VOL. 35, NO. 1 | SPRING 2017

# SUPERSTRUCTURE

# Progressive Project Delivery Paves the Way for Increased Freight Rail Capacity on the East Coast

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TUNNE

### **PLANNING FOR PROGRESS**



LANNING IS INTEGRAL TO EVERY **ASPECT OF BUSINESS**—from the way we innovate, to our pursuit of new work, to ensuring safety on the jobsite. Planning strengthens our operations, it improves the quality of our work, and it allows us to provide greater certainty for our clients. Careful and thoughtful planning helps to ensure that we can not only achieve our own goals, but also help our clients achieve their goals.

As a corporation, we utilize strategic planning to identify emerging opportunities, set priorities and goals, focus human and financial resources, assess and adjust our direction in response to our changing environment, and ultimately chart a course for continued growth.

On our jobsites, planning is a fundamental component of our work. Crafted long before we ever step foot on site, our project plans serve as a playbook for how we will build the job. From the sequencing of field operations, to the delivery of materials, to the safe execution of work, our teams meticulously plan every aspect of their operations. A clear and concise plan to perform the work results in stronger execution, higher overall quality, and a safe and successful project.

This edition of Superstructure is filled with examples of how vigilant planning yields undeniably positive results.

Safe Plans of Actions (SPA) are a critical component of our daily jobsite operations. In our Southern and Southwest regions, field leaders and craftsmen alike are more engaged than ever before in developing detailed SPAs to execute their work safely, knowing that a good plan leads to a safe operation. As you'll see in this issue of our magazine, their efforts

are producing impressive outcomes; the team celebrated more than 3.5 million hours worked without a lost time incident this winter, and are committed to maintaining their safety success.

Perhaps no one understands the importance of planning for progress better than our client CSX. The firm's National Gateway Initiative, which is expanding freight rail capacity along the Eastern Seaboard and to key Midwest markets, is the culmination of an intensive, decades-long planning effort. To execute the final component of their program-the Virginia Avenue Tunnel Rehabilitation-CSX engaged

### A clear and concise plan results in stronger execution and higher quality.

Clark under a progressive design-build contract, allowing our team to play a crucial role during the project's initial planning stages. As detailed in our feature story, the team's early and comprehensive planning has enabled them to swiftly overcome numerous obstacles and safely and successfully deliver the first phase of the project a month ahead of the contract schedule.

At Clark, planning is essential to our continued progress and prosperity. Through diligent and detailed planning, we can elevate our operations, be the best partner for our clients, create opportunities for our people, and realize sustained growth and success. That's our plan, and we're sticking to it. ■

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### SUPERSTRUCTURE VOL 35 NO 1 | SPRING 2017

### **FEATURES**





Substantial Infrastructure Overhaul Modernizing America's Rail System When complete, CSX's double-stack rail corridor will increase the flow of goods from the nation's East Coast ports to markets across the country.

### 

**Holistic Safety** Approach Leads to Success

Our Southern and Southwest region teams' steadfast commitment to safety is evidenced in their safety performance.

### DEPARTMENTS

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- **06** Innovation Glass skin reduces energy costs and provides a comfortable atmosphere.
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### **ON THE COVER**

With Phase 1 of the Virginia Avenue Tunnel Reconstruction project complete. CSX is able to run double-stack intermodal containers through Washington. DC, for the first time in history. Photo by: Dominique Muñoz

### **CONNECT WITH US**



Instagram: O) @ClarkBuilds

# Clark to Reshape the San Antonio Skyline with 23-Story Frost Tower

### **Clark Construction Group has been**

**selected** to build a new high-rise tower for Weston Urban and KDC in San Antonio, TX. The modern 440,000 square-foot, 23-story office structure, known as "Frost Tower," will include 20,000 square feet of retail space on the ground floor and a six-and-a-half level parking garage.

Featuring a sloped curtain wall system with integrated LED lighting, Frost Tower will ascend as San Antonio's first office high-rise in nearly three decades, serving to bring the city skyline into the 21st century. Each floor of the twisting geometric structure will have a unique footprint. The building will culminate in a curtain wall "crown" at the roof, supported by structural steel.

Located at a critical point in the city, the site sits on a convergence of downtown investments from the public and private sector, and will link the adjacent San Pedro Creek Project to an existing pocket park, as well as Houston Street and the streetscape beyond. To connect the building and the surrounding landscape, the tower's groundlevel retail space will evoke the impression of a glass pavilion in a park.

The project is designed to achieve LEED<sup>®</sup> Silver certification.

Construction of Frost Tower is underway. The project is scheduled for completion in 2019. Pelli Clarke Pelli and Kendall/Heaton are

Pelli Clarke Pelli and Kendall/Heaton at the project architects. ■





## Realizing Pacific Visions with the Aquarium of the Pacific Clark to Build State-of-the-Art Theater Expansion

The Aquarium of the Pacific is exploring new waters with Clark Construction. The Long Beach-based aquarium has awarded the company a \$28 million contract for its Pacific Visions wing, a 29,000 square-foot, twostory addition—the institution's first major expansion project.

Inside the new wing, Clark will construct a state-of-the-art immersive theater with seating effects and a 30-foot-high, 180-degree digital screen over a tilted floor stage. Using innovative technology, galleries, and the immersive theater to share its stories, Pacific Visions will transform the aquarium and take our understanding of aquatic life to new depths.

Clad in a biomorphic specialty glass system, the theater will visually flow with the existing aquarium while serving as a standout feature. The innovative façade will consist of translucent etched glass to echo the movement and depth of its neighboring ocean namesake.

