#wellseducates

Education Opportunities

ARCHITECTURAL + STRUCTURAL PRECAST CONCRETE PRESENTATIONS | TOURS

WELLS
PRECAST | INNOVATORS

INTRODUCTION

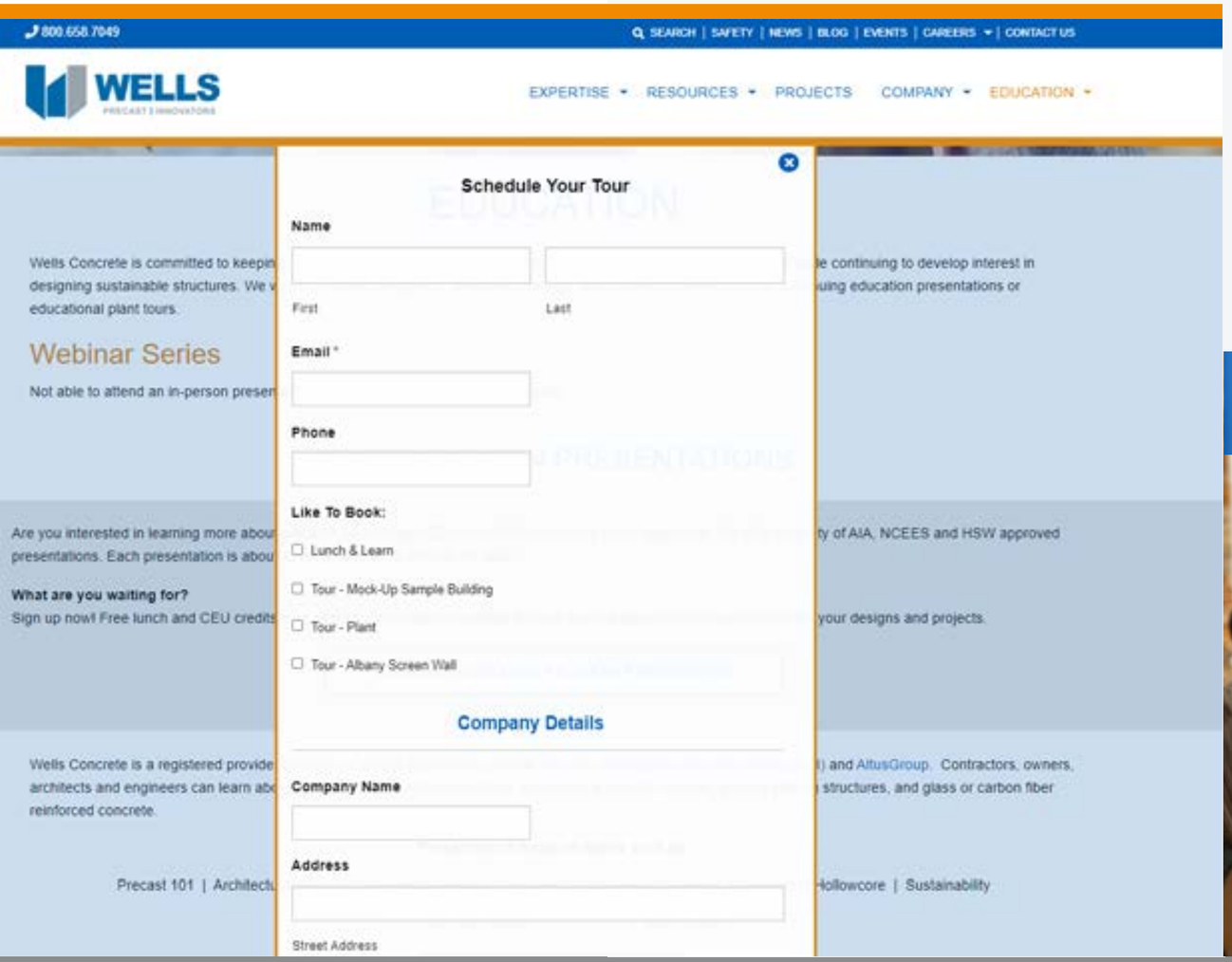
Wells Concrete is committed to keeping the design community up-to-date on new precast technologies and innovations while continuing to develop interest in designing sustainable structures. We offer a variety of AIA, NCEES and HSW approved presentations for clients, designers, association groups, and students. Each presentation is about 45 minutes with 15 minutes for Q&A.

