APA
ARCHITECTURAL PRECAST ASSOCIATION

FOURTH QUARTER 2023

ARCHITECTURAL precaster

IN THIS ISSUE

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DEPARTMENTS

PRESIDENT'S MESSAGE

Nick Carosi IV, Arban, Carosi and Diana, Inc.

As we wind down the year, I cannot help but think about how great it is to be back to "normal." It was terrific seeing the tremendous turnout at both the Spring Workshop in Opelika and the Annual Convention in Delray Beach. The connections and relationships we make through the APA, which help us grow and become better producers, are at the heart of what makes the APA such a valuable organization. Whether we are learning from fellow producers or associates, continued learning and growth is a cornerstone of our success individually and collectively.

In addition to in-person education, this year the APA has been working to build our online training and educational opportunities. I encourage all members to check out our YouTube channel as well as the lunch and learn webinars that we will be scheduling for 2024.

Mark your calendar for the great Spring Workshop on UHPC planned for April 5-6 in Tacoma, WA which every precaster should be interested in as this product has long-term potential to transform the industry. Also, planning is underway for the 2024 convention which will be held in Park City, Utah October 25-28. The event will be filled with learning opportunities, networking, and fun!

It has been a great honor to serve as your President over the past two years. I wish the best for Jesse as he takes the helm in January and hope his experience is a wonderful as mine has been.

Wishing you a merry holiday season and a happy, healthy 2024.

Nick

TOM CORY SCHOLARSHIP WINNER

The Architectural Precast Association would like to congratulate Emma Grace Connelly on receiving the 2023 Tom Cory Scholarship. This scholarship is awarded to students who display outstanding academic achievement in the pursuit of a degree in a field related to architectural precast.

Emma Grace is a Junior at Clemson University where she is studying Architecture with a minor in English. She currently holds a 3.9 GPA and is active on the American Institute of Architecture Students where she has served as Membership Chair, and most recently, President. Additionally, Emma Grace is gaining experience in the field of architecture by participating in a summer internship with Clemson University's Planning and Development office.

Emma Grace has also been recognized for her outstanding academic achievements. Her honors include multiple semesters on the Clemson University President's and Dean's List, Phi Kappa Phi Honor Society Member, and a Palmetto Fellows recipient.

Congratulations Emma Grace Connelly!

An In-Depth Look at an APA Award Winning Project

ATLANTA BOTANICAL GARDENS
LUCAS CONCRETE PRODUCTS
APA 2023 CRAFTSMANSHIP & DESIGN AND MANUFACTURING AWARD WINNER
Spurlock Landscape Architects (Architect)
Genoa Construction Services (General Contractor)

Overview
This project in the Atlanta Botanical Gardens produced by Lucas Concrete Products is a flume designed to provide feedwater to a cascade of ponds and waterfalls. The project objective was to replace an original water supply that ran through a riprap styled stone "gutter" that had existed since the 19th century.

Design
The project was originally conceptualized as cast in place. The client reached out to see if Lucas Concrete Products (LCP) could perform this service and based upon LCP's experience, allowed them to effectively redesign the channel as a precast structure. Precast was the natural solution as it only required the contractor to locate helical pier footings to receive the columns and eventual flume sections as beams, which could be set with a crane from a centralized location. The key factor in opting to redesign the project for precast was based upon precast's reductions in the impact of the heavy equipment, assets, and people on the site.

LCP needed to design a structure and connection detail that balanced the ruggedness required for such a large member, that provided a tolerance for setting, and slip connection for performance to prevent cracking. The project consisted of 12 flume sections and 12 columns. The entirety of the product was produced from two forms. Each flume section was cast at varying lengths and oriented in such a way to allow it to give the impression of multiple radii.

Manufacturing Excellence:
The LCP team worked hard and creatively to produce this job. There is a hidden slip connection where one end of the flume is fixed and the other just shares the load. The drawings and pictures show the enormous

amount of steel in the columns that allow the product to take tremendous loads. The maximum flume section was roughly 16 feet and cantilevered five feet straight section into the pond. They mounted a stainless-steel diffusion plate that was grounded in the front column.

