

2018

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GALA EVENING

TUESDAY, APRIL 17, 2018 MARRIOTT WARDMAN PARK WASHINGTON, D.C.

ACEC THANKS THE FOLLOWING COMPANIES FOR THEIR GENEROUS SPONSORSHIP AND SUPPORT OF THE 2018 ENGINEERING EXCELLENCE AWARDS.

# AECOM Pexp. Second Gannett Fleming FOR

### **EMERALD**

ACEC RETIREMENT TRUST

ALFRED BENESCH

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MOTT MACDONALD

SIMPSON GUMPERTZ & HEGER

STV

SYSKA HENNESSY GROUP

T.Y. LIN INTERNATIONAL

WSP









## WELCOME TO THE 2018 ENGINEERING EXCELLENCE AWARDS GALA

Me hope you enjo this

celebration of the year's best

incering achievements.

A distinguished panel of judges representing a variety of professions have selected this year's best engineering achievements using criteria such as uniqueness and originality, and technical, economic and social value. These awards affirm the vital role that ACEC member firms play in enhancing the quality of life and security of America and the world.

2018 Engineering Excellence Awards

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April 17, 2018

Honorary Chairs

The Honorable John Barrasso U.S. Senate THE HONORABLE THOMAS R. CARPER U.S. Senate

THE HONORABLE BILL SHUSTER U.S. House of Representatives THE HONORABLE PETER A. DEFAZIO U.S. House of Representatives

Melcome

ACEC President & CEO - David A. Raymond

Presentation of the Colors

U.S. JOINT ARMED FORCES COLOR GUARD

National Anthem

Freddie Dunn

National Recognition Awards Tribute

ACEC CHAIRMAN - SERGIO A. PECORI

Dinner

National Awards Presentation

MASTER OF CEREMONIES - KEVIN NEALON

2018 Engineering Excellence Awards



*Lobster Ravioli* Buerre Blanc, Gemolata, Crispy Julienne Peppers

\*\*\*

## Seared Tenderloin of Beef

Sauteed mushrooms, carmelized onions, potatoes dauphinoise, asparagus and carrots

## \*\*\*

## Opera Torte

Almond sponge, rum syrup, coffee buttercream, dark chocolate ganache

## \*\*\*

Estancia Chardonnay, Monterey County Aquinas Cabernet Sauvignon, North Coast

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A VEGETARIAN OPTION IS AVAILABLE UPON REQUEST OF YOUR SERVER.

Grand Conceptor Award



THE WINNER OF THE 2018 GRAND CONCEPTOR AWARD FOR THE YEAR'S MOST OUTSTANDING ENGINEERING ACHIEVEMENT WILL BE SELECTED FROM ONE OF THE SIXTEEN GRAND AWARD RECIPIENTS AND ANNOUNCED ON STAGE AT TONIGHT'S GALA.

Grand Award



 Firm Name:
 Magnusson Klemencic Associates

 Project Name:
 150 North Riverside

 Project Location:
 Chicago, IL

 Client:
 Riverside Investment and Development

A dazzling example of superstructure design, this gleaming new 54-story office building has transformed a previously barren, undeveloped site into a vibrant public complex. To overcome extremely tight site constraints the project team developed a cutting-edge, blade core design that requires half the support pilings of a comparable building. The result is a 750-feet-tall, 1.25 million-square-feet tower balanced atop a base that is only 39 feet wide. Twelve water tanks at the top of the building containing 700 tons of water help to minimize building sway in strong wind conditions. A precast, prestressed concrete lid atop nearby railroad tracks provides space for a new public park featuring an amphitheater, pedestrian pathways, and retail venues.





 Firm Name:
 AECOM & Arr

 Project Name:
 Second Aver

 Project Location:
 New York, NY

 Client:
 Metropolitan

AECOM & Arup (Joint Venture) Second Avenue Subway-Phase 1 New York, NY Metropolitan Transportation Authority Capital Construction/ NY City Transit

The 1.8-mile project is the first major expansion of New York's subway system in 50 years, with three new stations at 72nd, 86th, and 96th Streets, and upgrades to the existing 63rd Street station. The new stations rank among North America's largest underground excavations, at nearly 64-feet wide, 100-feet deep and 1,600-feet long. The project team overcame challenges of building below some of the world's most congested infrastructure and dealing with difficult ground conditions. The \$4.45 billion project was completed on time and within budget– a major accomplishment for a project of this scope and size.