Pacific Visions is designed to achieve a rating of Two Green Globes through the Green Building Institute. Focused on conservation, environmentally friendly materials, local sourcing, and greenhouse gas minimization, the building and infrastructure will be a contemporary vision of sustainable design.

The Aquarium of the Pacific, which attracts more than 1.6 million visitors each year, will remain open to visitors during construction. Clark's team will coordinate closely with aquarium authorities to ensure minimal impact to active operations.

The Pacific Visions expansion is scheduled for completion in fall 2018, with the wing opening to the public in early 2019.

EHDD is the project architect. ■

### New Contracts

Across the country, and in a variety of markets, Clark Construction Group, and our subsidiaries, have recently been selected to deliver a number of new projects. This quarter, our new work includes:

### RESIDENTIAL

### The Highline

Construction of a 315,000 square-foot, 12-story residential building with 317 apartment units and two levels of below-grade parking Location: Washington, DC Company: Clark Construction Group Client: Level 2 Development, Federal Capital Partners, and CEI Realty Architect: Eric Colbert & Associates Contract Amount: \$64 million Completion: April 2019

#### The Yards: Parcel O

Construction of a 467,000 square-foot residential community comprised of one condominium building, two apartment towers, as well as ground-level retail space, below-grade parking, and a communal plaza Location: Washington, DC Company: Clark Construction Group Client: Forest City and PN Hoffman Architect: WDG Architecture Design Architect: Handel Architects and Johnson Fain Completion: September 2018 <image><page-header>

### AVIATION

### Terminal Two Modernization Program at Fort Lauderdale-Hollywood International Airport Renovation and construction of an active terminal with new MEP systems, interior finishes, and a new clerestory barrel roof Location: Tampa, FL Company: Clark Construction Group Client: Delta Airlines, Inc. and Broward County Aviation Department Architect: Gresham, Smith and Partners Contract Amount: \$85 million Completion: November 2020

### rchitecture Aviation Department Eng Handel Architects and Architect: Gresham, Smith and Partners Con Contract Amount: \$85 million Deli completion: November 2020 Con TEI Buil Inov Inst seco Inov Loc Con

### HIGHWAY

### Route 606 I-95 Overpass Replacements and Improvements

Construction of a new I-95 overpass on Route 606, including required tie-ins and ramps, and widening Route 606 to four lanes Location: Spotsylvania County, VA Company: Shirley Contracting Client: Virginia Department of Transportation Engineer: Dewberry Consultants Contract Amount: \$16 million Delivery Method: Design-Build Completion: July 2020

### **TECHNOLOGY INFRASTRUCTURE**

### Building Technology Installation at Inova Dwight and Martha Schar Cancer Institute

Installation of voice and data infrastructure, security, audiovisual, and nurse call systems at the Inova Dwight and Martha Schar Cancer Institute Location: Falls Church, VA Company: S2N Technology Group Client: Inova Health System Contract Amount: \$4 million Completion: May 2018

### GOVERNMENT

### Burke Warehouse and Animal Care & Control Facility

Renovation of Burke Warehouse and 1419 Bryan Street, the latter of which will become an animal care and control facility Location: San Francisco, CA Company: Clark Construction Group Client: San Francisco Department of Public Works Contract Amount: \$59 million Completion: November 2019



### **EDUCATION**

### San Diego State University New Student Residence Hall

Construction of a 171,000 square-foot residence hall capable of housing 850 students with dining and communal amenity spaces Location: San Diego, CA Company: Clark Construction Group Client: San Diego State University Architect: AC Martin Contract Amount: \$100 million Delivery Method: Design-Build Completion: Summer 2019





### CIVIL

### C&O Canal Lift Locks Rehabilitation

Rehabilitation of and repairs to lift locks, lock gates, and historical foundation on the Georgetown portion of the C&O Canal Location: Washington, DC Company: Clark Civil Client: National Park Service Designer: Peck and Peck Contract Amount: \$6 million

### HEALTHCARE

### Inova Center for Personal Health Campus Infrastructure

Infrastructure upgrade to increase chilled water plant capacity in support of the new Inova Center for Personal Health

Location: Falls Church, VA Company: Clark Construction Group Client: Inova Health System Architect: Wilmot Sanz, Inc. Contract Amount: \$15 million Completion: December 2017

Rendering courtesy of AC Martin

### **MASS TRANSIT**

### MAPS 3 Modern Streetcar Mainline Power Systems

Installation of overhead catenary systems, signaling systems, and six prefabricated traction-power substations Location: Oklahoma City, OK Company: C3M Power Systems Client: City of Oklahoma City and Herzog/Stacy and Witbeck Engineer: Jacobs Engineering Group Contract Amount: \$13 million Completion Date: Fall 2018



Rendering courtesy of Jacobs Engineering Grou

### East Lake, Milwaukee, and Illinois Substation Upgrades

Rehabilitation and restoration of envelopes, interiors, and power machinery at three active Chicago transit substations Location: Chicago, IL Company: Clark Construction Group Client: Chicago Transit Authority Architect: TY Lin International Contract Amount: \$45 million Completion Date: January 2020

### Tie Breaker Station Upgrades on Orange and Blue Lines

Upgrade of six tie breaker stations on the WMATA Orange and Blue Lines Location: MD, VA, & Washington, DC Company: C3M Power Systems Client: Washington Metropolitan Area Transit Authority Contract Amount: \$5 million Completion: March 2018

# Innovative Glazing System Supports University's Strategic Objectives

In both form and function, Bowie State University's new Center for Natural Sciences, Mathematics, and Nursing embodies the progressive academic culture that the school strives to provide its students. Upon completion, the new facility will provide state-of-the-art classrooms, research areas, and computer labs, as well as a greenhouse and three-story atrium.

