use and landscape design.

During the demolition process, materials were saved and crushed to be used as base rock for the new parking lots. The project was phased in two halves and the southern half of the project, Parcel Three, reused between 18,000 and 20,000 cubic yards of demolition materials. Throughout the process 36% of the new construction materials were from recycled materials. Over 92% of the construction waste was diverted from the landfills through recycling efforts.

Half of all the roof top stormwater is diverted into the landscaping allowing for the plants and soil to absorb the water instead of the city's storm drains. The owner's



Photo by Rien Van Rijthoven



Photo by Hawkeye Aerial Photography

DES Architects+Engineers received the Structures 2007 "Architecture/Design Project of the Year" Award for their design creativity on the office campus. The Moffett Towers project also brought honors to Jay Paul Company in the "Developer of the Year" and "Green Project of the Year" award categories.

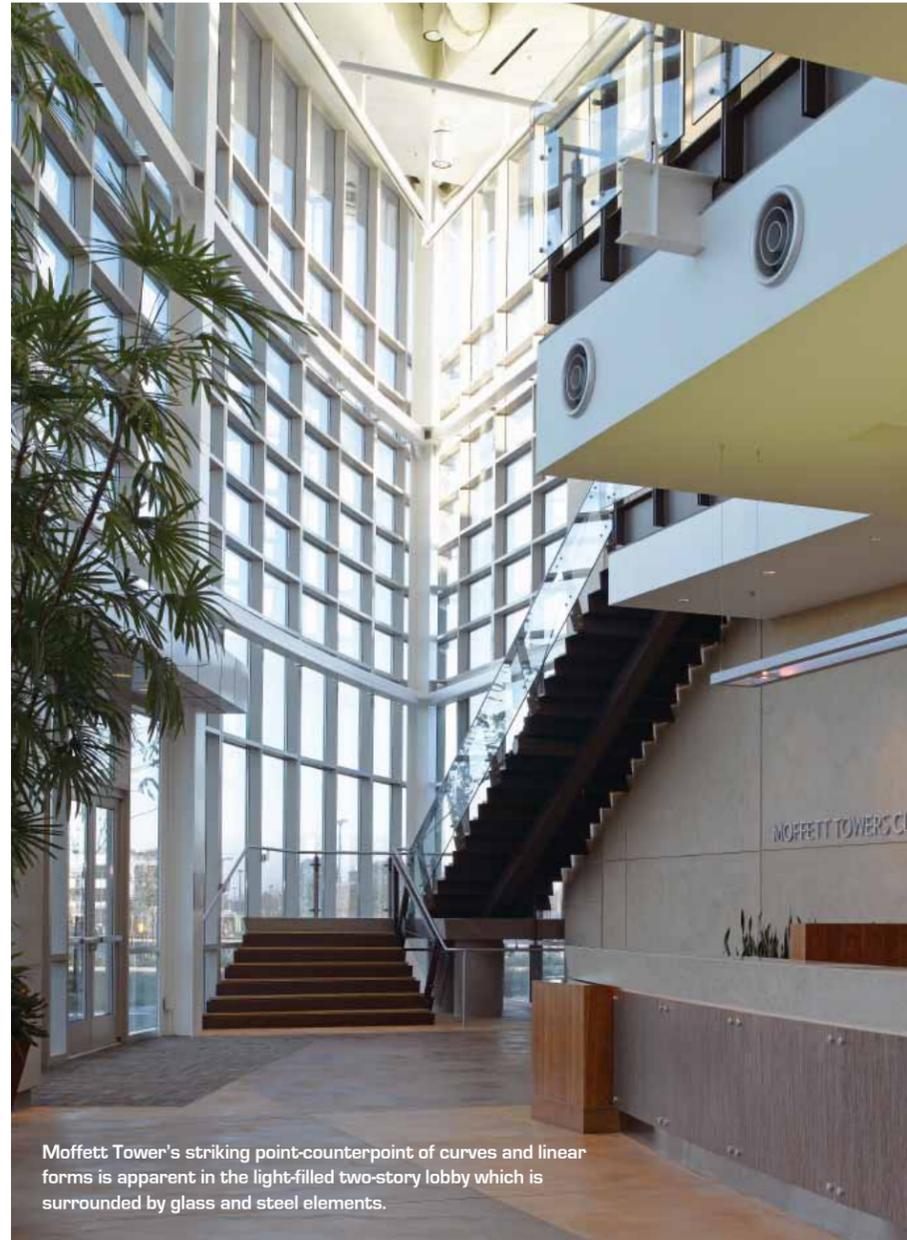
commitment to the environment resulted in the project meeting the city's stormwater requirements, despite being outside the regulated area.