Firm Name:Gannett FProject Name:Town LakeProject Location:Tempe, AZClient:City of Tem

Gannett Fleming Town Lake Downstream Dam Replacement Tempe, AZ City of Tempe

As a shining example of innovative dam design, the new 880-feet-long dam is one of the largest hydraulically controlled hinged steel-gate dams of its kind. The dam replaces a previous structure that had failed, draining one billion gallons of water from the lake within 24 hours. It features eight hydraulically operated steel gates, each weighing approximately 300,000 pounds. The new dam allows the river to flow during high-water events to prevent upstream flooding and maintains the lake's key role in the city's economy. Expected to last at least 50 years, this essential infrastructure ensures that Town Lake will remain a destination for recreation and center of economic development.

Grand Awara



Firm Name: Brown and Caldwell Project Name: **Dixie Drain Phosphorus Removal Facility** Project Location: Parma, ID Client: City of Boise, ID

An addition to the existing Dixie Drain-an agricultural and groundwater drain that discharges into the Boise River-has led to 50 percent more phosphorus being removed from treated water before its discharged into the river. The new facility processes up to 130 million gallons of ground and surface water daily while removing 140 pounds of phosphorus per day. The result is a cost-effective solution, resulting in significantly greater water quality for a key provider of economic, wildlife and recreational benefits, and a model for other areas facing similar pollutant removal concerns.



Client:

Firm Name: Simpson Gumpertz & Heger Project Name: Univ. of Massachusetts Design Building Project Location: Amherst, MA Univ. of Massachusetts Building Authority



One of the largest timber-framed buildings in the United States, the new UMass Design Building includes glue-laminated beams and columns and a cross-laminated timber composite with a concrete topping slab for the flooring. Combined they provide the strength and ductility needed to meet building code and user requirements. The structure also includes several sustainable design features, including rainwater retention systems, a green roof, and natural lighting, while encouraging the use of timber framing for other large building applications.





Firm Name: Project Location: Client:

Syska Hennessy Group Project Name: Lotte World Tower Seoul, South Korea Lotte Corporation

Ranked as the world's fifth tallest building, and the tallest in South Korea, the Lotte World Tower is also a technical marvel. The 1,821-feet-tall, 123-story state-of-the-art superstructure features geothermal, photovoltaics, and windspire turbines to supplement conventional power with renewable energy sources. High-tech controls monitor and adjust power usage, external shading, and dimming systems to fine-tune interior temperatures and light levels. The tower features a luxury "seven-star" hotel, a shopping mall, offices, residences, and entertainment venues.

Grand Awara



Firm Name: exp US Services Project Name: 35th Street Pedestrian Bridge Project Location: Chicago, IL Client: Chicago Department of Transportation

The striking 620-foot long structure is Chicago's longest pedestrian bridge, and one of only a few mono-cable, self-anchored suspension bridges in the U.S. Replacing a deteriorating structure that was inaccessible to those with physical disabilities, the new bridge provides an eye-catching crossing of Lake Shore Drive and Metra railroad tracks. It is anchored by a central pylon soaring more than 120 feet above Lake Shore Drive, with suspension cables anchored at the ends of the deck rather than in massive anchor blocks at abutments. The design also features a reverse horizontal curve to provide visitors with a panoramic view of the scenic Lakefront area.





Firm Name: Client:

**Figg Bridge Engineers** Project Name: Crum Creek Viaduct Project Location: Swarthmore, PA Southeastern PA Transportation Authority

The new five-span, 735-feet-long steel girder structure replaced the outdated rail viaduct bridge over Crum Creek by literally being slid into place. Prior to closure of the obsolete 121-year-old bridge, the project team assembled the new superstructure and the precast deck adjacent to the existing bridge supported by straddle bents built under the older structure. During the 11-week shutdown, the project team demolished the previous bridge, and laterally slid the new structure across the pier caps and onto permanent bearings using hydraulic jacks. Installation of rail connections, catenary transmission lines, and signals guickly followed. Busy commuter train service resumed as scheduled at the end of the closure, on a safer, and more contemporary structure.





Firm Name: Merrick & Company Project Name: Water Jet Peening Bridge Crane System Project Location: Burlington, KS Client: AZZ | WSI

A unique specialty crane deploys a process called Water Jet Peening (WJP), which extends the operational life of key nuclear reactor components by preventing corrosion and cracking. Weighing more than 179,000 pounds and operated by remote control, the specialty crane-which can hoist three tons-lifts, lowers, positions and supports two WJP tools-each the size of a small car-into the reactor vessel during an outage. The process uses only water to relieve stresses thus eliminating the potential for any foreign materials entering the reactor pool. The combined crane and WJP process reduces maintenance and operation costs, shortens outage durations, extends reactor life, and minimizes risk to both the reactor vessel and plant personnel.