Wells Concrete is a registered provider through our unique relationship with the Precast/Prestressed Concrete Institute (PCI) and AltusGroup. Contractors, owners, architects and engineers can learn about precast concrete wall panels, architectural precast concrete, precast parking structures, and glass or carbon fiber reinforced concrete.

SCHEDULE YOUR TOUR OR PRESENTATION

To schedule your next tour or Lunch & Learn, contact your local sales representative or visit our website at https://www.wellsconcrete.com/education. From here, click on the "Schedule Your Tour" button and submit your form. Note example below.

What are you waiting for? Sign up now! Free lunch and CEU credits = no risk! You won't regret investing an hour learning about how precast can benefit your designs and projects.



LUNCH & LEARN

GENERAL PRECAST

Precast 101

Participants will explore building design solutions using precast and prestressed concrete products. They will learn what precast/prestressed concrete products are, how they are manufactured, including structural theory of prestressing, and quality assurance procedures. They will learn about the industry certification program (PCI) of plants, people and performance. Participants will explore numerous examples of architectural and structural concrete solutions for numerous building markets. They will explore a variety of architectural finishes and how each is created in terms of color, form, and texture. They will explore common structural solutions using prestressed concrete products and explore integrated solutions; realizing the full potential of load-bearing architectural precast units.

Innovation | Emerging Trends in Precast Concrete

New advancements in precast concrete products are completely changing the design and construction worlds. Wells concrete continues to advance its research and develop efforts to create new and enhanced building efficiencies for our clients. During this presentation, participants will learn about some of these emerging trends including 3D printing, lightweight wall panels, preinstalled windows, decorate concrete, screen walls. Imagine the possibilities! Attendees will learn how new technologies are changing the way we build and what we build with precast concrete.

Sustainable Design Using Precast Concrete

This presentation will provide an overview to help participants understand the key to sustainable building lies in long-life, adaptable, and low-energy design. Attendees will learn how the earth's resources are best conserved if the service life of a building is prolonged and how using precast concrete in buildings conserves energy and resources during and after construction because of the following characteristics of precast concrete: (a) The materials used in precast buildings are natural, renewable, and locally available. (b) Water and materials used in precast buildings are often recyclable and recycled. (c) Indoor and outdoor air quality are improved in precast buildings because less (or no) VOC-based preservatives and paints are required, and because of the thermal mass qualities of precast concrete.

ARCHITECTURAL FOCUS

New Strides in Architectural Precast

This presentation discusses new architectural finishes and features Wells is incorporating into projects such as graphic concrete, terracotta, polishing, limestone and more. In addition, a brief overview of the many standard finishes and features available with precast concrete will be discussed and the benefits to combining multiple finishes into single panels, embedded materials, selection of mix designs, approaches to achieving colors, proper specification, and procedures to ensure expectations are aligned.

The clearest advantage of architectural precast is found in the virtually limitless design potential that can be achieved with its use. Participants will learn how architectural precast concrete has quietly revolutionized the construction industry by creating a dramatic range of functionality and creative expression.

Architectural Precast: Aesthetic Versatility of Precast Concrete

The aesthetics of a structure are very important, as it is what most people see first. Precast concrete provides incredible aesthetic versatility, from providing multiple colors and textures to developing shapes, forms, and very ornate details. Precast can also simulate - or be veneered with - natural materials, providing all of their beauty, but with the added speed, durability, and many other benefits of precast.

This presentation will provide an overview of the many finishes available with precast concrete, along with methodologies for achieving them. We will also discuss combining multiple finishes into single panels, veneers and embedded materials, selection of mix designs, approaches to achieving colors, proper specification, and procedures to ensure expectations are aligned.

WEBINARS

Designing with Graphic Concrete Architectural Precast

Whatever your mind imagines, you can place on precast concrete and create a stunning, iconic facade. This presentation will demonstrate how Graphic Concrete technology allows you to impart durable patterns and images onto precast surfaces such as facades, walls, spandrels, and sound walls. It opens up a bold new range of aesthetic possibilities for architects, developers, and precasters. Participants will review the technology platform and manufacturing process for graphically imaged precast concrete using retardant transfer membranes and discuss health, safety, environ-mental, and sustainability considerations for graphically imaged concrete.