In addition, the precast needed to flow seamlessly with the topography and have a smooth transition throughout the campus with minimal impact to the environment. At the same time the columns needed to be as "light" as possible, so it didn't look heavy or cumbersome. One complex feature was that the material needed to match

continued on next page

not only vertically but horizontally as it dropped in the terrain. In addition to matching radian, there is a fall of approximately 1/4" - 3/8" in each joint.

Samples of stone were provided to the LCP team which they used to make a color sample that received an acid and sacked finish. The interior was left rough to receive stone veneer and water proofing and the joints are a color matched caulk.

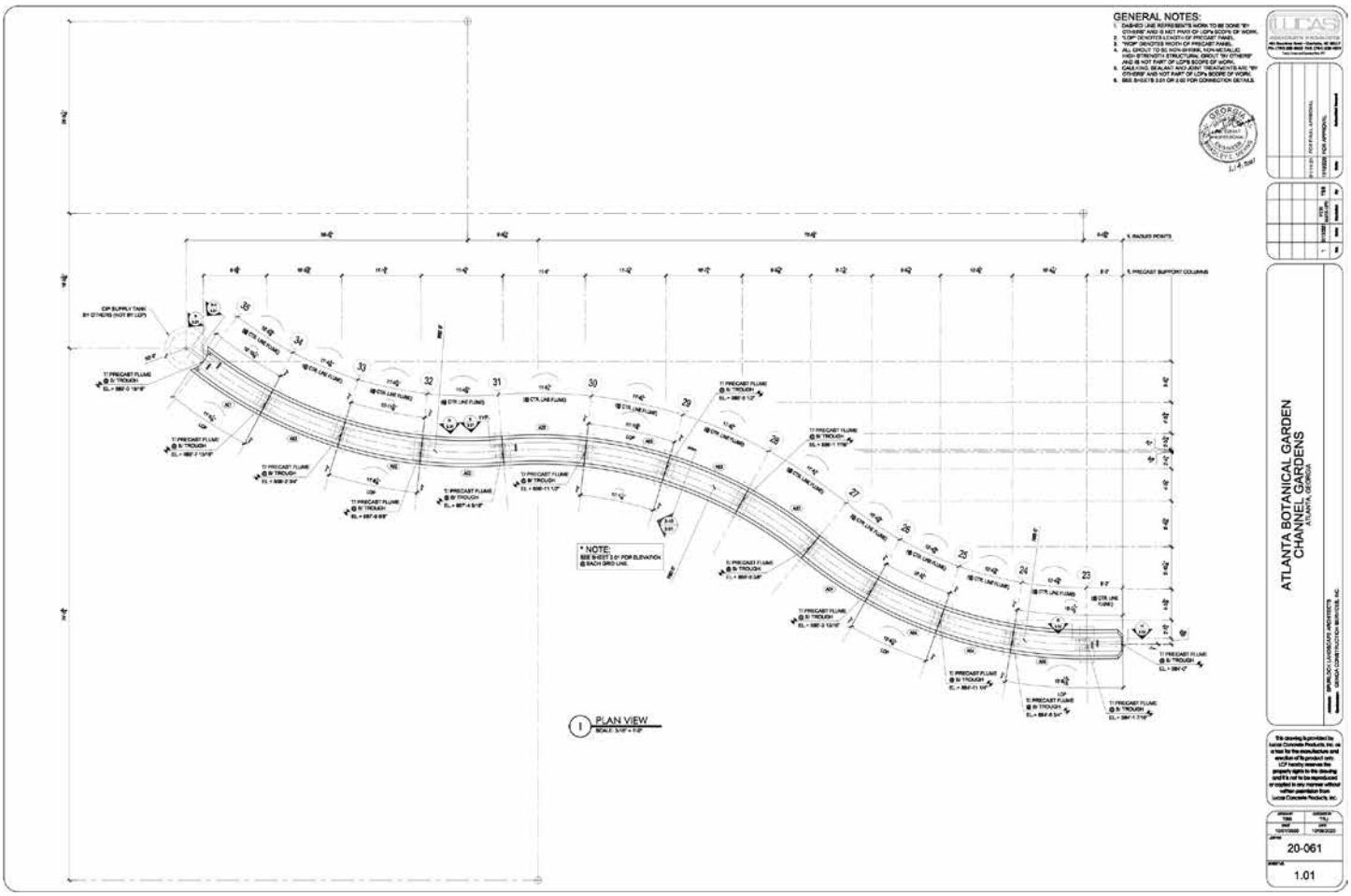
Coordination and communication were paramount to the success of this project. Beginning at the top of the feed location, each column was set before the flume section was fixed at one end while the other end had a slip connection. A full-scale template was provided for the client to ensure each column was located and installed within the appropriate tolerances. A site survey was vital to the layout process and was exceedingly helpful in the success of installation. "Our team did a fantastic job creatively addressing all the challenges presented by this project. Each difficulty meant we had another opportunity solve problems and present solutions. The result speaks for itself" said Rod Johnson, President of Lucas Concrete Products.