While great thought has gone into the design, function, and flexibility of the building's interior spaces in an effort to provide an optimal atmosphere for students, the structure's dynamic curtain wall system is equally notable for its contribution to the learning environment. Clark's team recently completed installation of the 25,000 square-foot glass skin system, which will reduce energy costs to the university while providing a comfortable atmosphere to enhance students' productivity and sense of well-being.

Project architect Perkins + Will designed the structure to incorporate an energy-efficient dynamic glazing system. The sustainable academic facility features electronically-tintable SageGlass, an innovative glazing system that blocks sunlight on hot days to dramatically reduce energy consumption in the building.

Utilizing electrochromic coatings of ceramic material and low voltage charges, the reactive glass responds to sunlight to change tint and control light levels and heat entering the building. As exterior light brightens, the glass gradually tints darker. Exterior light sensors track the location of the sun to prevent glare within the building. The state-of-the-art system also tints on-demand, allowing faculty to customize solar control in each classroom.

Eliminating the need for blinds or shades in the building, the glass system also allows for a learning environment with a strong connection to the outdoors. "We strongly believe that a daylit, comfortable classroom is essential for maximizing student potential," said Alan McLenaghan, CEO of SageGlass. Upon the completion of this university focal point, students will be able to study and grow in a



Exterior light sensors track the location of the sun to prevent glare within the building, and, as exterior light brightens, the glass gradually tints darker.



Clark installed 25,000 square feet of electronically-tintable SageGlass to provide a comfortable atmosphere and enhance students' productivity and sense of well-being.



### Los Angeles Federal Courthouse Team is Focused on Energy Performance

The General Services Administration's (GSA) state-of-the-art Los Angeles Federal Courthouse opened for business last fall. While the new facility is now fully occupied by tenants and visitors alike, Clark's project team continues to ensure the building is functioning as designed and meeting its ambitious 35 Kbtu/sf\*yr energy use intensity (EUI) target.

During the project's design phase, the GSA challenged Clark and design-build partner SOM to come up with ideas to reduce the building's energy outcome from the originally proposed criteria of 47 Kbtu/sf\*yr to just 35 Kbtu/ sf\*yr. While ambitious, the team embraced the challenge. Coining the initiative the "Drive to 35," they set out to deliver a facility that would serve as a model of sustainability.

Through a highly collaborative effort that involved Clark, SOM, MEP engineer Syska Hennessy Group, and major MEP subcontractors, the team provided system improvements and cost effective ideas to lower the building's

space which matches and inspires their own creativity and innovation.

Clark worked in concert with SageGlass, United Architectural Metals, Tidewater Glazing, and PerLectric to install this complex curtain wall. Throughout the manufacturing process, the project team conducted thorough testing to ensure the glass system was wired correctly. In January, they maneuvered materials through the small site successfully to erect the skin system.

Clark reached substantial completion on the Center for Natural Sciences, Mathematics, and Nursing on March 15. The new facility will open for classes this summer. ■ The building's pleated façade design reduces annual solar radiation load by 47 percent, and decreases central plant load by 9 percent.

Photos by: Bruce Damont

EUI. Higher efficiency mechanical equipment, plug load control, increased temperature ranges in designated spaces, and radiant heating and cooling at the main lobby are among the solutions the team implemented to help the GSA achieve its energy goal. To ensure that all team members were vested in the outcome of "Drive to 35", major stakeholders are sharing in the risk of payment for this work by tying the goal into contractually-guaranteed performance terms.

The project team, including facility manager Clark Facility Solutions, is now validating building performance through a year-long Measurement and Verification (M&V) period in order to ensure that the courthouse is meeting its energy use goals. Since substantial completion, each of the building systems has been monitored for energy consumption and output through the Building Automation System. So far, Clark's team has found that not only is the Federal Courthouse meeting its energy requirement, but it is also tracking under the target energy use ceiling.

Clark is pursuing LEED® Platinum certification for the courthouse, which was recently awarded the Sustainability Gold Award by the LA Business Journal's Commercial Real Estate Awards. The architectural marvel's sustainable design emphasizes energy-efficient daylight exposure to benefit the building occupant experience. The building's transparent panels in north- and south-facing pleats maximize daylight penetration, while opaque panels in east- and west-facing pleats minimize solar thermal gain and reduce central plant load by nine percent. The design places major spaces, like courtrooms and jury deliberation rooms, at the building perimeter to optimize daylight exposure. In addition, each floor is organized around an open central volume to deliver daylight into the heart of the building, along with strategically placed reflectors. The result is a modern, dynamic, and luminous civic center in the heart of downtown Los Angeles.

# HOLISTIC SAFETY APPROACH

LEADS TO SUCCESS THROUGHOUT THE COUNTRY

B **UILDING A CULTURE OF SAFETY REQUIRES LEADERSHIP,** comprehensive planning, teamwork, and a genuine concern for the well-being of every member of the team. According to Regional Safety Director Gene Bowles, it is this kind of holistic approach that leads to safety excellence. In Clark's Southern and Southwest regions, territories for which Gene is responsible for safety, employees are demonstrating a steadfast commitment to these tenets and it is evidenced in their safety performance. This winter, the regions collectively celebrated working more than 3.5 million hours without a lost-time incident. Rather than resting on their laurels, the area's project leaders are focused on what it took to achieve these results, and the measures they can take to continue to improve Clark's safety culture.