ENGINEERING FOCUS

Engineers and Prestressed Concrete

This presentation will provide an overview of precast/prestressed concrete, discussing some of the key benefits of precast/prestressed concrete, and focuses on key attributes such as connections, details, and relationships with the engineer of record. We will also look at the idea of resiliency and close with a discussion of precast concrete applications along with architectural and structural precast solutions for common design challenges.

PRODUCT FOCUS

Designing Total Precast Office Buildings WEBINAR | Listen On Demand

Total precast systems can be used on many types of commercial applications beyond parking garages, including but not limited to office buildings. This presentation will address what a total precast concrete structure is, how a total precast structure can benefit a project, and what components are used to construct a total precast structure. Participants will learn about precast applications and uses and gain insight on technical considerations.

Simplify the Building Envelope with Infinite Facade WEBINAR

A discussion on simplifying building envelope design with the Infinite Facade, a single source building envelope solution. We will explore how a single source solution envelope reduces risk for both design teams and owners as well as understand the Target Value Design process – meeting the project's vision to the budget. Strategies to consider for prefabricated envelope systems and design options and considerations will also be addressed. The building envelope is the most difficult part of the building to design; reasonably so, as design teams are expected to meet client and aesthetic expectations while meeting performance standards and regulations.

Precast Wall Panels | Enclosure Systems

This presentation will address how to use precast concrete wall systems to meet the latest code requirements such as continuous insulation and air barriers, and include topics such as moisture management, thermal mass effect and how to calculate effective R-values, integration with other building systems, and more. This session will also touch on the idea of resilience. A structure must be able to resist environmental forces, such as high winds and earthquakes in order to protect life and fulfill its intended purpose. Case studies will be used to highlight information presented.

Trusses Building Innovatively with Precast

In this case study, attendees will learn about a unique patented design that provides the answer to the age-old problem of designing mixed-use buildings. Long span trusses allow for parking, retail and living to be combined in one building with easy transitions from each. These spans provide complete flexibility in exterior cladding. Many possibilities in architectural precast cladding as well as full height glass exteriors are made possible with this system. They also provide open area in tight floor-to-floor heights and as a fire-resistant product, the system is ideal for mixed-use and hospitality.

Designing Industrial Structures with Precast/Prestressed Concrete

This presentation will address how precast concrete systems allow an industrial structure to meet the demands of heavy use and dynamic production advancement. Additionally, the program will explore the use of precast concrete components for specific industrial, retail, and manufacturing applications that take advantage of precast concrete's fire resistance and long roof span capabilities. Participants also discover benefits to the designer and owner in terms of increased durability, flexibility of design, high quality of manufactured products, versatility, high performance, durable materials, and speed of construction because precast components can be erected quickly once they arrive at the site.

Lightweight Wall Panels & New Testing Results

New advancements in precast concrete products are completely changing the design and construction worlds. Wells concrete continues to advance its research and develop efforts to create new and enhanced building efficiencies for our clients. During this presentation, participants will learn about the benefits of lightweight precast cladding panels vs other typical enclosure systems. Review of panel production and installation will illustrate improvements in exterior enclosure quality and durability. Discussion of modular construction methods will illustrate the schedule and cost benefits of prefabrication and how it helps ease the labor shortage pressure on job-sites. An update will be provided on the ongoing testing of these enclosure systems.

Total Precast

This presentation will address what a total precast concrete structure is, how a total precast structure can benefit a project, and what components are used to construct a total precast structure. Participants will also learn how to manage a successful project.

Thermal Mass, Energy Codes, and Precast Concrete WEBINAR

This presentation reviews thermal testing options for materials and assemblies, including a review of thermal test results and how they apply to current energy codes. Participants will learn about the benefits of thermal mass (thermal inertia) and how these benefits are recognized in national energy codes. This presentation will provide an overview of compliance paths of these energy codes. Additionally, the degradation of the R-value of concrete panels with metal thermal bridges that pass through the insulation will be explained.

Sealants 101 WEBINAR

Sealant solutions provides simple precautionary measures to ensure that buildings are sealed and long lasting. This presentation will explain the importance of sealing nearly any horizontal or vertical surface including parking lots, driveways, commercial floors, precast joints, CMU joints, and dissimilar material joints. The presentation will explain how successful joint sealing requires meticulous design, precise sealant selection for your specific application, and painstaking application.