Compatibility with Natural Surroundings

Botanical gardens, by their nature, are organic. The flume was designed to provide feedwater to a cascade of ponds and waterfalls. The garden committee wanted to preserve its historical contribution. The columns and sections were designed to transition from the water supply to the lower pool without disrupting this original gulley riverbed. The product complements the park as there are other concrete structures, stone, and wooden structures spread throughout the gardens. The product has a gradual flow that emulates the natural flow of a stream or brook. The color of the product matches both the tree bark of the large oaks, patina of wooden structures, and stone that is within the area. The columns are remarkably elegant juxtaposed to the mass it supports while yielding its inspiration from low growing foliage like Hostas (plantain lilies).

Challenges

The topography was the most challenging facet of the project. The columns needed to be located at random heights while maintaining a constant fall for the water. LCP designed a structure and connection detail that balanced the ruggedness required for such a large



member, that provided a tolerance for setting, and slip connection for performance to prevent cracking.

Awards

Two different juries deemed this project worthy of APA awards winning both a 2023 Craftsmanship and 2023 Design and Manufacturing Award. "We are honored to be recognized by the Architectural Precast Association with these prestigious awards. Our organization has the finest manufacturers in the industry and competition for these coveted awards is stiff. We all endeavor to be stewards of this trade by displaying all the benefits precast can offer. It gives me great pride in our team that their hard work has been acknowledged by the organization, not only as problem solvers but as craftsmen" said Johnson.

The Design and Manufacturing jury commented, "the organically correct design and execution and looks like part of the landscape and it somehow looks like the fountain pathway has been there forever." The project was also deemed worthy of a Craftsmanship Award. The jury commented on the intricate form work and opined, "The challenge of getting the curve, slope, and flow right on this project made it very impressive -- they got it right."

BY THE NUMBERS:

Concrete produced: 20 Yards
Pieces produced: 24 (12 flume sections and 12 columns)
Square feet: 900 sf
Production time: 8 weeks for design review and submittals and 1 month of production

APA
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2024 UHPC WORKSHOP

APRIL 4-6, 2024
TACOMA, WASHINGTON

Ultra-High Performance Concrete's (UHPC) remarkable compressive and flexural strengths, versatility in creating most any shape, light weight nature and superior resistance to freezing and thawing make it a product all producers should know more about.

WHAT YOU'LL LEARN

Discover the secrets of UHPC production at Northwest Precast's new state-of-the-art, 80,000 sq. ft. facility. The NW Precast team has been crafting high-quality UHPC products since 2020 – from eye catching signage to durable wall panels and deck planks. The NW team and other UHPC experts will share best practices and valuable insights on all facets of UHPC production.

TOPICS COVERED

- Mix design characteristics
- Form design/set-up
- Mixing methods
- Placement techniques
- Curing
- Handling
- Storage, shipping and more

Becoming An Employer of Choice: People Who Work There, Want to Keep Working There

By Mack Story

To ensure our cultural vision remains aligned at this critical stage, let me clarify. Becoming an employer of choice means: The people who are currently working in your organization have a very strong desire to continue working there because they're excited about their future within the organization, there are frequent growth and development opportunities, they are consistently challenged to get better in positive ways, they feel valued by their leaders and their team, they have meaningful relationships with their co-workers, they feel good while on the job, and equally as important, they feel good about themselves and their leaders at the end of each day.

As I mentioned, the cultural transformation mountain is tall, steep, and challenging at times. If you're serious about developing a high impact culture, you may likely feel challenged. If you don't feel challenged by my last paragraph, you're either already there and trying to get better, or you have no real intentions of going there.