Metal panels for the building's skin were fabricated at the subcontractor's yard on a truss frame. This Lean construction method allowed for a more efficient installation process saving both time and money.

Such a large project was not without its challenges. Before construction could begin, 14 California Sycamore trees had to be transplanted to create the centerpiece of a new business park. Using a patented 14-foot spade, the 45-foot-tall trees were safely relocated on site in only 3 days. Temporary irrigation, a dedicated landscaping contractor and an independent arborist maintained the trees during construction.

14 California Sycamore trees had to be transplanted to create the centerpiece of a new business park.

At the Owner's request the completion of the parking structure was moved up on the schedule to accommodate a new tenant. Rudolph and Sletten's management team had to rethink the building process for the garage. Since the elevator construction was contingent upon the completion of the middle section of the garage, the team decided to build the entire North and the middle sections of the garage first. This allowed the elevator subcontractor to begin work on the elevator as building continued with the South section of the structure. The scheduling change finished the



Moffett Tower's striking point-counterpoint of curves and linear forms is apparent in the light-filled two-story lobby which is surrounded by glass and steel elements.

Photo by Ken Gutmaker Photography

garage earlier meeting the Owner's request.

With each new challenge the Rudolph and Sletten team provided superior management skills keeping the project on schedule and on budget while at the same time addressing the needs of the owner. Expert planning and scheduling gave the project a solid foundation from which adjustments could easily be made to overcome challenges along the way.

Selected as the Grand Prize winner in new construction for 2009 by BUILDINGS magazine

SIERRA COLLEGE

FIRST CALIFORNIA LEED GOLD COMMUNITY COLLEGE



Lionakis Beacom Design Group, Inc. | Bernard André Photography

The first permanent building on the Sierra Community College Tahoe-Truckee Campus has received LEED (Leadership in Energy and Environmental Design) Gold Certification by the U.S. Green Building Council (USGBC). The 28,500 square-foot facility, designed by Lionakis Architects and built by Rudolph and Sletten, is the first LEED Gold certified community college building in the state of California. Serving 1000 students, the facility is a two-story structural steel building with asphalt composite roofing, with a fiber cement siding and natural stone exterior. It incorporates lecture classrooms, science and chemistry labs, 2-D and 3-D art classrooms, a "Mechatronics" laboratory, a library, a student eating/gathering area, and administrative offices.



Sustainable features:

- 40% less water use due to efficient interior fixtures and dual-flush controls.
- No refrigerants used. A combination of evaporative cooling and outside air (called economizing) was incorporated, which reduces air conditioning energy use by 70%.
- Smart classroom controls regulate temperature and lighting according to the amount of daylight and number of students.
- Demand-controlled ventilation (fresh air control) reduces energy use by up to 50% when the building is vacant.
- Piping and ductwork have 50-100% thicker insulation than industry average, providing more efficient heating and cooling.
- Components in place for future solar-thermal heating systems.
- Better indoor air with humidifiers using electromagnetic water treatment instead of chemicals.
- All large fans and pumps have variable speed motors for reduced energy consumption.

"Truckee is a community whose culture is at the forefront of sustainability and environmental consciousness. Sierra College was therefore committed to developing our Tahoe Truckee Campus to reflect this culture, and initially established the goal of LEED Silver for our campus buildings. But our highly collaborative project implementation process allowed for collective thinking throughout the design phase, resulting in a facility that exceeded our expectations."

— Laura Doty, Sierra College
Director of Facilities and Construction

Rudolph and Sletten builds a hospital focused on key principles to provide a more functional and user friendly healing environment at El Camino Hospital.