Grand Awara



Firm Name: Project Name: Project Location: Client:

HDR | WSP USA (A Joint Venture) Bayonne Bridge Raise the Roadway Milestone 1 Completion Bayonne NJ & Staten Island, NY Port Authority of NY & NJ

Imaginative engineering delivered a new highway 65 feet above the highway it was to replace, all within the tight confines of the same arch bridge. With the bridge's 151-feet navigation clearance too low to accommodate huge "Panamax" ships that will soon be plying the river, the project increased the clearance by constructing a roadway above the existing one, which was then demolished. More than 4,000 tons of steel strengthening plates was needed to support the structure's temporary double-roadway condition during construction. Adding to the challenge, both the original roadway and the critical underlying shipping channel had to be kept open. In addition to increasing vertical clearance, the new bridge now has wider lanes, concrete medians, a shared-use path, and can incorporate a light rail line in the future.





Firm Name: Client:

Simpson Gumpertz & Heger Project Name: Bahá'í Temple of South America Project Location: Santiago, Chile Hariri Pontarini Architects

Envisioned to "capture the sunlight and be transformed by it" during daylight and "glow with a dreamlike serenity" at night, the breathtaking Bahá'í temple more than accomplished its goals. Located in the foothills of the Andes Mountains outside of Santiago, Chile, the temple's superstructure is comprised of nine wing-shaped translucent petals, or leaves. The underlying structures are free-form tubular space trusses rising to a top ring at the structure's oculus. The space trusses are clad on the outside with borosilicate glass panels and on the interior with Italian marble panels. The project team constructed this complex, free-flowing design in a remote site with high seismic activity, creating one of the world's most breathtaking centers of worship.





Firm Name: Project Location: Columbus, OH Client:

**DLZ Corporation** Project Name: Augmentation & Relief Sewer City of Columbus

The new relief sewer reduces combined sewer overflows in the rapidly growing Columbus downtown area and brings the city in compliance with new clean water regulations. Nearly two billion gallons of combined sewage that previously overflowed directly to the Scioto River each year now flows through a new 23,000-feet-long, 20-feet diameter tunnel for proper treatment at a nearby treatment plant. The additional storage volume eliminates the need for future above-ground structures and treatment systems, saving the city as much as \$175 million.

jrand Awar



Firm Name: HDR & Robert Peccia & Associates Project Name: Basin Creek Water Treatment Plant Project Location: Butte, MT Client: City and County of Butte-Silver Bow

The new \$30 million treatment plant is the first in the U.S. to use a cutting-edge ceramic membrane filtration system. Common in Japan and Europe, the ceramic is more durable and chemical resistant, and has a longer life expectancy than commonly used polymer filters. Ceramic filters also waste significantly less water, resulting in 99.95 percent backwash recovery, well above the standard 85 to 95 percent recovery rate of conventional treatment technology. The new treatment plant can process up to seven million gallons of water per day and creatively employs gravity to reduce energy consumption and make it unnecessary to pump water to the distribution system, except in instances of extreme demand.





Firm Name: Client:

exp US Services Project Name: Washington Wabash Elevated Train Station Project Location: Chicago, IL Chicago Department of Transportation

The striking new elevated train station features canopies of skeletal steel and faceted glass that undulate the along Chicago's Jewelers Row, while producing a dynamic play of light on the platform and street below. The project team implemented unique construction phasing and sequencing to build the new station in a dense urban environment; maintain active transit service in a heavily traveled corridor; and minimize the impact on vehicular and pedestrian traffic. The new station serves as a beautiful gateway to Downtown Chicago attractions, while enhancing perceptions of public transportation.





Firm Name: **Figg Bridge Engineers** Project Name: I-91 Brattleboro Bridge Improvements Project Location: Brattleboro, VT Client: VT Agency of Transportation

Soaring 100 feet above the West River, the new three-span, 1,036-feetlong arching bridge provides a dynamic gateway to Vermont. The innovative design includes two "guad wall" piers comprised of concrete columns that curve symmetrically outward in two directions. The guad wall system provides stability and allows the segmental construction of the bridge superstructure to be assembled from above, without temporary falsework in the river. The bridge's landmark aesthetics and innovative structural design will safely and reliably serve regional motorists for at least 150 years.

Trand Award

Firm Name:Benesch & Infrastructure EngineeringProject Name:Chicago RiverwalkProject Location:Chicago, ILClient:Chicago Department of Transportation

A testament to imaginative infrastructure design and construction, the new Chicago Riverwalk connects downtown with the Chicago River's natural amenities. The Riverwalk is supported by an innovative system of canopied piers, or "underbridges" that connect the walkway at six historic bridges. The precast walkways were installed atop drilled shafts that extend 70 feet beneath the water's surface. New build-out sections ranging from 25 to 50 feet between each bridge provide diverse attractions and gathering spaces for people to enjoy the river and Chicago's enhanced second shoreline.





