

Seattle Daily Journal of Commerce

ACEC2024

ENGINEERING EXCELLENCE AWARDS

NATIONAL FINALISTS
BEST IN STATE
ENGINEER OF THE YEAR

February 5, 2024

NATIONAL FINALIST: PLATINUM AWARD

STRUCTURAL SYSTEMS

Magnusson Klemencic Associates

Project: Perelman Performing Arts Center
Client: PAC NYC/Davis Brody Bond

The Perelman Performing Arts Center (or PAC NYC) at the World Trade Center site in New York City is a remarkable feat of engineering and design. While its exterior appears simple and elegant, the building houses an immensely complex structural system that enables it to transform into almost limitless configurations. One of the key challenges was the site itself, which straddled a below-grade maze of operating infrastructure, including subway lines and delivery docks.

“The challenges PAC NYC’s site, program, and design imposed on its structure were extraordinary and demanded an equally extraordinary structural engineer,” said Joshua Rasmus, founding partner of REX, the project’s architecture firm. “The building’s construction had to thread through four subterranean levels of operating infrastructure, including P.A.T.H. train tracks, MTA subway lines, delivery truck circulation and loading docks, and massive air shafts serving below-grade program and vehicular traffic. It had to respond to the existing foundations of a previous design by another architect that provided minimal bearing capacity under the new design’s location. And it had to accommodate stringent blast and acoustic isolation requirements, both of which could not rely on mass due to the limited bearing capacity. I often say, ‘If the site were not the absolute right place to build PAC NYC, it would be the absolute wrong place to build a performing arts center.’”

Despite these challenges, PAC NYC successfully repurposed an existing foundation originally designed for a different-sized building through innovative load-path mapping to match the primary structure to the existing foundations, using only seven super columns — some as big as 5 feet wide and weighing as much as 2,400 pounds per foot — as support points for its 6,300-ton primary steel structure.

Magnusson Klemencic Associates used an “upside-down engineering” approach,

The site for Perelman Performing Arts Center straddles a below-grade maze of operating infrastructure, including subway lines and delivery docks.

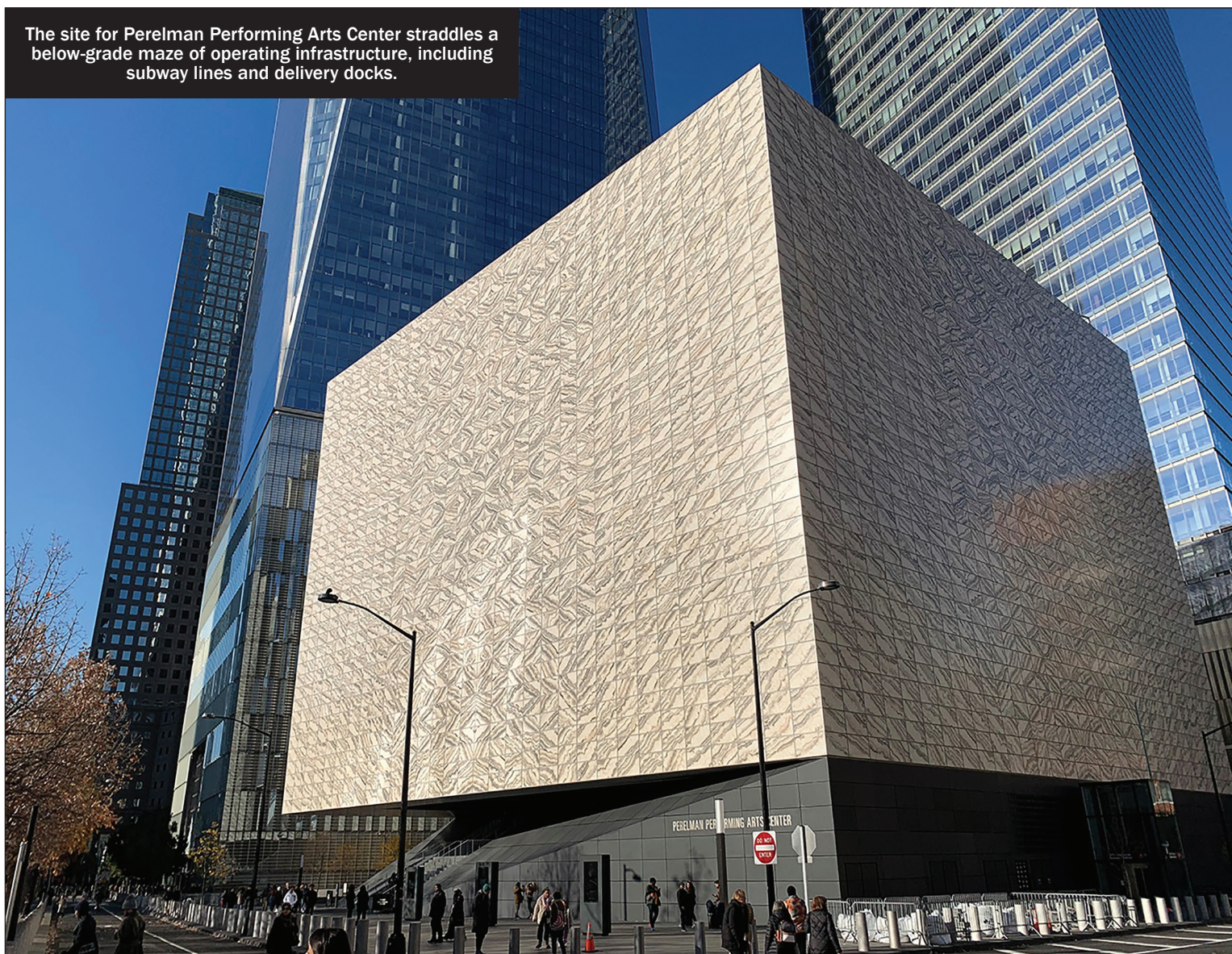


PHOTO BY BRIAN MILLER

designing the structure from the “bottom-up” to utilize the existing foundation. The three theaters inside the building “float” independently, providing acoustical isolation from each other and the surrounding infrastructure. This flexibility allows PAC NYC to offer 11 different theater volumes and over 60 configurations, ranging from intimate black-box venues to large auditoriums.