Creating a strong safety culture—one that resonates with the entire team—starts at the top. "The individuals I work with are passionate about safety and foster an injury-free environment by leading by example. They mentor their teams and hold them accountable for their safety, and the safety of others," states Bowles.

Fostering safety leadership is a primary goal for Superintendent Chris Smith, who is currently leading field operations at University of Kansas' Academic Integrated Science Facility. "It is my passion," states Smith. "I am accountable for the safety of everyone on my jobsite, but more importantly, I am responsible for mentoring my team, providing valuable training, and ensuring that we use all available resources to build this project safely."

When it comes to safety, personal accountability also is paramount. "I've witnessed a growing commitment from employees across the board. They take proactive measures to get the training they need to be successful, and safe. Furthermore, they are finding opportunities to mentor one another on tough subjects," says Bowles. In addition to corporate training, Chris and other superintendents in the region work to provide project- and trade-specific training that coincides with the different phases of work on the jobsite. The more relevant the training is to the work at hand, the stronger the result. Superintendent Chris Smith strives to provide project- and trade-specific safety training to his team on the University of Kansas' Academic Integrated Science Facility project.

While leadership, accountability, and planning are imperative to safety success, fostering an environment of caring is equally important. At the Miami Beach Convention Center Renovation jobsite, Vice President Scott Lawson and his team focus on setting the tone for a strong, positive, and caring safety culture from the moment new workers step on site. "We don't allow new team members to start work until we've shared our safety expectations with them, including the importance of looking out for one another on the jobsite," said Lawson. "Where there is a genuine concern for each member of the team, you also see greater levels of trust and camaraderie among the crew; this correlates to improved productivity and quality of work."

"We believe that all incidents are preventable, and focus on creating a culture where everyone is concerned for their own safety and the safety of others. But that's not enough, you must have a plan in place to continue that culture of caring, even when an injury occurs," states Bowles. Smith and other field leaders are focused on providing the resources and support needed to help injured individuals make a full recovery. This includes ensuring they receive proper care for even minor injuries, such as strains, sprains, and abrasions, before they turn into major issues that could prohibit them from earning a living. "If a worker needs assistance, I am going to be right by their side ensuring they

"Where there is a genuine concern for each member of the team, you also see greater levels of trust and camaraderie among the crew; this correlates to improved productivity and quality of work."

Scott Lawson, Vice President

Planning your work and understanding your critical path to success is the recipe for a well-built, safe project. "I am constantly reviewing my work plans and attending Safe Plan of Action meetings to see what is on the horizon," states Smith. This is a positive trend that Bowles believes is contributing to the company's safety performance. "I see more detailed work plans than ever before. It shows me that the teams are engaged and understand that a good plan leads to a safe operation," says Bowles. receive proper care," states Smith. "A culture of caring means looking out for one another, but also means creating an environment where workers know they can report injuries, receive the necessary medical attention, and get back to work and the things they love most."

Clark's safety program challenges all project stakeholders to be accountable, plan their work, and take safety personally. In the South and Southwest regions, and on our projects throughout the country, this holistic approach to safety has become a framework for success.



# PROGRESSIVE PROJECT DELIVERY Paves the Way for Increased Freight Rail Capacity on East Coast

When CSX looked to make significant upgrades to its freight rail infrastructure in the Midwest and Mid-Atlantic, the firm knew it would take innovative means, progressive methods, and assistance from skilled engineering, design, and construction partners to get the job done.

### As the nation's third largest freight rail

**carrier,** CSX is acutely aware of the impact rail operations have, and can potentially have, on the country's competitive advantage in the global marketplace. Their network, which encompasses nearly 21,000 route miles of track in 23 states, the District of Columbia and parts of Canada, serves some of the largest population centers in the nation, and is responsible for transporting millions of carloads of freight throughout the eastern United States each year.

In 2008, the rail transportation giant embarked on an ambitious infrastructure improvement program-the National Gateway Initiative-to enhance the efficiency and reliability of intermodal rail traffic along its eastern seaboard routes and to critical Midwest markets. The \$850 million public-private partnership, which was made possible by a combination of federal, state and CSX funds, includes raising the clearances of 61 bridges and tunnels in six states and the District of Columbia to make way for double-stack intermodal containers; it also includes new or improved intermodal terminals along the way. Phase 1 of the two-part program was completed in 2013; Phase 2, which includes work on some of America's oldest rail tunnels, as well as numerous clearance improvement projects throughout Maryland, Virginia, West Virginia and Washington, DC, will culminate next year. When complete, this substantial infrastructure investment will modernize America's transportation system, create a double-stack rail corridor between many major Mid-Atlantic ports and the greater Midwest, and take CSX one step closer to realizing their ambitious master mission: creating the "CSX of Tomorrow."

One of the most critical facets of Phase 2 of the program is the Virginia Avenue Tunnel Rehabilitation. Located in the heart of the nation's capital, the more-than-a-centuryold tunnel is a critical route for freight trains traveling through Washington, DC, to points north and south, as well as for freight traffic from eastern seaports to the Midwest. The original single-track tunnel could only accommodate one single-stack train at a time and was a frequent choke point for rail traffic traveling through the Mid-Atlantic region. Expanding the tunnel's capacity and clearance will significantly improve the flow of freight rail traffic and make numerous East Coast ports more competitive.