 Firm Name:
 HDR

 Project Name:
 Interstate 80 Automated Corridors Planning Study

 Project Location:
 Statewide, IA

 Client:
 IA Department of Transportation

Advanced engineering helped the state of Iowa align its future transportation strategy to correspond more effectively with rapidly progressing transportation technologies, such as the growing use of automated vehicles. The project team analyzed a 300-mile portion of I-80-one of the state's most critical east-west links-to determine design and operational requirements to preserve and enhance safety, mobility, and travel-time reliability. The study identified strategies for balancing mobility and access, along with designing for future needs, and rightsizing the corridor. Study results will give the state added flexibility for incorporating future transportation technologies.





 Firm Name:
 Arup

 Project Name:
 Interdisciplinary Science Engineering Complex

 Project Location:
 Boston, MA

 Client:
 Northeastern University

A former brownfield site is home to a new science facility that affirms Northeastern University's status as a premier research institution. The 234,000-square-feet Interdisciplinary Science Engineering Complex houses four research disciplines—engineering, health sciences, basic sciences, and computer science. The facility far surpasses current standards for energy efficiency—a difficult goal for laboratories which typically require significant energy to ensure precise, consistent conditions for research. The complex achieves 33 percent energy-cost savings and 75 percent energy savings compared to typical laboratories.

Honor Awara



Firm Name: Clark Nexsen Project Name: Davis Barracks, U.S. Military Academy Project Location: West Point, NY Client: U.S. Army Corps of Engineers

The design of a new military barracks raises the standard for the next generation of military housing. As the first new residential facility built at West Point since 1972, the six-story, 287,000-square-feet facility houses up to 975 cadets and features innovative building systems that use only half the energy of a comparable structure. Advances include a 100-percent solar-heated hot water system and radiant floor heating and cooling providing 50 percent savings in energy consumption. Integrated with its neighboring buildings in a unified style, scale and form, the barracks support West Point's goal of a net zero energy campus.





Firm Name: Client:

Thornton Tomasetti; Weiss/Manfredi | Turner Construction Project Name: The Bridge at Cornell Tech Project Location: New York, NY Forest City Ratner Companies

The six-story, 240,000-square-feet building blends Cornell Tech academic facilities with offices of private technology firms to more effectively "bridge" educational and private technology sectors and improve collaboration. The Bridge features two separate towers, connected at each floor by a central causeway, which provide spectacular views of midtown Manhattan and Long Island City. The glass façade exposes the building's unique structural system which allows the upper five stories to cantilever up to 80 feet above the landscaped campus, reflecting Cornell Tech's aspirational and innovative mission in striking fashion.



Firm Name: Project Location: St. Louis, MO Client:

Alper Audi & Geotechnology, Inc. Project Name: Olin Library Transformation Washington University in St. Louis

The historic campus library needed additional space for its special collections and rare travelling exhibits. Full facility replacement was not possible. The most feasible option was to enlarge the 50-year-old building downward 30 feet. The project team crafted an innovative temporary steel shoring system to support upper floors while piers were removed and replaced. The library remained in use throughout the excavation and subsequent phases of the construction.

Honor Awara



Firm Name: Project Name: Project Location: Client:

T.Y. Lin International California Incline Bridge & Idaho Ave. Pedestrian Overcrossing Santa Monica, CA City of Santa Monica

A picturesque new 750-feet-long now carries vehicles, pedestrians, and bicyclists from atop the bluff slopes of Pacific Palisades Park down to the Pacific Coast Highway near Santa Monica State Beach. The new California Incline Bridge is designed to withstand the site's corrosive marine environment and high seismic demands, including up to 20 feet of potential bluff erosion that could occur over its life span. The Idaho Avenue Pedestrian Overcrossing is an aesthetic, curving structure with a V-shaped pier that emerges from the historic Idaho Trail and spirals down to connect to a new multi-use bicycle/pedestrian path.





Firm Name: Project Location: Detroit, MI Client:

Wade Trim Associates & NEFCO Project Name: Biosolids Dryer Facility Great Lakes Water Authority

As the largest of its kind in North America, the new 47,000-squarefeet facility provides a sustainable alternative to the incineration and landfilling of biosolids produced during the wastewater treatment process. The system consistently produces high-grade biosolids that can be safely sold for agricultural and landscaping uses. The facility also features advanced air pollution, noise, and odor control systems that reduce impacts on adjacent areas. Completed \$8 million under budget, the facility is on track to pay for itself in less than nine years through operations and maintenance savings.





Firm Name: Project Location: Madison, WI Client:

Short Elliott Hendrickson Project Name: Lake View Dual Zone Reservoir City of Madison Water Utility

A complex new water supply storage tower features two separate storage tanks within a single reservoir structure to uniquely accommodate two supply zones and two pressure levels. The system provides storage of 300,000 gallons of water for one pressure zone and 1,000,000 gallons of water for the other. The project required the demolition of a 55,000-gallon water tower, a process that was complicated by the proximity of a busy airport, a historically significant building, and multiple cellular communications systems. Now seamlessly integrated into the environment, the unique dual-zone water tower will serve the city of Madison for more than 100 years.