The project also addressed rigorous anti-terrorism blast resistance requirements without compromising architectural beauty. In fact, it was described by the New York Times as “the most glamorous civic building to land in New York in years.” The building’s innovative structural solutions, kinetic auditoria,

and blast resistance measures set a new benchmark for transformable, flexible performance spaces. PAC NYC’s successful completion contributes to the revitalization of the 9/11 memorial site, bringing celebration and creativity back to the neighborhood.

“With its opening night performance on Sept. 14, 2023, NYC welcomed a fitting complement to the neighboring WTC Memorial Plaza, a beacon of hope, wonder, and celebration,” said David K. Williams, partner at Davis Brody Bond. “If anyone deserves this award, it is MKA for their expertise in creating a highly creative and unique structural solution that enabled this iconic project to be realized.”



PHOTO FROM ACEC WASHINGTON

ON THE COVER

The Dungeness Nature Center bridge and river restoration project won a Best in State Gold Award.

DJC TEAM

SECTION EDITOR: BENJAMIN MINNICK • SECTION DESIGN: JEFFREY MILLER
WEB DESIGN: LISA LANNIGAN • ADVERTISING: MATT BROWN

 **PlanCenter.com**
Send us your plans, we'll post them.
PUBLIC AGENCIES POST FOR FREE

MKA WINS TOP AWARD FOR NYC PERFORMING ARTS CENTER

Seattle-based Magnusson Klemencic Associates is the top winner in the American Council of Engineering Companies of Washington's annual Engineering Excellence Awards program. The firm took the Platinum Award for the Perelman Performing Arts Center project in New York City.

Sponsored by ACEC's Washington state chapter, the awards program recognizes projects that represent a wide range of engineering achievements and demonstrate the highest degree of skill and ingenuity.

Twenty-nine projects, local and national, were honored in this year's program, as well as the Engineer of the Year. Local awards were given at three levels: gold, silver and bronze. The top national awards will go on to compete in the ACEC national competition on May 15 in Washington, D.C.

Project entries were evaluated by a five-judge panel: Robert Axley, engineer emeritus, Wood Harbinger; Steve Johnston, engineer emeritus, Landau Associates; Supriya Kelkar, senior design manager, Sound Transit; Kathy Robertson, engineer emeritus, Picketts Engineering; and Larry Swartz, engineer emeritus, P2S Inc.

ACEC Washington is a professional trade association representing consulting engineering, land surveying and affiliated scientific and planning firms statewide.

NATIONAL FINALISTS

PLATINUM AWARD

STRUCTURAL SYSTEMS

Firm: Magnusson Klemencic Associates
Project: Perelman Performing Arts Center
Client: PAC NYC/Davis Brody Bond

GOLD AWARDS

WATER AND STORM WATER

Firm: Parametrix
Project: Budd Inlet Treatment Plant biological process improvements
Client: LOTT Clean Water Alliance

TRANSPORTATION

Firm: Jacobs Engineering Group
Project: I-5 Steilacoom-DuPont Road to Thorn Lane corridor improvements
Client: WSDOT

WATER RESOURCES

Firm: Shannon & Wilson
Project: Lower Dungeness River floodplain and levee realignment
Client: Clallam County

ENVIRONMENTAL

Firm: Anchor QEA
Project: Meadowdale Beach Park and estuary
Client: Snohomish County Parks and Recreation

SPECIAL PROJECTS

Firm: Parametrix
Project: East Lake Sammamish Trail
Client: King County

SILVER AWARDS

TRANSPORTATION

Firm: HDR
Project: Mill Plain bus rapid transit
Client: Clark County Public Transit Benefit Area Authority

Firm: Johnson, Mirmiran & Thompson
Project: Pennsylvania Avenue Southeast multimodal
Client: District Department of Transportation

BEST IN STATE

GOLD AWARDS

ORIGINAL OR INNOVATIVE APPLICATION OF NEW OR EXISTING TECHNIQUES

Firm: Jacobs Engineering Group
Project: Georgetown Wet Weather Treatment Station
Client: King County Wastewater Treatment Division

SUCCESSFUL FULFILLMENT OF OWNER/CLIENT NEEDS

Firm: Landau Associates
Project: New 1,600-acre irrigation groundwater right
Client: Benchmark Farms

Firm: Skillings

Project: US 12 Nine Mile Hill to Frenchtown vicinity
Client: Washington State Department of Transportation

COMPLEXITY

Firms: GeoEngineers; KPFF; DBM Contractors
Project: Seattle Convention Center Summit Building
Client: Seattle Convention Center

Firm: COWI North America
Project: Totem Lake Connector pedestrian bridge
Client: City of Kirkland

SOCIAL, ECONOMIC AND SUSTAINABLE DESIGN CONSIDERATIONS

Firm: Otak
Project: Dungeness Nature Center bridge and river restoration
Client: Jamestown S'Klallam Tribe

FUTURE VALUE TO THE ENGINEERING PROFESSION & PERCEPTION BY THE PUBLIC

Firm: Osborn Consulting
Project: South Park roadway and drainage partnership
Client: Seattle Public Utilities

SILVER AWARDS

ORIGINAL OR INNOVATIVE APPLICATION OF NEW OR EXISTING TECHNIQUES

Firm: Exeltech Consulting
Project: North Marina parking lot bulkhead and restroom replacement
Client: City of Des Moines

Firms: Stantec Consulting Services; Affiliated Engineers
Project: Seattle Children's Hospital Building Care (Forest B)
Client: Seattle Children's Hospital

SUCCESSFUL FULFILLMENT OF OWNER/CLIENT NEEDS

Firm: Otak
Project: Littell Bridge
Client: Washington State Parks and Recreation Commission

Firm: AECOM
Project: Spruce Trail
Client: Federal Highway Administration, Western Federal Lands Highway Division

COMPLEXITY

Firm: P2S Inc.
Project: EvergreenHealth Family Maternity Center
Client: EvergreenHealth

Firm: Natural Systems Design and Coastal Geologic Services
Project: Little Squalicum Estuary
Client: City of Bellingham

SOCIAL, ECONOMIC AND SUSTAINABLE DESIGN CONSIDERATIONS

Firm: Fsi Engineers
Project: Byrd Barr Place
Client: Byrd Barr Place

Firm: KPFF Consulting Engineers
Project: Norton Terminal development and MTCA third interim action
Client: Port of Everett

FUTURE VALUE TO THE ENGINEERING PROFESSION & PERCEPTION BY THE PUBLIC

Firm: Tetra Tech
Project: Jan Road Levee setback
Client: King County Water and Land Resources Division

ENGINEER OF THE YEAR

Kathy Cox-Czosnyka, Tetra Tech



LOTT enhanced its Budd Inlet Treatment Plant with new mixing technology that significantly reduced power consumption.