As CSX set out to alleviate this longtime bottleneck, it turned to a progressive delivery method, and to the Clark/Parsons design-build team to lead the charge. With



Located in the heart of Washington, DC, the 3,800-foot Virginia Avenue Tunnel runs from 2<sup>nd</sup> to 14<sup>th</sup> streets. Its restoration is one of the most sensitive civil engineering projects underway in the country.

a highly-complex scope, the \$250 million project, which includes reconstruction of the 3,800-foot tunnel that runs beneath Virginia Avenue, SE, from 2nd to 14th streets, is one of the most sensitive civil engineering projects currently underway in the country.

Under a progressive design-build procurement, CSX involved Clark, and joint venture design partner, Parsons, during the earliest stages of project development: the NEPA permitting process. Onboarding Clark/Parsons during the early planning phase helped to ensure that CSX had the most effective design and construction solutions; it also made certain that work could commence as soon as possible following CSX's receipt of the Federal Highway Administration's record of decision. This approach established a culture of collaboration among key stakeholders early on, and built a foundation of transparency and trust that has helped the team successfully achieve delivery of the first tunnel one month early, despite many challenges along the way.

Since fall 2011, Clark/Parsons has worked hand-in-hand with CSX to move the project forward, providing critical technical support during the rigorous NEPA and permitting processes, as well as preconstruction services, estimating, and support for field investigations and traffic studies, all before detailed final engineering work and construction commenced.

Construction operations for Phase 1 of the project began in May 2015, within six months of the record of decision. Since that time, the team has operated with surgical precision to perform the work, which included construction of a new 4,100-foot, cut-and-cover tunnel structure south of the existing masonry tunnel, all while

### Why Progressive Design-Build?

Clark Senior Vice President and Virginia Avenue Tunnel Project Director Phil Sheridan recently sat down with CSX's Chuck Gullakson, Chief Project Engineer on the project, to discuss the reconstruction project and how progressive designbuild is contributing to the project's success and enabling CSX to realize their vision for the future.

Phil Sheridan: The Virginia Avenue Tunnel is the last of 61 clearance projects in CSX's National Gateway Initiative and will have a major impact on freight rail travel throughout the greater Mid-Atlantic region. Why did CSX decide to utilize progressive design-build to deliver the project and remaining Phase 2 components?

**Chuck Gullakson:** CSX chose a progressive design-build approach, and more importantly, a contractor-led design-build team, as a means of achieving the aggressive completion schedule that we required for this project. Once we won approval to move forward, we wanted to be optimally positioned to streamline the design and construction process in moving from the preliminary designs to final construction drawings as efficiently as possible. We hoped that integrating the elements of the process into a single team, led by the construction contractor responsible for executing the design, would improve the project's overall timeliness. So far, that strategy is working.

**Phil:** Under this delivery model, Clark was involved in the project from a very early stage. How did establishing that partnership with the contractorled team during this phase help CSX move the project forward? Specifically, what, if any value did Clark/Parsons provide during the NEPA and permitting stages that would not have been realized under a traditional project delivery model?

freight train operations continued through the existing tunnel on the jobsite. From the project's outset, the team has focused on working collaboratively to plan, problem-solve, successfully execute the work, and maintain the schedule, all while limiting the impact of construction operations on nearby residents and businesses. The team's cooperative mindset has helped them identify opportunities to adjust the schedule to move the project forward more effectively.

In December 2016, the project team celebrated a major milestone: the completion of Phase 1—a month ahead of schedule—allowing the first of two new CSX tunnels to open for business and enabling double-stack railcars to travel through the District of Columbia, and locations in Virginia, West Virginia, and Maryland, for the first time. ■ **Chuck:** They were instrumental in supporting CSX, FHWA, and DDOT through the National Environmental Protection Act (NEPA) process to secure approval for the project, given their intimate knowledge of the available construction techniques and unique local conditions. Not only did the Clark/Parsons team help us explain the project to the public, they helped us identify ways to mitigate community impacts through the selection of design and construction techniques and materials. Additionally, their sensitivity to CSX's requirements that train operations be safely maintained throughout the project resulted in a very executable plan that might not have emerged through a different approach.

**Phil:** What do you look for in a design-build partner? Why did you select Clark/Parsons for this project?

**Chuck:** Clark and Parsons are two names that quickly rise to the top of any short list of partners for major transportation-related projects, and the specific team that has been fielded by the JV has an unparalleled depth of knowledge of the unique requirements of a project like this in the nation's capital. We searched for exceptional qualifications and cost-competitiveness as table stakes —delivering the local expertise that this team also provides was the differentiator.

Phil: Based on its location alone, the Virginia Avenue Tunnel Reconstruction project was destined to be a challenging project. Has the progressive design-build model helped the team address and overcome those challenges more efficiently and effectively, and if so, how?

**Chuck:** The District of Columbia is one of the oldest cities in the nation, and every era of U.S. history is represented in the city's design. Local conditions at the tunnel site vary from 19th century blue-stone pavers to 21st century telecommunications network technology and everything in between. Having a fluid, flexible progressive design-build team in place has made it possible to adopt to local as-built conditions above and below ground as they are discovered. reducing the time required to address new discover ies. A chief example among them was the discovery of an abandoned segment of an 1870's era railroad tunnel serving the Washington Navy Yard area that was buried adjacent to the excavation site for the first new Virginia Avenue Tunnel. A revised demo lition/excavation plan was required and the team guickly responded, resequencing work across the 11-block project site to ensure progress continued even while additional excavation was required.

**Phil:** Can you offer your perspective on the working dynamic between CSX and the design-build team?

**Chuck:** CSX and the Clark/Parsons JV have an excellent relationship. We have worked together to plan the job since before we had project approval; we have collaborated on solutions to new challenges as they emerge; we coordinate closely on communicating pending project work to the nearby residents and the surrounding community to minimize impacts as much as possible; and we celebrate our successes together. We have a unique partnership on a unique project, and both CSX and the community have benefited from the connection.