Honor Awara



Firm Name: Milone & MacBroom Project Name: Meriden Green Project Location: Meriden, CT Client: City of Meriden

Creative engineering transformed a long-existing flood zone into a vibrant catalyst for Meriden's downtown economic revival. The project team repurposed long-closed shopping mall and parking lot-also a major contributor to flooding problems-into a new centrally located urban open space that promotes economic redevelopment, while doubling as a flood storage area. The conversion also restored 1,700 linear feet of once-buried Harbor Brook creating a new, more natural channel and floodplain. The site now includes an outdoor amphitheater, a naturally flowing waterway, accessible walkways, and an expansive great lawn for hosting seasonal events.



Firm Name: Project Location: New York, NY Client:

Client:

Mott MacDonald & CDM Smith Project Name: New York Harbor Water Siphon

NYC Economic Department of Environmental Protection

Dredging deeper channels in New York Harbor to accommodate the huge Panamax ships entering the Port of New York and New Jersey threatened two critical water mains, called siphons, that deliver drinking water to Staten Island. The project team incorporated a two-mile-long, 72-inch diameter steel siphon inside a tunnel bored at more than 100 feet beneath the Hudson River, preserving water supply and allowing dredging to proceed and preparing the nation's third largest port for the next generation of cargo mega-ships.



Firm Name: HDR & Maintenance Design Group Project Name: Division 14 Rail Operations and Maintenance Facility Project Location: Los Angeles, CA L.A. County Metropolitan Transportation Authority

A new state-of-the-art maintenance facility supports the latest extension of the Expo light-rail line, which provides service from Los Angeles to Santa Monica. Within a constrained site of less than 10 acres the project team delivered a facility that provides a multitude of cutting edge enhancements. It features a complete track network for rail car storage and maintenance, six service and inspection positions with upper- and lower-level work platforms, mechanical and electronics shops, and room for administration offices, operations, and training. Early collaboration with residents mitigated issues regarding noise, vibration, safety, and aesthetics so the facility seamlessly blends into its surroundings.

Honor Award



Firm Name: Qk4 Project Name: The Left Overloop Project Location: Lexington, KY Client: KY Transportation Cabinet District 7

Innovative redesign eliminated a treacherous intersection where traffic accidents occurred daily in the heart of Kentucky's scenic horse farm region. Constrained by nearby land belonging to historic Calumet farm and the Keeneland Race Course, the previous intersection included two precarious curves that had become more hazardous over time. Installing traffic lights was deemed too obtrusive, and multiple flyovers were too expensive. The project team instead incorporated a first-of-its-kind "Left Overloop" which realigned the interchange's existing right turn loop into a left-turn overpass. The new ramp eliminated the traffic hazard at significantly less cost than full reconstruction, while also meeting the region's aesthetic concerns.





Firm Name: Project Location: SeaTac, WA Client:

HDR Project Name: South 200th Link Extension Sound Transit

The extension of Seattle's popular transit system adds 1.6 miles of elevated rail line from SeaTac Airport to downtown and features the Northwest's first "net zero" light-rail station. The new station includes solar reflectance roofing and photovoltaic arrays to offset electrical demand. The project also includes street improvements, bicycle and pedestrian access, transit-oriented development sites, and public art. The light rail extension will reduce nearly 26 million vehicle miles traveled annually, saving well over a million gallons of gasoline, and eradicating more than 6,000 tons of greenhouse gases.





Firm Name: HDR - COWI Project Name: St. Croix Crossing Project Location: Oak Park Heights, MN & St. Joseph, WI Client: MN Department of Transportation

The nation's longest extradosed bridge replaces a historic but outdated vertical-lift bridge, while providing a blueprint for integrating major new infrastructure into a sensitive natural setting. To address environmental concerns, the project team optimized its mile-long, structurally complex design by eliminating two towers from the water and adding piers that resembled reeds and cattails. Extreme care was needed to prevent disturbances to nearby bald eagle nests, and to relocate mussels and endangered flowers.

Honor Awara



Firm Name: WSP USA Project Name: Dallas Horseshoe Design-Build Project Location: Dallas, TX TX Department of Transportation Client:

This massive new highway infrastructure in Downtown Dallas replaces a collection of severely deteriorated highways, bridges and support components dating back to the 1950s. The four-year-long project includes construction of more than 73 lane-miles of new highway, 37 conventional bridges, more than 60 retaining walls, and two major long-span river crossing bridges. All lanes of traffic were preserved throughout construction, with freeway closures conducted overnight to minimize inconveniences to the traveling public. Despite multiple, lengthy rainstorms and floods that forced temporary halts to construction, the project was completed on schedule and on budget.