PHOTO FROM ACEC WASHINGTON

NATIONAL FINALIST: GOLD AWARD

WATER AND STORM WATER

Parametrix

Project: Budd Inlet Treatment Plant biological process improvements
Client: LOTT Clean Water Alliance

The LOTT Clean Water Alliance undertook a groundbreaking project to enhance its biological nutrient removal process, focusing on optimizing and intensifying nutrient removal from treated water in Budd Inlet.

The project introduced innovative treatment processes, including the adoption of new large-bubble mixing technology, which replaced the existing system, significantly reducing power consumption. This innovative mixing system allowed for dynamic control of aerobic and anoxic modes, resulting in near-theoretical limits for nutrient removal.

The plant control system is one of the most advanced in the country, enabling real-time monitoring and opti-

mization of biological nutrient removal processes. The plant's use of ammonia control and the implementation of advanced sensors set it apart in the industry.

"Parametrix has worked with LOTT on several projects since the 1980s, and together we have developed a team delivery process that has been instrumental in the success of complex projects," said LOTT Executive Director Matthew Kennelly. "This process allows those who

know our plant best, the operators and staff, to be involved in the design, resulting in design solutions that are efficient and optimized. This approach enabled seamless coordination, ensuring the three years of active construction within the treatment plant did not impeded LOTT's ability to continuously treat wastewater and meet all permit requirements."

The team also utilized variable speed drives and advanced control strategies

to enhance energy efficiency. The project was complex, and the need to keep the plant operational throughout construction required the systematic shutdown and replacement of key components. The project was completed on time and under budget with minimal change orders. The innovative process serves as a model for addressing nutrient reduction in ecosystems like Puget Sound, and sets a new standard in wastewater management.

The project reconstructed two diamond interchanges with innovative roundabout-controlled interchanges spanning I-5.



PHOTO FROM ACEC WASHINGTON

NATIONAL FINALIST: GOLD AWARD

TRANSPORTATION

Jacobs Engineering Group

Project: I-5 Steilacoom-DuPont Road to Thorne Lane corridor improvements
Client: WSDOT

The Interstate 5 Steilacoom-DuPont Road to Thorne Lane corridor improvements project undertaken by the Jacobs/Atkinson design-build team was a display of technical acumen and teamwork. The project involved widening 4.5 miles

of I-5 and reconstructing two diamond interchanges, Berkeley Street and Thorne Lane, with innovative roundabout-controlled interchanges spanning I-5, and a Sound Transit rail line.

The project eliminated potential mainline traffic degradation by introducing a southbound connector roadway between Thorne Lane and Berkeley Street. This eliminated the need for a proposed auxiliary lane and avoided heavy weaving, enhancing traffic safety and flow.

Brain Whitehouse, Olympic Region assistant construction engineer for WSDOT said: "In an effort to save time and money, the team developed several WSDOT-approved alternate technical concepts to enhance the conceptual plan and to simplify any potential future widening in this area. This included redesigning the Thorne Lane interchange from a 'dog bone' bridge design (roundabouts at either end of a single bridge) to a two-bridge design. This solution

simplified the structural design, eliminated grade-related safety issues, and improved traffic staging and local access during construction."

The team also redesigned the Berkeley interchange from a similar "dog bone" design to a standard tight-diamond interchange, providing a new southbound barrier-separated connector roadway between Thorne Lane and Berkeley Street that eliminated the need for a proposed auxiliary lane that had the potential to degrade

mainline operations.

The new traffic pattern provided a needed connection for the city of Lakewood and Tillicum, and the team coordinated with a multitude of stakeholders to address diverse project interests. Despite several owner-initiated change orders, the team successfully met the substantial completion date. The project has had positive impacts on the environment, local communities, traffic flow, military operations and traveler safety.

FOR LEASE

Located across from
downtown ferry terminal
Short walk to sports stadiums

Journal of Commerce Building

83 COLUMBIA STREET, SEATTLE, WA



Property Details

RENTAL RATE \$20.00/SF/yr, gross

ABUNDANT natural light

SPACE 10,000 SF

FULL TOP FLOOR

AIR CONDITIONING

QUIET open space with
Puget Sound and
Olympic Mountain views

HIGH CEILINGS with exposed
brick and wood beams

For more information,
contact:

PHIL BROWN
206-622-8272,
phil.brown@djc.com

MATT BROWN
206-622-8272
matt.brown@djc.com

The project successfully reconnected the Lower Dungeness River to 110 acres of floodplain.



PHOTO FROM ACEC WASHINGTON

NATIONAL FINALIST: GOLD AWARD

WATER RESOURCES

Shannon & Wilson

Project: Lower Dungeness River floodplain restoration and levee realignment

Client: Clallam County

The Lower Dungeness River floodplain restoration and levee realignment project in Clallam County successfully combines habitat restoration, riverine flood protection and drainage improvements. Shannon & Wilson played a pivotal role as the primary engineering consultant and project delivery lead, overseeing geotechnical and environmental engineering, scour analysis, levee design,

floodplain restoration and drainage design, among other aspects.

The project aimed to balance the needs of fish, flood management and the local community along the Lower Dungeness River. It included the construction of a 6,000-foot setback levee designed to retain 100-, 250- and 500-year flood events. Innovative techniques were employed, such as geosynthetic reinforcement, riprap installation, and large wood complexes to enhance stability, prevent erosion and encourage fish habitat development.