CONTINUING EDUCATION

MARKET FOCUS

Precast for Schools and FEMA, Storm Shelters WEBINAR

Educational Facilities are a vital part of the fabric of our society that directly contributes to what our future will be. Participants will learn how to design and build high performance schools, which provide energy efficiency, safety and resiliency, as well as reduce life cycle costs. This discussion includes information on FEMA – 361 and ICC-500 guidelines while exploring available alternative design options for Hardened Construction volumes within a school building. The attributes of precast concrete will be presented, demonstrating how these qualities are inherent to the design and construction of safe and efficient storm shelter facilities.

Designing Parking Structures and Maintenance Schedules Webinar

Parking structures have changed a lot over the past decade. Today's parking structures must be sustainable, reduce operational and maintenance costs, and have more stringent aesthetic requirements. This presentation will explain what a high-performance parking structure is, as well as how working with your precaster to develop maintenance plans will significantly increase the life span of the structure along with mitigating large expenditures for repairs throughout the life of the structure.

Building Athletic Facilities

Health awareness and athletic competition have become increasingly more important throughout the past years. We see expansions of professional sports teams, new extreme sports being introduced, old facilities being rebuilt, and a growing demand for new facilities. For example, the athletic facility market is expected to grow by 15% or more over next couple of years. Furthermore, these structures have increasing requirements to design and build for high performance and provide flexibility, functionality, and durability. This presentation will provide an overview of today's high-performance athletic facility design using precast concrete systems, as well as include recommendations to optimize designs. Topics discussed will be highlighted with case studies.

Designing Municipal/Civil Structures with Precast

Municipal buildings are often community showpieces. Precast concrete allows them to stand the test of time. Precast lets architects and engineers integrate structural and architectural elements, which reduces materials, time and costs. Precast concrete is a very durable, low-maintenance building material designed to last 100 years.

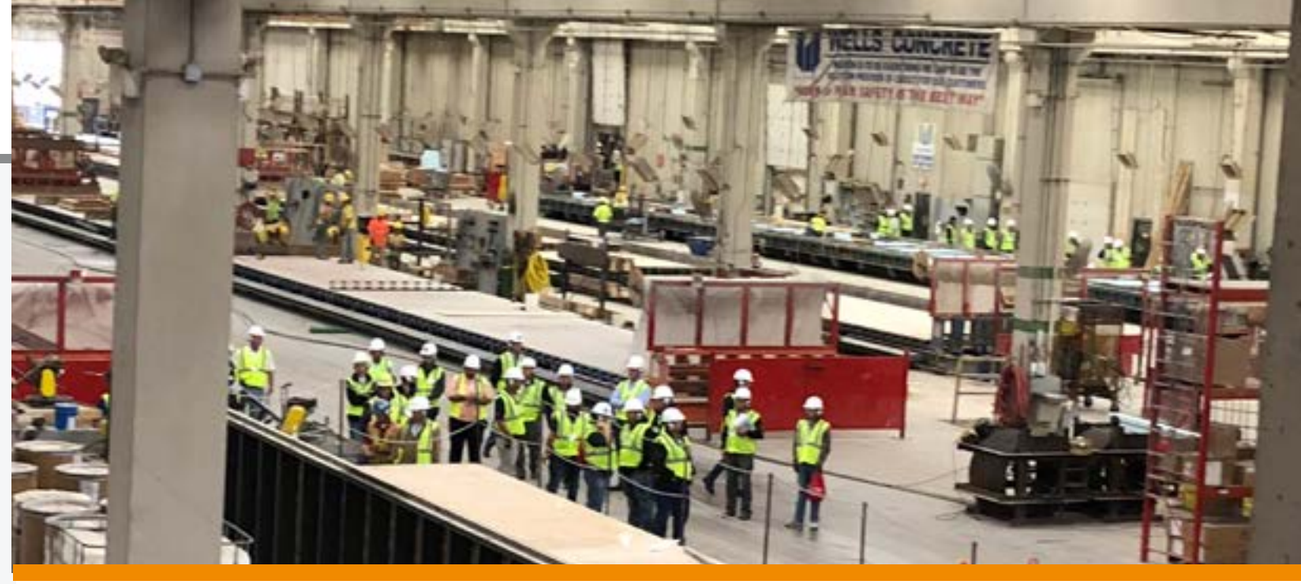
The presentation guides the audience through the various benefits of using precast for municipal and civil buildings, discussing its strength, resiliency, and low life-cycle costs. The advantages and long-term benefits for Community Centers, Fire Stations, Government & Public, Justice & Correctional, Maintenance Facilities, Religious Facilities, and Water & Wastewater Treatment Plants will be covered.