Clark Senior Vice President Phil Sheridan (far right) gives a safety briefing to members of the joint venture executive committee before entering an active work zone to to evaluate ongoing track work.

### NEW HORIZON STEEL **BUILDING THE FUTURE OF CHICAGO**

While iron work was a family affair, Corey Smith never imagined he'd find himself working in the industry. Corey's grandfather was one of the first African American blacksmiths in the South, and traveled through Mississippi. Alabama, and Georgia in the 1930s performing non-union work. Corey's father had aspirations to follow in his father's footsteps, but a handicap prevented him from fulfilling his dream. Instead, he focused on the next generation, encouraging Corev to continue the "family business," but Corey had no desire to carry on that tradition, at least not then.

Now President and owner of New Horizon Steel (NHS)-a minority-owned steel and metal deck erection company headquartered in Chicago-Corey has a new perspective on life in the steel business. While the native Chicagoan did not take the most traditional path into the industry, he found his stride and is living out his dream of becoming an entrepreneur and making an impact in the Windy City.

"I wanted to be a businessman, not an ironworker," recalls Smith of his early career aspirations. "So I opened my own barber salon in the South Side of Chicago." Corey's first foray as a business owner was notable; before long he had a staff of nearly 20, and his clientele included NBA players and local politicians.

With a successful barber shop and a family at home, the steel business wasn't even on Corey's radar. That all changed in 2009 when several of Corey's mentors encouraged him to consider getting involved in infrastructure work, which, with the economy in a slump, proved to be steady work, and in great need in Chicago. This advice was echoed by Corey's grandfather and father, so he decided to take a leap.

With no construction industry experience to speak of, Corey knew he had his work cut out for him. He first tried joining the Ironworkers Union, but a temporary freeze on union memberships prevented him from moving forward, so, in 2010, he took a different route and founded New Horizon Steel. Eager to learn the business, Corey soaked up as much of his grandfather's knowledge as possible, and enrolled in classes to understand estimating and how to bid the work. Before long, New Horizon Steel was pursuing local opportunities.

"Our first job was a materials-only contract because we couldn't secure insurance," recalls Smith. "the first few years in business were tough." Then, in 2012, NHS landed its first sheer stud installation contract. Shortly thereafter,



they were awarded a \$75,000 contract, which evolved into a game-changing opportunity when NHS was asked to perform an additional scope of work as part of a mentor/protégé team. Their \$1.2 million scope of work was 10 times larger than anything else the firm had undertaken.

Corey soon expanded the company's search to find more challenging opportunities. In 2013, he learned of a large hotel renovation and expansion project near the McCormick Place Convention Center, a job Clark was leading as general contractor. He quickly arranged a meeting with Stan Hendricks at Clark's office. "I showed up at the office and was instantly overwhelmed," he recalls. "Clark is a big league contractor, but the team put me at ease. They knew I was wet behind the ears, but asked me to submit a number for the project, so I did."

NHS didn't get the job, but that loss opened the door to a new relationship. Less than a year later, Clark approached Corey about a mentor/protégé opportunity with Chicago Steel Construction to perform precast work on Riverpoint Plaza. He took it. Despite being a logistically challenging project, it was a success and a step in the right direction for NHS.

During that time, Corey learned about another opportunity with Clark-this time in the classroom. Clark's Chicago office was preparing to launch its Strategic Partnership Program (SPP) and invited him to participate. "I jumped at the opportunity," recalls Smith.

"The program came at a pivotal time in our development," said Smith. He credits the lessons he learned through the six-month, MBA-style program for changing the way he ran his business. "SPP taught me how to review a contract, the importance of strong safety performance, and how to identify the right people to bring onto my team; it also showed me the importance of preparation, and taught me how to present myself to a client, and ultimately be a better professional. I am applying what I learned to my business model today."

Since graduating from the program, Corey and New Horizon Steel have played a role on two additional Clark jobs: the Malcolm X College Campus, and, most recently, the McCormick Place Headquarters Hotel, where NHS supplied a raising gang to set steel on the project.

Today, the barber shop seems like a distant memory. Corey's days are spent managing a team of nearly 30 craftsmen and identifying future opportunities. His latest project, a \$7 million contract to perform precast panel installation at O'Hare Airport, is nearly 100 times larger than his first opportunity just five years prior-a testament to Corey's tenacity and commitment to excellence.

When asked what the future holds for New Horizon Steel, Corey's reply is confident, yet calculated, "I see us as a \$100 million per year company, but I'm focused on smart growth. We want to ensure we're taking on opportunities where we can perform well. A win for me is for a client to say 'we don't want to hire New Horizon Steel just to reach our MBE goals-we want them because they can perform the work well." While he never imagined himself in the steel business, today Corey is embracing his role in the industry and is excited to be contributing to the future of Chicago. ■

### Spectacular Groundbreaking Marks the Start of Construction at the Chase Center

In a spectacular show that included a cast of dancing construction workers and heavy equipment, GSW Arena LLC kicked off construction at the Chase Center. Members of the Clark team joined representatives from the Golden State Warriors, GSW Arena LLC, and San Francisco city officials for the groundbreaking affair. When complete, the world-class sports and entertainment complex will be home to the former NBA Champions and serve as an entertainment venue for the city.