Following Army Corps design guidelines, the project removed 4,430 feet of existing levee and installed 6,000 feet of new setback levee to con-

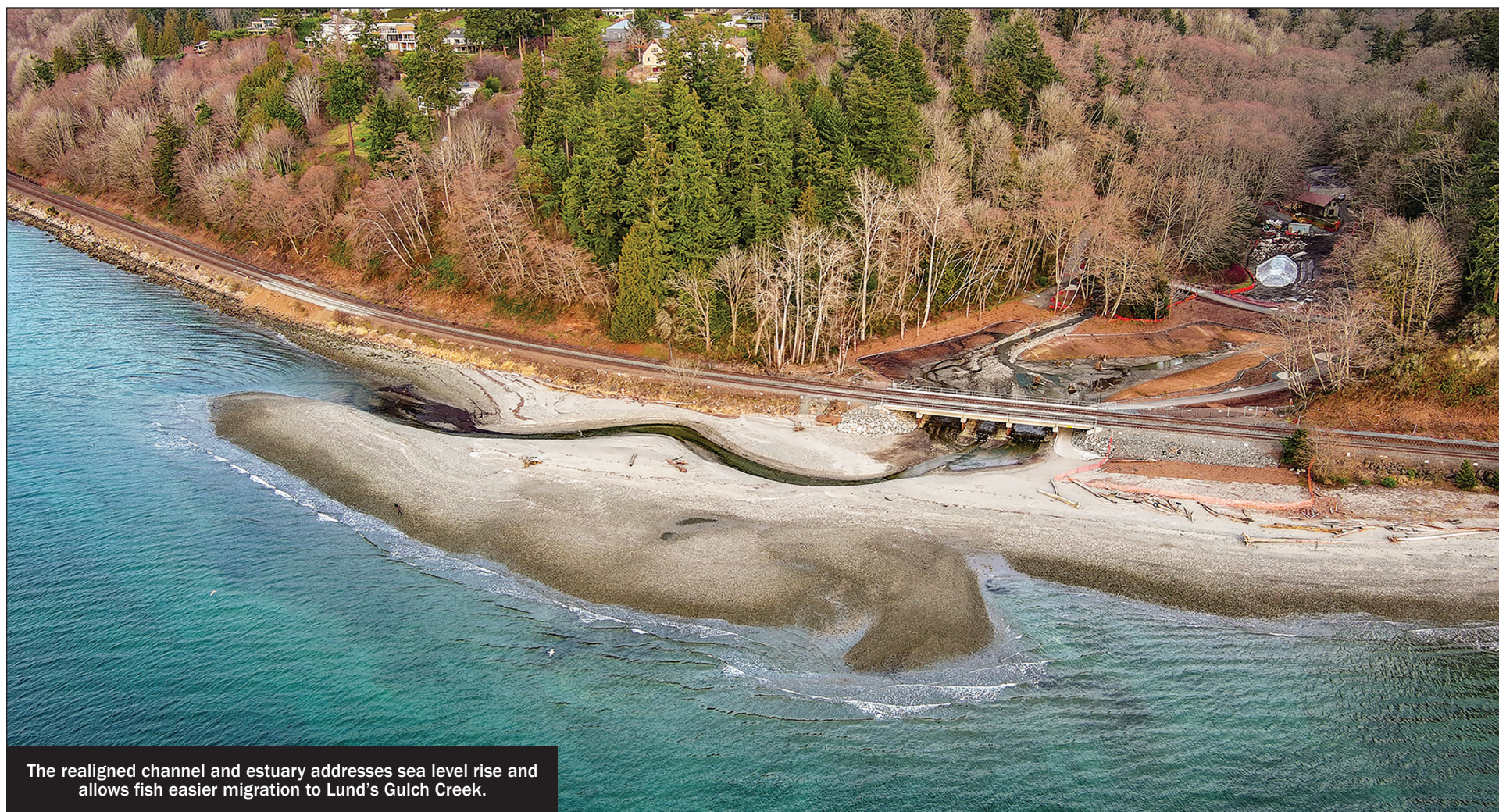
tain the 100-year flood event with 3 feet of freeboard. It was constructed using geosynthetics and an internal drainage blanket to allow steepened side slopes that limit negative environmental impacts.

Mechanically stabilized earth walls with fish-passable culverts and vegetated wrapped faces connect the new levee with residences and public streets while maintaining an organic appearance.

The project removed 2,950 feet of existing road and 6,785 tons of contaminated material from the reconnected floodplain. Large wood complexes, side channels and native plants were installed in the reconnected floodplain to encourage

riparian ecosystem development, increase spawning habitat, reduce water velocities, improve sediment storage outside the main river channel, and further reduce flood risk. Community support was essential throughout as the project included unavoidable traffic detours and recreational trail impacts.

The project successfully reconnected the river to 110 acres of floodplain, promoting spawning and rearing habitats for threatened salmon species. Despite encountering challenges like unanticipated conditions and the need for extensive community outreach, the project was completed within budget and schedule.



The realigned channel and estuary addresses sea level rise and allows fish easier migration to Lund's Gulch Creek.

PHOTO FROM ACEC WASHINGTON

NATIONAL FINALIST: GOLD AWARD

ENVIRONMENTAL

Anchor QEA

Project: Meadowdale Beach Park and estuary

Client: Snohomish County Parks and Recreation

Meadowdale Beach Park and estuary restoration is a groundbreaking project along Puget Sound — the first stream mouth restoration project in the area, addressing the loss of barrier embayments along the Central Puget Sound's eastern shore over the past century.

The project, spearheaded by Anchor QEA, involved removing a 20-foot rock-armored embankment, replacing a 6-foot box culvert with a five-span railroad bridge, restoring the estuary, and reconnecting Lund's Gulch Creek with Puget Sound. The bridge was constructed in two adjacent sections to allow rail access during construction.

Key technical accomplishments include the use of diamond piers to support a timber-framed boardwalk over the wetland, a soldier pile retaining wall with lightweight foamed glass aggregate backfill, and the repurposing of the park area from

passive recreation to a habitat focus.

These approaches addressed complex challenges such as landslide hazards, narrow access roads and live-track construction requirements. The project has garnered positive reception and community support, aligning with social, economic and sustainable development considerations.

"The project presented considerable complexities, expertly navigated by Anchor QEA LLC's project management. Their efforts ensured that timelines were met, resources were allocated efficiently, all stakeholders were kept in the loop, and the successful delivery of this award-winning project — \$1 million under budget," said Tom Teigan, director of Snohomish County Conservation and Natural Resources.