Owner: El Camino Hospital Foundation
Architect: Kaplan McLaughlin Diaz
Size: 488,000 sq ft
Completion date: 10/2009

Technology-savvy care, greater efficiency and an improved patient experience in the

Community Hospital of the Future

El Camino Hospital first opened in 1961 as a beacon of hope and as a provider of the highest level of medical services to Silicon Valley communities. Today that tradition continues with a recently completed modern healing environment.

The new 488,000 square-foot hospital designed by KMD, followed a number of guiding principles throughout the designing, planning and construction to maintain focus on building a community hospital of the future. The new building accommodates 223 licensed beds - 85 percent private - and an emergency room/department holding an additional 36 beds. The building also includes a 10-bed observation unit, a conference center, 16 operating/interventional treatment rooms, a multi-track Emergency Department and flexible nursing modules with 28 critical care and 180 acuity adaptable beds.



Photo by Michael O'Callahan Photography



The Quiet Hospital

Working with an acoustical engineer, architects and designers implemented several strategies to minimize noise.

- Acoustic panels around busy areas such as nurses' stations
- Stretched-fabric ceilings and sound-absorbing material behind the wood-slat ceilings
- No overhead convenience paging; instead physicians and staff use wireless communication devices.

The Healing Hospital

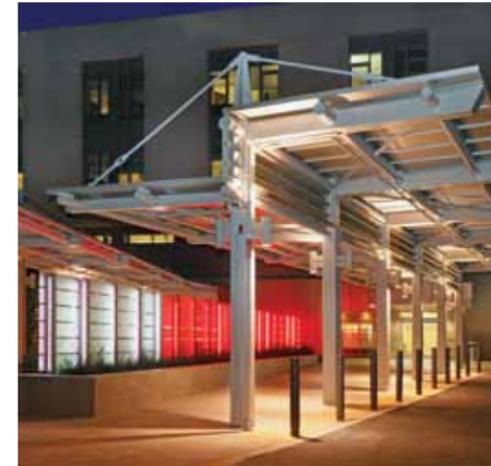
In addition to providing the latest technologies, innovative physicians and committed nurses and clinical teams, El Camino Hospital provides a healing environment.

- A mediation garden on the north side of the hospital
- Lots of natural light and view of gardens
- A mediation room on the first floor
- The Healing Arts Program featuring musicians, art classes, stand-up comedy, and visits by specially trained therapy dogs.

GUIDING PRINCIPLES

Throughout the designing, planning and construction, these key guiding principles helped maintain focus.

- Embrace technology and innovation
- Supportive patient and family friendly atmosphere
- Operational efficiency
- Design for future flexibility
- Staff friendly
- Create a sense of confidence in a comfortable and park-like environment
- Develop an effective plan that provides a clear sense of entry as well as convenient and accessible parking
- Strike a balance between first costs and long-term costs (identifiable paybacks)
- Where practical, utilize natural features, "green" architecture and sustainable campus systems in design
- Minimize disruption during construction



Photos by Michael O'Callahan Photography

Design for El Camino Hospital started in late 2001 to comply with state law – following the Loma Prieta earthquake in 1989. The existing hospital could not be retrofitted to comply, so the hospital collaborated with the designers, physicians, nurses and the community to create a new model for healthcare. The conceived plan not only adheres to seismic standards, but also improves hospital efficiency, while treating patients in a family-friendly environment that promotes healing.

Large glass windows and 9-foot-4-inch high ceilings allow natural light to fill rooms and corridors. Most patient rooms on the second, third and fourth floors are private, with their own showers and bathrooms. All of these rooms give patients an unobstructed view of the distant mountains, the Bay, the Valley or the garden courtyards. The natural light and calming views add to the healing environment.

The hospital uses public space efficiently by including family waiting areas with large window views

on each of the in-patient floors at the corners of the building. The emergency waiting room features separate zones for friends and family, as well as a play area for children.

In the area of technology, the new facility touts some impressive equipment. The hospital has an MRI with twice the magnetic force of regular imaging machines so that doctors can actually see the neurons in the brain. A CT scanner provides images with 128 slices, compared with 64 before.

The hospital is recognized as a national leader in the use of health information technology to promote patient safety, including computerized order entry, electronic medical records and wireless communications. In the new hospital that level of commitment to patient care through technology continues with the installation of a wireless system throughout the entire facility to guarantee wireless coverage everywhere. The staff can access patient information at all times while on the move.

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