TOURS

Mock-up Sample Building Tours

Wells constructed three Mock-up Sample Buildings to display various finishes and features capabilities, and attendees will participate in a guided tour. The 30'x10' buildings are located at the Rosemount, MN and Albany, MN facilities.

The displays are fully enclosed and comprised of eight different wall panels illustrating unique architectural finishes. Structural details include detailing for three common roofing systems: double tee roof members, bar joist roofing systems, and hollowcore roofing systems. Another exciting feature on display is the newly introduced preinstalled Integrity Windows by Marvin.



Plant Tour for Precast/Prestressed Concrete

Attendees will observe firsthand how designs and engineering details are executed in the precast manufacturing process. They will also observe the entire precast and prestressed manufacturing process from engineering and connections, forms set-up, casting, and finishing. Attendees will gain a better understanding of precast and prestressed capabilities and related quality issues. Attendees will learn how precast fits within the entire building system and how to design with precast concrete accurately and safely.

Screen Wall

Visit an "L" shaped Screen Wall displayed next to our Mock-up Sample Building in Albany, MN. The Screen Wall has 40' and 50' wings with 14' tall panels. In addition, it showcases some of the newer finishes and features, including:

- Four panels boast graphic paper finishes from Graphic Concrete
  - Two panels incorporate supplied patterns: Caleidoscope, Crumple, Vertices, and Vertices Negative
  - One panel utilizes a photo that Graphic Concrete turned into a printable image
  - One panel has Wells' own custom design printed on it
- Three panels show off a new simulated natural stone, including limestone and travertine
- One panel demonstrates cast-on Terracotta
- Two panels showcase our new lightweight wall panel options – SlenderWall and Infinite Facade; both include a factory-installed window by Empirehouse. The windows have anodized aluminum frames, typically used for low rise building capacity and are 8'x6' on a panel that will be rotated after the windows are installed.

STUDENT INVOLVEMENT

Wells cultivates innovative partnerships with education organizations to build relationships and awareness within the precast industry. Through these programs and strategic partnerships, we help students and instructors with the tools and resources they need in order to take advantage of the many opportunities in the precast industry.

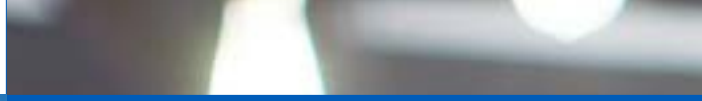
Teaching future engineers, architects, and construction management students about designing with precast concrete is a priority for Wells Concrete. We continue to research collaborative education opportunities that allow us to develop architectural and structural engineering programs with leading education institutes.

Wells regularly provides continuing education presentations to schools, colleges, and universities construction management, architectural, and engineering programs.

Wells Engineer Development Program (EDP)

In addition, we are extremely proud of our exclusive four-year, program-driven civil and structural engineering graduates looking to obtain the practical, written, and communication skills needed for a successful career in engineering. During the program, participants will be able to prepare for their Professional Engineering (PE) exam, and to ultimately obtain a PE license. Wells EDP participants work directly with Wells PEs to gain valuable, hands-on experience in field services, quality control, and engineering design.

At the end of the four-year Wells EDP, participants will be prepared to take the PE exam and obtain their PE license. One of the highlights of the Wells EDP is the hands-on experience gained in vastly different areas of the precast concrete business. Wells EDP participants complete the program with the knowledge, skills, and experience they need to excel in a wide range of engineering positions, but we're happy to report most choose to continue their careers as Wells.



Wells Concrete is a team of innovative precast solutions providers. We work with clients from design to installation and are interested in working with you to determine if precast is the right solution for your construction project.

If you are considering precast, please contact one of our industry experts today. We can work with you early on in your project to help you define:

- Aesthetic design options that satisfy both structural and architectural project goals
- Lifecycle and maintenance needs
- Site utilization, traffic flow, drainage and electrical considerations
- Cost analysis, budgeting and preliminary design

PCI Certified
in plant operations
and field installation

Learn more at **WELLSCONCRETE.COM**

WELLS
PRECAST | INNOVATORS

ALBANY, MN | BRIGHTON, CO | DES MOINES, IA | FARGO, ND | GRAND FORKS, ND | MAPLE GROVE, MN | ROSEMOUNT, MN | WELLS, MN | WINNIPEG, MB