"The positive attitude, problem-solving skills, and unwavering work ethic of the Anchor QEA project manager, coupled with their ability to inspire and motivate the project team, played a pivotal role in overcoming challenges during construction. This project would not have been possible without them," Teigan said.

Otak

Dungeness Nature Center River Restoration and Bridge

SEQUIM, WA

CLIENT
Jamestown S'Klallam Tribe

The Dungeness Nature Center River Restoration and Bridge project has restored a vital floodplain and created a valuable outdoor recreation destination for staff, students, and the surrounding community.

Otak would like to thank the Jamestown S'Klallam Tribe as well as our teaming partners: Engineering Services Associates, Inc.; Aspect Consulting, LLC; Johnston Land Surveying; and Krazan & Associates, Inc.

Visit us at otak.com



East Lake Sammamish Trail is an 11-mile corridor that completes a 44-mile regional trail corridor.

PHOTO FROM ACEC WASHINGTON

NATIONAL FINALIST: GOLD AWARD

SPECIAL PROJECTS

Parametrix

Project: East Lake Sammamish Trail
Client: King County

Parametrix served as the prime consultant for the development of the East Lake Sammamish Trail — a partnership with King County that dates back to 1998. Parametrix’s comprehensive services included project management, master planning, grant assistance, environmental documentation, permitting, natural resources consulting, civil and structural engineering, landscape architecture, survey and construction management.

Parametrix thoughtfully developed context-sensitive solutions to address the challenges associated with 78 wetlands, 46 streams, 67 driveway and roadway crossings, hundreds of residential neighbors, and over 60 intersecting stairs.

The project overcame significant legal and political challenges, with Parametrix and King County working together during permitting hearings and consulting national experts to defend the trail’s design standards. They facilitated public meetings and worked one-on-one with property owners to overcome challenges. The team incorporated over 132 walls to minimize impacts on natural and built features, and innovative stormwater solutions were integrated into trail elements to eliminate the need for stormwater ponds or vaults.

Real-time vibration monitoring technology was employed during construction to safeguard nearby houses supported on piles. Advanced technology — including GIS, surveying, drones and ATVs — was employed to manage the complexity of the 11-mile corridor, which completes a 44-mile regional trail corridor. The team carefully balanced intricate adjacent land uses with project design and construction implementation.

The trail’s completion in 2023 demonstrates successful collaboration and serves as a case study in successful partnering for engineering consultants. Despite its complexity, the project was completed within the budget and ahead of schedule, underscoring the effective collaboration between Parametrix and King County in delivering this significant regional trail.



Innovative solutions for a sustainable future





Tetra Tech’s engineering solutions help our clients reach their goals to reduce flood risk, improve habitat, and strengthen community resilience.

tetrattech.com |    

BEST IN STATE: GOLD AWARD

SUCCESSFUL FULFILLMENT OF OWNER/CLIENT NEEDS

Landau Associates

Project: New 1,600-acre irrigation groundwater right
Client: Benchmark Farms

Benchmark Farms, an agricultural producer in Grant County, faced the challenge of securing a new water right to introduce irrigation to its High Hill farm, a rarity in a region where water resources are already fully allocated.

Landau Associates took on the project, assisting Benchmark Farms in the complex process of obtaining a new unmitigated water right from the Department of Ecology. Landau's team leveraged detailed hydrogeological data, including historical records and aquifer testing, to build a comprehensive understanding of the region's groundwater availability and flow conditions. Their knowledge allowed them to secure a unique groundwater right without the need for mitigation, permitting the withdrawal of 10,000 gallons per minute and 5,600 acre-feet per year, a remarkable achievement in an area where water rights are scarce. This is likely the largest unmitigated groundwater right issued in eastern Washington in decades.

Landau's data analysis and strong technical foundation proved essential in navigating the challenging permitting process. The project's success highlights the importance of data-driven understanding in engineering and design, emphasizing the significance of human interpretation and expertise in a world increasingly reliant on artificial intelligence and automation.

The economic, social and sustainable benefits of the new water right extend beyond Benchmark Farms, contributing to the region's agricultural landscape and providing high-quality, organic food crops to consumers.

Landau's Eric Weber watches water fill the farm's south holding pond.



XXXX

BEST IN STATE: GOLD AWARD

SUCCESSFUL FULFILLMENT OF OWNER/CLIENT NEEDS

Skillings

Project: US 12/Nine Mile Hill to Frenchtown vicinity corridor
Client: WSDOT

The team from Skillings, in collaboration with WSDOT, tackled the challenge of minimizing the use of barriers along the US 12/Nine Mile Hill to Frenchtown corridor project. The project initially included a potential 222,180 feet of barrier, but Skillings' design, adhering to strict WSDOT guidelines, reduced this to just 12% of the corridor's length. Median widths exceeded 50 feet for most of the corridor, and a vertical alignment within a 3% grade limit was maintained.

This design not only enhances safety by reducing crash frequency and severity, but also leads to estimated savings of \$3.4 million over the project's design life. The team's unique approach treated eastbound and westbound directions as separate alignments, maximizing safety.

The project focused on sustainability, minimizing maintenance needs, optimizing operational efficiency, and reducing life-cycle costs. The design even protects the unique Alkali bee, a significant crop pollinator in the region, much to the delight of local winemakers who were consulted in the design.

The project incorporated full-diamond interchanges at both ends of the corridor, eliminating at-grade intersections and enhancing safety. Skillings fulfilled WSDOT's goals, maintained a strong owner-engagement relationship, came in under budget, and completed the project on schedule.



The project on US 12 included installation of a bridge over Dry Creek.

PHOTO FROM ACEC WASHINGTON

The “theater of a storm” illuminates facilities during wet weather events so passersby can see that the facility is operating.