Firm Name: Client:

**Burns & McDonnell** Project Name: Union Station Western Expansion Project Location: Kansas City, MO Union Station of Kansas City

The center of civic and commercial life early in the 20th century, Kansas City's 1914-era Union Station needed a massive upgrade. The project team's solutions included a new vehicular and pedestrian bridge that for the first time connects the main building directly to an adjacent parking garage; a semi-circular pedestrian plaza, a raised and wide pedestrian walkway to the building; and a new 90,000-plus-square-feet outdoor event space for concerts, festivals and other large events. The project succeeded in both renovating Union Station for the 21st Century and restoring its place as a first-class regional transportation hub.





Firm Name: Project Location: New York, NY Client:

Hart Crowser Project Name: Governors Island Park and Public Space West 8 Urban Design & Landscape

The languishing landscape on Governors Island has been transformed into an exciting new park destination for New York City. Since 2012, the 10-acre island near lower Manhattan had been a dumping ground for construction fill dirt from a new subway line. The project team creatively converted mounds of fill dirt into steep man-made hills that soar as high as 80 feet above the nearby harbor. Innovative soil reinforcement and specialty surface elements help maintain slopes and promote protective vegetation. More than one million people visit the island annually to enjoy unobstructed views of the of the Statue of Liberty, the New York City skyline, and the Brooklyn Bridge – all from a height similar to an 8-story building.

Honor Awara

Firm Name: Project Name: Project Location: Client:

Merrick & Company **Space Launch System Test Stands** Huntsville, AL NASA Marshall Space Flight Center

Groundbreaking engineering has yielded two new launch stands critical for propulsion tank testing prior to space flight. To validate that a rocket's liquid hydrogen and liquid oxygen fuel tanks can handle the thrust loads and stresses of launch and travel, the project team custom-designed 215-foot and 85-foot tall test stands and associated substructures that can withstand millions of pounds of thrust under a variety of test scenarios. Unlike any other similar structures worldwide, these new test stands can also be relocated or reconfigured as propulsion system technology evolves.





Firm Name: Client:

HDR Project Name: Marshalltown Generating Station Project Location: Marshalltown, IA Alliant Energy

The new 650-megawatt generating station uses state-of-the-art gas turbine technology to power more than half a million homes and businesses at a cost-\$645 million-that is only half that of a comparable coal-fired facility. The system also significantly reduces carbon dioxide, nitrogen oxide, sulfur dioxide and mercury emissions compared to traditional coal-fired plants. The new station requires 90 percent less water supply than older natural gas units. It is the first facility in Iowa to receive the Envision Platinum Award for excellence in sustainability design from the Institute for Sustainable Infrastructure.





Firm Name: Client:

P.W. Grosser Consulting & Landmark Facilities Group Project Name: St. Patrick's Cathedral Geothermal Heating & Cooling System Project Location: New York, NY Murphy Burnham Buttrick Architects

The venerable New York City landmark's energy costs have been cut 25 percent by tapping into the Earth's natural heat. Ten geothermal wells were drilled from the terrace level to an average depth of 1,650 feet to power the new chilled and hot water piping distribution system. Existing hot water radiators were replaced with fan-coil units, while ornamental enclosures were re-used to blend the new technology into existing building interiors. The city's largest geothermal system heats and cools the Cathedral, along with the Parish House, Rectory, and Cardinal's Residence, but is so compact that it is virtually invisible to the public.

2018 Engineering Excellence Awards

#### ACEC/ALABAMA

#### Corporate Environmental Risk Management Manufactured Gas Plant Remediation Project

GARVER

Wastewater Treatment Plant Improvements

Larry E. Speaks & Associates Retro Fitting a Dormant Mall

ACEC/ALASKA -C/O BBFM ENGINEERS INC.

HDR Strategic Management Plans

#### ACEC/ARIZONA

Gannett Fleming Town Lake Downstream Dam Replacement

GHD Bell Road Force Main Improvements

#### ACEC/CALIFORNIA

Arup The Rainbow Bridge at Seaside Way

Burns & McDonnell Big Canyon Restoration and Water Quality Improvements

HDR & Maintenance Design Group Division 14 Rail Operations and Maintenance Facility