"We have been looking forward to this day since we first had the vision of building a privately financed state-of-the-art sports and entertainment complex in San Francisco, and are excited for what this will bring to the city of San Francisco and the entire Bay Area community," said Golden State Warriors President and Chief Operating Officer Rick Welts.

The Chase Center, which is scheduled to open for the start of the 2019-20 NBA season, will







### CENTER

### **GROUND BREAKING** 1.17.17

feature an 18,000-seat arena, two office buildings, 100,000 square feet of mixed-use/retail space, and underground parking. The

public gathering areas. Clark is working in a joint venture with Mortenson Construction to deliver the arena,

### PACIFIC VISIONS **EXPANSION PROJECT** UNDERWAY AT LONG **BEACH AQUARIUM**

The Clark team stands proudly -with shovels in hand—at the groundbreaking for the Aquarium of the Pacific's Pacific Visions expansion project. The 29,000 square-foot addition features an immersive 300-seat theater with seating effects and a 30-foot-high, 180-degree digital screen over a tilted stage floor.

Designed by EHDD, the building's hallmark element is an 800-panel glass façade, which is designed to evoke the spirit of sunlight rippling through water. ■

### PROJECT MILESTONES

This quarter, our project teams across the country reached some exciting building milestones:

### **UNDERWAY**

### East Link Rail E-330 Downtown Bellevue Tunnel

Atkinson commenced tunneling work on the East Link Light Rail E-330 Downtown Bellevue Tunnel, Phase 1 project. When complete, the project will extend Seattle's light rail service from 112th Avenue and Main Street to Bellevue City Hall, and the Transit Center, Atkinson is utilizing the sequential excavation method, or SEM, to excavate the 2,000-foot-long tunnel.

### San Ysidro Land Port of Entry, Phase 3 Project

The San Ysidro Land Port of Entry, Phase 3 project team has started excavation and shoring on the project's vehicle and pedestrian tunnels. The newest phase of the land port expansion will widen southbound Interstate 5 from 5 to 10 lanes, add 10 new inspection booths, and a 562car employee parking structure.

### **CSX Virginia Avenue Tunnel Reconstruction**

Clark, in a joint venture with Parsons, has completed the first phase of work on the CSX Virginia Avenue Tunnel Reconstruction project more than a month ahead of the contract schedule. The joint venture team is leading design and construction efforts to expand the more-than-a-century old, 3,800-footlong, single-track tunnel to accommodate double-stack intermodal container trains. The completion of Phase 1 signals the opening of the first of two new tunnel structures.



### **TOPPING OUT**

#### Pike and Rose Block 7

Our project team celebrated topping out of Block 7 in January. The 20-story, 320,000 square-foot, mixeduse building, located in Rockville, MD, is the newest component of the Pike and Rose development. When complete, the structure will feature a 9-story hotel with 10 stories of luxury apartments above, as well as retail space on the ground level.

### BART Hayward Maintenance Complex

In just six months, Clark's project team has topped out the 135,000 square-foot Component Repair Shop. A portion of the larger Hayward Maintenance Complex project, the steel structure will serve as a component, electro-mechanical, and electrical repair and testing facility for the Bay Area Rapid Transit system (BART); it features 32,000 square feet of administrative space. As part of the project scope, Clark also is renovating an existing service and inspection shop.

### **McCormick Place Headquarters Hotel**

Our McCormick Place Headquarters Hotel project team topped out the 40-story tower in late February. The team also recently turned over the American Book Company building to Metropolitan Pier and Exposition Authority. The five-story, historic building will provide additional meeting room spaces and back-of-house areas for the hotel. The new Marriott hotel is one of two project Clark currently is constructing in the area. The company also is delivering the 300,000 squarefoot Wintrust Arena.



### COMPLETE

### Hillsborough County Public Safety **Operations Complex**

Hillsborough County officials in Tampa, FL, joined Clark to celebrate the grand opening of Hillsborough Public Safety Operations Complex in late February. Clark constructed the 85,000 square-foot building, which houses Fire Rescue's command staff and features a new high-tech Emergency Operations Center, and is built to withstand category five storm events.



### **Randolph Mine Decline Rehabilitation**

Atkinson Underground has completed rehabilitation on the Randolph Mine Decline in Kansas City, MO. The project team installed a number of measures designed to maintain safety within the active limestone mine, including 950 structural steel arch supports, steel and concrete intersection structures, and concrete and cementitious backfill to provide support of the loose ground above.



16 SUPERSTRUCTURE

### **Central Place Residential**

Continuing to shape the Arlington, VA, skyline, Clark has reached substantial completion of the 31-story. 377-unit residential tower at Central Place. The new residences include Italian-finished cabinets, stone countertops, stainless steel appliances, and upgraded fixtures. Building residents will be able to enjoy a host of amenities, including a fitness center, and a roof-top terrace on the sixth floor with an outdoor pool and cabanas. The building is anchored by 30,000 square feet of ground level retail and a 17,000 square-foot public plaza. Central Place Residential is one of two buildings in the 1 million square-foot development being constructed by Clark.

### 150 North Riverside

150 North Riverside, a 1.2 million square-foot office tower in Chicago's River North neighborhood has opened to the public. Our team constructed the 54-story tower, and surrounding green spaces in just 28 months. The building's unique superstructure design allowed for the tower to encompass only 25 percent of its two-acre site.

#### The Pearl

Less than a year after topping out, The Pearl, a luxury residential building featuring 5- and 7-story wings, as well as a 14-story tower, has opened to tenants. Located in Silver Spring, MD, the 284-unit facility features a rooftop pool, fitness centers, interior and exterior water features, common areas with televisions and fireplaces, and a dog park.