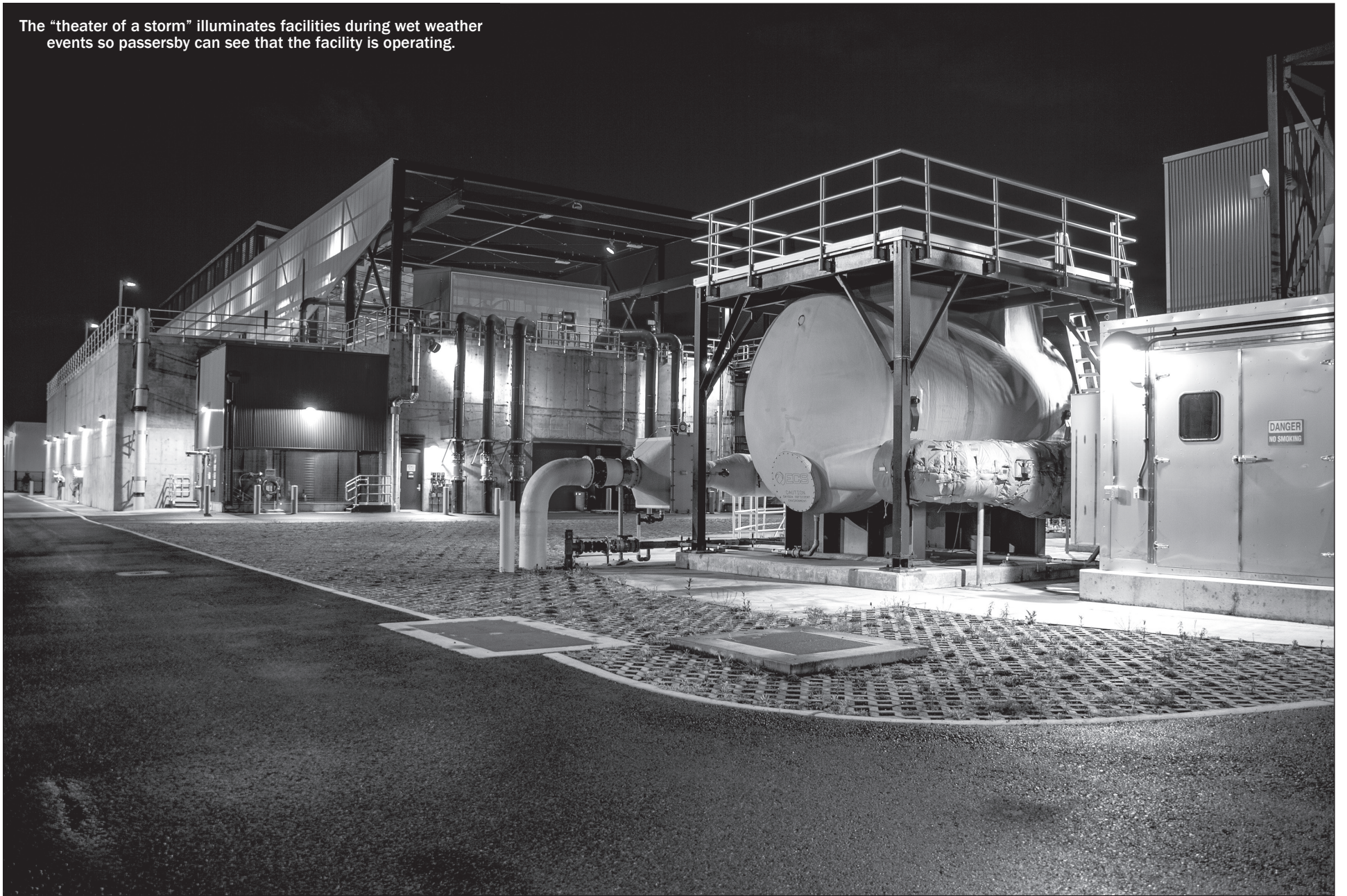


PHOTO FROM ACEC WASHINGTON

BEST IN STATE: GOLD AWARD

ORIGINAL OR INNOVATIVE APPLICATION OF NEW OR EXISTING TECHNIQUES

Jacobs Engineering Group

Project: Georgetown Wet Weather Treatment Station

Client: King County Wastewater Treatment Division

Jacobs provided design and construction management services for the Georgetown Wet Weather Treatment Station, a satellite treatment facility encompassing over 30,000 square feet of wet weather treatment station buildings, 2,500 linear feet of conveyance, a 54-inch-diameter outfall, and site preparation and demolition.

The team’s innovative foundation design helped to effectively reduce construction costs. Given the site’s seismic activity and historical contamination, Jacobs conducted a site-specific seismic response study and a probabilistic seismic hazard analysis, resulting in reduced seismic loading and liquefiable soil thickness.

The project utilized flow equalization, ballasted sedimentation and ultraviolet disinfection to accommodate necessary treatment on the very small facility footprint. The combination of ballasted sedimentation and ultraviolet disinfection was an infrequently used combination at the time of design.

Treatment processes were set on rigid inclusions to minimize noise, vibrations and spoils generation, while a soil structure interaction model mitigated post-construction settlement. The project optimized design through 3D modeling and virtual reality, allowing detailed evaluation of layouts and clash detection. Sustainability was a focus throughout, earning the project Envision Platinum certification.

The project came in on budget and on schedule. The project is a great example of innovative foundation design and advanced modeling, setting a new standard for wastewater treatment plants.

BRIDGING THE GAP

Landau’s water experts are your bridge from water scarcity to sustainability.

- Water rights brokerage
- Creative water resources solutions
- Instream flow analysis
- Water rights portfolio management & planning
- Groundwater modeling
- Water banking

LANDAU ASSOCIATES
www.landauinc.com



MADISON
DOUBLE·R



Legendary. Spectacular. Wild.



Fly Fishing in Montana can be a rugged, sometimes-tiring adventure—that's why Madison Double R will be a welcome respite at the end of each day.

Located on 2 miles of the world-renowned Madison River south of Ennis, Madison Double R offers first-quality accommodations, outstanding cuisine, expert guides, and a fly fishing lodge experience second to none.



MADISONRR.COM • 406-682-5555 • office@madisonrr.com

BEST IN STATE: GOLD AWARD

COMPLEXITY

**GeoEngineers;
KPFF Consulting Engineering;
DBM Contractors**

Project: Seattle Convention Center Summit Building
Client: Seattle Convention Center

The Seattle Convention Center’s new addition has transformed a former transit center and automotive dealership into a nearly 8-acre urban high-rise convention space with co-developed residential and office towers. The project doubles the capacity of the Seattle Convention Center and will have a profound economic impact on the Seattle region.

GeoEngineers, DBM Contractors and KPFF Consulting Engineers collaborated on the design and construction of the temporary excavation support for the Seattle Convention Center Summit building.