Kjeldsen, Sinnock, & Neudeck Mule Creek State Prison Infill Complex

Michael Baker International I-5/La Novia Roundabout

**T.Y. Lin International** California Incline Bridge & Idaho Ave. Pedestrian Overcrossing

#### ACEC/COLORADO

AECOM Biotreatment Plant for Contaminated Soil

Felsburg Holt & Ullevig I-70 Vail Underpass

Merrick & Company Water Jet Peening Bridge Crane System

#### ACEC/CONNECTICUT

Milone & MacBroom Meriden Green

#### ACEC/FLORIDA

DRMP

Auxiliary Airfield Surveying and Mapping Services

HDR

I-75 at University Parkway Divergent Diamond Interchange

**Kimley-Horn and Associates, Inc.** The Ballpark of the Palm Beaches

#### ACEC/GEORGIA

Atkins North America & Arcadis (Joint Venture) North Avenue Smart Corridor

**Kimley-Horn** SunTrust Park and The Battery Atlanta

Merrick & Company Space Launch System Test Stands

#### ACEC/IDAHO

Brown and Caldwell Dixie Drain Phosphorus Removal Facility

**POWER Engineers** Pomona Energy Storage Facility

#### ACEC/ILLINOIS

Baxter & Woodman Wastewater Treatment Plant Combined Heat & Power Improvements

Benesch & Infrastructure Engineering Chicago Riverwalk

Crawford, Murphy & Tilly and Larson & Darby Aircraft Maintenance and Overhaul Facility

**exp US Services** 35th Street Pedestrian Bridge

exp US Services Washington Wabash Elevated Train Station

I-90 Design and Construct Partners I-90 Rebuilding and Widening

#### ACEC/INDIANA

HNTB Southport Wastewater Treatment Plant Expansion

Jacobs Engineering Group Ohio River Bridges Downtown Crossing

Jacobs Engineering Group Ohio River Bridges East End Crossing

**Lochmueller Group** I-69 Section 4 Mitigation Plan

#### ACEC/IOWA

HDR 20th and 25th Avenue Pump Stations

HDR Council Bluffs Interchange Bridges

HDR Interstate 80 Automated Corridors Planning Study

HDR Marshalltown Generating Station

#### ACEC/KANSAS

HDR Johnson County Gateway - Phase 2

**HNTB** South Lawrence Trafficway East Leg

**Olsson Associates** Chilled Water System Expansion

TranSystems Kaw Point Park Connector Trail

#### ACEC/KENTUCKY

American Engineers Denes Field Transformation

American Engineers The Cellar at Maker's Mark Distillery

**GRW** Frankfort Plant Board Administration Building

**GRW** Telecommunications Headend Facility

#### GRW

Town Branch Wet Weather Storage & Pumping Facilities

2018 Engineering Excellence Awards

HMB Professional Engineers, Inc.; Parsons Transportation Group; and Beam Longest & Neff (JV)

Louisville - Southern Indiana Ohio River Bridges Project

**Qk4** East Campus Roundabout & Gateway **Qk4** 

The Left Overloop

#### ACEC/MAINE

Hardesty & Hanover Gut Bridge Replacement

#### ACEC/MASSACHUSETTS

Arup Interdisciplinary Science Engineering Complex

**CDM Smith** Turnpike All-Electronic Tolling System

Gannett Fleming Springfield Railcar Assembly Facility

Nitsch Engineering Johnson Building Renovation

Simpson Gumpertz & Heger Bahá'í Temple of South America

Simpson Gumpertz & Heger Univ. of Massachusetts Design Building

**STV** Boston Landing Station

#### ACEC/METROPOLITAN WASHINGTON

Alpha Corporation Structural Investigation and Report

Rummel, Klepper & Kahl Anacostia Riverwalk Trail, Kenilworth Section

Sheladia Associates MGM National Harbor

#### ACEC/MICHIGAN

Benesch I-96 at Cascade Road Diverging Diamond Interchange HDR; Progressive AE and Zachry Group (JV) Holland Energy Park

HNTB US-23 Flex Route

Wade Trim Associates & NEFCO Biosolids Dryer Facility

#### ACEC/MINNESOTA

American Engineering Testing and Ericksen Roed & Associates Downtown East

HDR - COWI St. Croix Crossing

HGA Architects and Engineers United Methodist Church of the Resurrection Sanctuary

Kimley-Horn Terminal 1-Lindbergh Landside Expansion

Kimley-Horn Hennepin/Lyndale Avenue Reconstruction

#### ACEC/MISSOURI

Alper Audi & Geotechnology, Inc. Olin Library Transformation

Burns & McDonnell Union Station Western Expansion

Crawford, Murphy & Tilly Wastewater Treatment Plant Design-Build

#### ACEC/MONTANA

**DJ & A, P.C.** South Reserve Pedestrian Bridge

Great West Engineering Water Treatment Plant Intake

HDR Capitol Interchange - Cedar Interchange

HDR Compressed Natural Gas Fueling Station

HDR; Robert Peccia & Associates Basin Creek Water Treatment Plant

#### ACEC/NEW JERSEY

**Boswell Engineering** Patroon Island Bridge Rehabilitation

**Dewberry** Hudson River Feasibility Study Langan Engineering & Environmental Services Accurate Box Headquarters Expansion