# **Employees Spread Holiday Cheer** from Coast to Coast

Throughout the holiday season, employees across the country embraced the spirit of giving to make a positive impact on local communities.



On the West Coast, the San Diego State University Engineering and Interdisciplinary Sciences project team worked with the **Community Christian Service** Agency in San Diego to distribute food and gifts to deserving families. Teams at both the Highland Hospital and the New Stanford Hospital projects provided gifts to local children, ensuring they had a holiday to remember.

Numerous project teams throughout the Mid-Atlantic Region, as well as employees in the Bethesda office, brightened the holidays for many children in the area by partnering with local organizations to provide gifts. The St. Matthew's Redevelopment project team lent a hand at the St. Matthew's Lutheran Church's annual Christmas tree giveaway in Washington, DC.







In the Southern Region, employees partnered with two Tampa-based organizations, Metropolitan Ministries and the Children's Home Network, to distribute food and gifts to deserving individuals throughout the community.





### GIVING BACK THROUGH DOLLAR AND DEED

At Clark, giving back to the communities in which we live and work is one of our most cherished values. This past holiday season, we carried on a long-standing tradition of giving back through Clark's annual Holiday Contribution Program. Through the program, the company donates \$100 on behalf of each employee to the nonprofit organization of his or her choice.

Over the past 16 years, Clark has donated more than \$1.8 million to both local and international charities through our Holiday Contribution Program. In 2016, we made donations to 797 unique organizations across 22 states and five countries.



Employees in the Northern Region teamed up with Jonnie's Angels to distribute gift bags filled with gloves, hats, scarves, and more, to homeless individuals in downtown Chicago. North of Chicago, our team at the Naval Station Great Lakes project made holiday care packages for sailors aboard the USS Makin Island.

### Vice President Mark Padien Joins Clark Concrete

Clark is pleased to welcome Vice President Mark Padien to Clark Concrete. Mark brings over 10 years of heavy civil experience to the division.

Mark joined Atkinson Construction in 2006 and has assumed roles of increasing responsibility throughout his tenure. He successfully led construction operations on some of Atkinson's key roadway and mass transit projects in California, including the



I-10 Freeway Widening, West County Connector, Sunset Avenue Grade Separation, and the Bay Area Rapid Transit (BART) Earthquake Safety project, among others. Most recently, Mark provided critical support to Clark Civil on the BART Hayward Maintenance Complex.

Prior to joining the company, Mark served as a Company Commander in the U.S. Army.

Mark's heavy civil construction experience, and background leading self-perform teams, make him a valued addition to the Clark Concrete leadership team. ■

### **BRIAN CUMMINGS NAMED** PROJECT MANAGER OF THE YEAR

At the American Subcontractor's Association of Metro Washington's 53rd Annual Subby Awards Gala, Brian Cummings, Senior Project Manager on the Museum of the Bible project in Washington, DC, was named Project Manager of the Year. Clark Construction also was honored at the event as General Contractor of the Year and Outstanding Design/Build General Contractor.



### VANDERBILT ENGINEERING AND SCIENCES BUILDING WINS AWARDS OF EXCELLENCE



The Vanderbilt University's Engineering and Sciences Building earned multiple honors from Associated General Contractors (AGC) of Middle Tennessee. The state-of-the-art academic and research facility

earned the Award of Excellence for New Construction under \$90 million, while Clark and joint venture partner The Parent Company were awarded General Contractor of the Year for their work on the project. ■

# THE WAY WE WERE

# From freight rail modernization projects to light rail extensions, on the transit industry over the next 90 years.





Earlier this year, Clark launched its Strategic Partnership Program in Seattle. The four-month program, which is offered at no cost to local small business owners, provides comprehensive construction management and business skills training. More than 10 small businesses—and 19 participants-are enrolled in the inaugural Seattle class.

The intensive, MBA-style course includes a curriculum of weekly classes, supplemented by experiential learning. Clark employees and industry experts work with program participants to review the fundamentals of project management, estimating, purchasing, basic accounting and financial reporting, bonding and insurance requirements, and how to read and understand contracts.

The Seattle program will culminate this summer with a capstone project.

### CHICAGO CELEBRATES THIRD SUCCESSFUL STRATEGIC PARTNERSHIP PROGRAM



Our Chicago office recently celebrated the completion of their third Strategic Partnership Program. This year's program

participants included 22 owners and executives from local, small, minority-, woman-, and veteran-owned businesses. This year's program graduates were lauded at a luncheon attended by city officials, Clark leaders, and past program graduates.

In addition to the Chicago program, Clark offers the Strategic Partnership Program in several markets across the country. The next Chicago program launches in fall 2017. 🔳



Clark and its subsidiaries have a long history of strengthening our nation's transit infrastructure to help keep America moving. Our work in the industry dates back 90 years to when Atkinson Construction delivered their first rail project for the New York Central Railroad Company. The \$17 million undertaking was a massive effort that involved modernizing the Hudson River Connecting Railroad, including work on a 1-mile-long bridge 135 feet above water, and 135 miles of track, as well as the construction of a classification yard and 62-steel engine terminal. Today, we are proud to count rail giants CSX, BNSF, and Amtrak, and local transit authorities WMATA, MWAA, Sound Transit, BART, and DART, among others, as clients. With more than \$2 billion in active transit projects, including the Dulles Metrorail Silver Line Phase 2, Virginia Avenue Tunnel Rehabilitation, and East Link Extension, a deep bench of transit professionals, and a rich history of delivering some of the most complex infrastructure projects in the nation, we are poised to have an even greater impact



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