The project faced unique challenges in the crowded downtown core. Its location, adjacent to the busy Pine Street and Boren Avenue bridges over Interstate 5, required a creative shoring design to support the bridge foundation while allowing the construction of the building envelope.

The project team collaborated on an innovative solution involving a pre-stressed internally braced raker assembly, combined with a steel collar and waler system. This design provided temporary and permanent support to the bridge foundation, enabling construction to proceed as planned. The project also made efficient use of existing cylinder piles, saving on construction and demolition costs by incorporating them into the excavation-support system. High-capacity tieback anchors and internal rakers were added to include the cylinder piles in the support system.

The collaboration between GeoEngineers, DBM and KPFF showcased problem-solving skills and creativity in addressing complex shoring challenges. Their innovative solutions and multidisciplinary approach ensured the project’s success, providing Seattle with an impressive urban high-rise convention space and co-developed residential and office towers that will have a lasting impact on the city’s economy and community.



Declined rakers and a large mat footing supported this 80-foot wall below Pine Street during excavation.

PHOTO FROM ACEC WASHINGTON

BEST IN STATE: GOLD AWARD

COMPLEXITY

COWI North America

Project: Totem Lake Connector pedestrian bridge
Client: City of Kirkland

The Totem Lake Connector project created a captivating gateway bridge for pedestrians and cyclists, focusing on enhancing safety and the overall appeal of Totem Lake. COWI played a crucial role in blending aesthetics, innovation and sustainability into the design and bringing the vision to life. The unique “skipping stone” concept, chosen from four bridge options, symbolizes a connection between the community and nature.

The bridge’s design featured arched Vierendeel trusses made of pipe members, creating an open and uplifting structure. It was built on an efficient sub-

structure with reinforced concrete and steel Y-shaped piers (minimizing its footprint), and supported by drilled shafts. The project emphasized aesthetic-driven structural form, resulting in a sleek and streamlined design with welded pipe members, pigmented sealer and chamfered piers.

Public outreach was a cornerstone of the project — the team involved the community in the project’s development and feedback was considered throughout. The bridge not only enhanced pedestrian safety but also became a destination with rest areas, overlooks and aesthetic lighting.

Sustainability was at the forefront of the design, using vegetated MSE walls and porous asphalt. The project successfully navigated a congested site while minimizing



The bridge features arched Vierendeel trusses made of pipe members.

PHOTO FROM ACEC WASHINGTON

impacts on utilities, wetlands and hazardous materials. Despite challenges, the project was completed on time

and on budget.

The Totem Lake Connector now stands as a local landmark, embodying the

character of the area and serving as a symbol of future-oriented, community-driven engineering.

ENGINEER OF THE YEAR

Kathy Cox-Czosnyka Tetra Tech

Kathy Cox-Czosnyka's remarkable career in engineering, combined with her dedication to service, leadership and innovation exemplifies excellence in the field, according to ACEC.

Cox-Czosnyka currently



Cox-Czosnyka

serves as a vice president for Tetra Tech's Water Division. Her responsibilities span leading operations, risk management, and managing a diverse range of staff, teams and projects in water resources, environmental and infrastructure design. Cox-Czosnyka's leadership has been instrumental in driving the transformation of critical infrastructure in the Pacific Northwest, and advocating for the engineering profession through her work with ACEC. With an impressive 38 years of experience, Cox-Czosnyka consistently demonstrates strong ethics, outstanding character, technical expertise, and managerial skills in delivering transportation and water-related facilities. She fos-

ters a culture of "project first thinking," prioritizing client service through effective communication, client needs, and thorough documentation. Cox-Czosnyka's career includes mentoring and supervising project managers, and she has managed history-defining transportation and water projects.

"Kathy's passion and vision for technical excellence is clear and a gold standard for the industry. However, I've found some of her most remarkable qualities to be those that foster that ever difficult, yet ever important, human component of engineering. She is exemplary in her ability to inspire and nourish growth in colleagues," says Renee Vandermause, Water Resources Group manager at Tetra Tech.

Cox-Czosnyka is a licensed professional engineer in Washington state, where she has dedicated 30 years of her career. She holds a bachelor's degree in civil engineering with highest honors from Northwestern University, and a master's degree in structural engineering, earning the Cabell Fellowship for graduate studies. Her career began as a bridge engineer before ascending to project

management and leadership positions.

Among Cox-Czosnyka's notable achievements was her role as project manager for the Seattle Central Waterfront Program. This ambitious initiative, revitalizing downtown Seattle's waterfront after the removal of the Alaskan Way Viaduct, involved more than a dozen capital projects. Cox-Czosnyka's leadership was pivotal in coordinating a design team of 60 firms.

Cox-Czosnyka also served as principal project manager for the Port of Seattle program management support at Seattle-Tacoma International Airport. She led a multidisciplinary team, overseeing the design of a consolidated rental car facility, demonstrating her strategic planning and coordination expertise in executing this complex project.

Cox-Czosnyka's dedication to the engineering community is evident through her extensive involvement with ACEC Washington. Cox-Czosnyka joined the ACEC board of directors in 2012 and her service spanned a decade — both at the local and national level. She served in roles as national

director, chair, vice-chair, chair-elect and Washington director. She has advocated for every major ACEC issue and was instrumental in helping update the ACEC State-wide Strategic Plan.

"Kathy has been a staunch advocate for the industry, championing and advocating for those issues and values that have improved the profession while pushing back on the things that would look to erode and diminish the essential value that the engineering profession brings to society," said fellow ACEC board member Scott Woerman of Landau Associates.

Cox-Czosnyka's passion is to advance the AEC profession and advocate for its practitioners. She actively contributes to various committees, including the WSDOT/ACEC liaison committee and the WSDOT/ACEC bridge and structures committee, where she served as co-chair.

Cox-Czosnyka's passion for engineering, her invaluable contributions to the AEC industry, and her commitment to advancing the engineering profession make her an outstanding Engineer of the Year.

SEATTLE DAILY JOURNAL OF COMMERCE

The new development might start this fall, but owner Retail Opportunity hasn't yet announced a groundbreaking.

**224 Crossroads units
Bellevue clear SEPA hurdle**

The most useful resource for Northwest businesses

Locally-owned, the DJC has been serving the construction community for over 100 years. Publishing Six days a week, the DJC covers areas of construction, architecture, engineering, consulting, commercial real estate, government, urban planning and law.