Langan Engineering & Environmental Services Cranbury Logistics Center

Langan Engineering & Environmental Services Dwight-Englewood School Improvements

Mott MacDonald Clinton Road Bridge Replacement

**WSP USA** Route 37 EB Mathis Bridge Rehabilitation

#### ACEC/NEW YORK

AECOM & Arup (JV) Second Avenue Subway-Phase 1

**AKF Group** Zaha Hadid, 520 West 28th Street

Arup The Chrysalis at Symphony Woods

Delta Engineers, Architects, & Land Surveyors/WB Engineers + Consultants Campus Master Systems Management

and Virtual Models

Gannett Fleming Bay Park Sewage Treatment Plant Improvements

Hardesty & Hanover Van Wyck Expressway Improvements

Hazen and Sawyer Multi-Facility Residuals and Biosolids Master Plan

HDR | WSP USA (A Joint Venture) Bayonne Bridge Raise the Roadway Milestone 1 Completion

**HNTB** Kosciuszko Bridge Replacement Phase 1

Jaros, Baum & Bolles N.Y. Univ. Langone Health Science Building

Langan Engineering & Environmental Services 1501 Voorhies Avenue

Mott MacDonald & CDM Smith New York Harbor Water Siphon

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#### P.W. Grosser Consulting & Landmark Facilities Group

St. Patrick's Cathedral Geothermal Heating & Cooling System

Stantec Inner Loop East Transformation

STV/Tishman & AECOM (JV) Moynihan Train Hall - Phase One

Syska Hennessy Group Lotte World Tower

Syska Hennessy Group World's First 3D-Printed Commercial Office Building

Thornton Tomasetti; Weiss/Manfredi

The Bridge at Cornell Tech

WSP USA Inspection and Load Rating for Brooklyn-Queens Expressway

WSP USA & HNTB (JV) Conversion to Open Road Tolling at RFK Bridge

#### ACEC/NORTH CAROLINA

CDM Smith McAlpine Creek Wastewater Plant CHP Improvements

#### ACEC/OHIO

**DLZ Corporation** Augmentation & Relief Sewer

Palmer Engineering U.S. 20 Bridge Replacement

#### ACEC/OKLAHOMA

GARVER I-244 Multimodal Bridges over Arkansas River

Mead & Hunt Broken Bow Diversion Tunnel

Tetra Tech Chickasaw Nation "Inkana" Bridge

#### ACEC/PENNSYLVANIA

Figg Bridge Engineers Crum Creek Viaduct

Figg Bridge Engineers I-91 Brattleboro Bridge Improvements **Michael Baker International** King Khalid Air Base

Michael Baker International Lower Hill Infrastructure Project

#### STV

Betsy Ross Bride Interchange Reconstruction

#### ACEC/SOUTH CAROLINA

HDR Road Evaluations over Flood Damaged Dams

Michael Baker International Steeplechase Industrial Boulevard Extension

So-Deep - A Sam Company South Main Street Streetscaping Improvements

Thomas & Hutton Program, Design & Construction Management, Volvo Industrial Site

#### ACEC/TENNESSEE

AECOM Gallatin Environmental Integrity Program

#### ACEC/TEXAS

GARVER Army Radar Approach Control Renovation

GARVER Wastewater System Master Plan and Modeling Project

Gunda Corporation Levy Park 2.0 Reconstruction & Revitalization

Jacobs Engineering Group Inc. Combined Heat and Power Plant

**KSA Engineers** Whitehouse Dam Improvements

Parkhill, Smith & Cooper Reverse Osmosis Plant

VRX 35Express Segment 3

Walter P Moore Mosaic Stadium WSP USA Dallas Horseshoe Design-Build

#### ACEC/UTAH

HDR Great Salt Lake Causeway Improvements

#### ACEC/VIRGINIA

Clark Nexsen Davis Barracks, U.S. Military Academy

Gannett Fleming Norchester Pump Station

HDR Solving Industrial-Sized Wastewater Challenges, Phase 2

WSP USA Dominion Boulevard Improvements

#### ACEC/WASHINGTON

COWI North America & Jacobs Engineering Group Abraham Lincoln Bridge

Hart Crowser Governors Island Park and Public Space

**HDR** Factoria Recycling and Transfer Station

HDR South 200th Link Extension

HDR Wells Hatchery Modernization

Magnusson Klemencic Associates 150 North Riverside

Parsons Elliott Bay Seawall Project

#### ACEC/WISCONSIN

**GRAEF** Univ. of Wisconsin Madison Memorial Union

Mead & Hunt Water Utility Operations Center Improvements

Short Elliott Hendrickson Lake View Dual Zone Reservoir

Strand Associates Verona Road Reconstruction Stage 1

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