- Construction reporting
- Jobs out to bid
- Contracts awarded
- Upcoming Projects
- Sub-bids Wanted
- Rosters
- Fed Bizops
- Building Permits
- And More!

To get access to all this online, in print, or both
PLUS online plans from PlanCenter.com, visit WWW.DJC.COM

BEST IN STATE: GOLD AWARD

FUTURE VALUE TO THE ENGINEERING PROFESSION & PERCEPTION BY THE PUBLIC

Osborn Consulting

Project: South Park roadway and drainage partnership
Client: Seattle Public Utilities

The South Park drainage and roadway partnership project in the city of Seattle is an example of effective collaboration between city entities and designers. Osborn Consulting played a pivotal role as the prime consultant and stormwater lead, contributing to the project's success.

The project addressed chronic flooding, safety concerns and poor roadway conditions in the South Park neighborhood. The team utilized earthquake-resistant ductile iron pipe for the water main, enhancing resilience in a liquefaction zone. Additionally, geogrid technology reduced pavement section depth, benefiting a neighborhood with subpar pavement subgrade. Collaboration between Seattle Public Utilities and Seattle Department of Transportation, along with



The project installed new street trees, sidewalks, roads and stormwater pipes.

PHOTO FROM ACEC WASHINGTON

extensive community input, resulted in a project that significantly improved the area's infrastructure and quality of life.

According to Jason Sharpley, project manager for Seattle Public Utilities, "This project installed more than 4,000 (linear feet) of

new public storm drainage system, almost 90 new street trees, and approximately 1.5 lane miles of new right of way improvements, including sidewalks, trees, and roads designed for industrial uses. Today, the neighborhood is safer with roadway and sidewalk improvements, healthier with the addition of trees

and vegetation, and more productive with the reduction in frequency of flooding events."

This project demonstrates how addressing complex challenges, such as flooding, poor infrastructure, and environmental concerns, requires careful planning and stakeholder engagement.

The successful fulfillment of client and community needs, as well as sustainability considerations, make this project a model for future partnership projects in Seattle. The project's completion has transformed the South Park neighborhood, making it safer, healthier and more resilient.

BEST IN STATE: GOLD AWARD

SOCIAL, ECONOMIC, AND SUSTAINABLE DESIGN CONSIDERATIONS

Otak

Project: Dungeness Nature Center bridge and river restoration
Client: Jamestown S'Klallam Tribe

The Dungeness Nature Center river restoration and bridge project aimed to restore the Dungeness River floodplain and enhance salmon habitat while ensuring infrastructure sustainability. The project, a collaboration between Otak and the Jamestown S'Klallam Tribe, tackled the historical challenges resulting from European settlers' infrastructure development, which had a negative impact on the river's natural flow.

The project removed a levee and constructed a new bridge to reestablish the floodplain, allowing salmonoid species to thrive. Additionally, an outdoor classroom structure, shaped like a traditional cedar hat, was built to provide an educational facility connected to the river.

Innovative engineering solutions included the use of bio-engineering with large, anchored logs, seismic isolation bearings to support robust piers, and engineered log jams anchored to large rocks to withstand river forces. The project maintained a tight schedule, completing construction in just one year while minimizing trail closures and downtime.

Randy Johnson, habitat program manager for the Jamestown S'Klallam Tribe, said: "Aesthetically and functionally, the bridge is superb. We are thrilled with the innovative wishbone design, and the flow of traffic merges and splits seamlessly. The Tribe routinely receives rave reviews about the bridge from trail and Nature Center users. Environmentally, the project has surpassed the Tribe's expectations. The design team integrated a marvelous side channel and 11 engineered logjams into the project, creating highly productive salmon habitat on the reconnected floodplain.

"The project is a ringing success for salmon, the Tribe, trail users, the Nature Center, the community, and the environment. The Tribe heartily thanks the Otak team for delivering a spectacular project."

Otak

Littell Bridge on the Willapa Hills Trail

CHEHALIS, WA

CLIENT
 Washington State Parks & Recreation Commission

Gracefully winding over the highway, the Littell overpass project went from a dangerous at-grade crossing to a beautiful S-shaped bridge that will serve the community for generations to come.

Otak would like to thank the Washington State Parks and Recreation Commission as well as our teaming partners at Hart Crowser.

Visit us at otak.com



AMERICAN COUNCIL OF ENGINEERING COMPANIES
of Washington

Why should your firm be a member of the American Council of Engineering Companies of Washington?

**It's Simple.
Ask our Members!**

- ✓ ACEC Washington is the primary advocate for the protection and promotion of your business interests
- ✓ ACEC Washington is your primary resource for business practice information and education
- ✓ ACEC Washington is the voice of the consulting engineering industry in Washington State



**Working for Washington's
Engineering Community**

“One of the primary functions of ACEC of Washington is to lobby in Olympia on behalf of the consulting engineering community regarding proposed new legislation critical to our industry and members statewide. We find the advocacy one of the biggest benefits, among many, that makes our membership a good investment for our company.”



Crystal Donner, President/CEO of Pertect



“ACEC is a world of information about everything you need to know in the context of running your engineering business. As a member, I have found this such a great opportunity for networking, collaborating and education.”

Sherry Harris, CEO, Ergosync Engineering

“Our membership to ACEC of Washington provides benefits well above the annual membership fee. The education and training opportunities for our employees at all levels are invaluable, from the Core Competencies for Professionals series and conferences to the educational seminars provided each month. We rely on ACEC to keep us informed on emerging issues and current best practices in our industry.”



Ben Upsall, Associate Geotechnical Engineer, GeoEngineers, Inc.



“I am a member of ACEC of Washington because advocacy for small engineering firms has never been more important. ACEC provides invaluable tools, information and networking opportunities to help my business thrive in a highly competitive, rapidly evolving market.”

Robin Kirschbaum, PE, LEED AP, ENV SP, President, Robin Kirschbaum, Inc.

“Through the efforts of ACEC, we continue to build paths that help us collaborate more successfully with our clients and be more innovative on the projects we help develop for our communities. ACEC is the voice that represents our collective business interests.”



Mike Clark, Transportation Group Manager, David Evans and Associates, Inc.