"At Chick-fil-A®, leaders SERVE, which means they do five things: See and shape the future; Engage and develop others; Reinvent continuously; Value results and relationships; Embody the company values."

~ Dee Ann Turner, Chick-fil-A® VP Talent (Ret.)

I assume you're reading this because you already know you want to climb the mountain, or you're curious about climbing the mountain. Either way, don't let the challenge you may be feeling at this moment overwhelm

you. You won't have to learn to climb alone. I'm here with you, and my mission is to help others climb.

My intention in the first six chapters is to help you understand why you should consider climbing the cultural transformation mountain. The remaining 24 chapters are intended to help you understand what you must do in order to climb the mountain. Not only will I describe what must be done, I'll also provide resources to aid you and your team as you begin your climb and offer a few key examples of how to climb.

Keep reading, thinking, reflecting, and making notes as you continue. Consider this book a guide, a road map, as I take you on a mental climb up the mountain before you strap your boots on and do it within your organization.

This book is intended to be a tool for high impact leaders who want to build a high performance team capable of creating a high impact culture. Jim Blanchard made a great point when he said, "When current or would-be leaders realize you are investing in their growth, it's more important to them than money."

To become highly effective at competing with those who want to steal your people, you must become an employer of choice. Otherwise, you'll find yourself on the losing end of the labor war, especially relative to attracting great people. The result: endless frustration.

Read the opening paragraph of this chapter again. Imagine the type of word of mouth advertisement someone with those feelings working at an employer of choice will provide. It will be off the charts. That type of word of mouth advertisement will cause any organization to become a sought after employer.

But, you can't buy that kind of advertisement. You must earn it. Here's an example of the impact.

Chick-fil-A® was our client for three years straight and is a great example of a sought after employer of choice. They've been climbing the mountain for over 50 years. They understand they don't have to be sick to get better and are striving relentlessly to improve.

"It can be far more difficult to overcome success than adversity...There's a tendency for many in successful companies to rest on their laurels and become complacent, self-protective, and less innovative. In such bureaucratic cultures, employees can survive only by running with the herd. Decline sets in."

~ Charles G. Koch, CEO Koch Industries

I remember one store owner in a town of 30,000 saying to me, "When I have an entry-level job opening, I typically have 250 applicants." Wow! Without a doubt, there are always great people applying. That's what it means to be a sought after employer of choice.

To become a sought after blue-collar employer of choice, you must become innovative. Culture is all about the people, not your products and services. So, when I say innovative, I mean innovative relative to the growth and development of all people at all levels.

Why is growth and development of people innovative? It's not in the white-collar world, because they've been doing it for decades. But, it is in the blue-collar world because very few blue-collar leaders value doing it, even if they're considered successful within their industry.

Ria and I had the privilege of speaking at Yale University's School of Management on "Blue-Collar Leadership: Innovation in Talent Development." You can watch the entire one hour video of our session on our home page at BlueCollarLeadership.com

This article is an excerpt from the upcoming book by Mack Story, Blue-Collar Leadership & Culture: The 5 Components for Building High Performance Teams. More information on Mack and the book can be found here: https://bluecollarleaders.com/culture/.






ATTENDEE NETWORKING








AWARDS & RECOGNITION

EDUCATIONAL SESSIONS

PLANT TOUR & FANTASTIC LOCATION

Welcome back, in this addition of the *APA Precaster* we will look at using polyurethane and silicone rubbers that can be poured, brushed, or sprayed to make molds to cast duplicate panels or flexible parts for repair work. Polyurethane mold making rubbers are economical, versatile, and capture excellent detail.

Using Polyurethane and Silicone Rubber to Make Molds for Casting

By Kiley Marcoe, Metro Precast & Stone Services, Inc.

There are several manufacturers that specialize in polymers for mold making, casting, and coating applications. Their customer service will assist in assuring you purchase the correct products for the application.

Using polyurethane and silicone rubbers to make molds to cast duplicate panels

This can be performed vertically on-site with the original panels still installed or horizontally at the shop. For vertical applications, a sprayable or brush applied rubber is used and a hard shell is created in lieu of forms used for pourable rubbers.

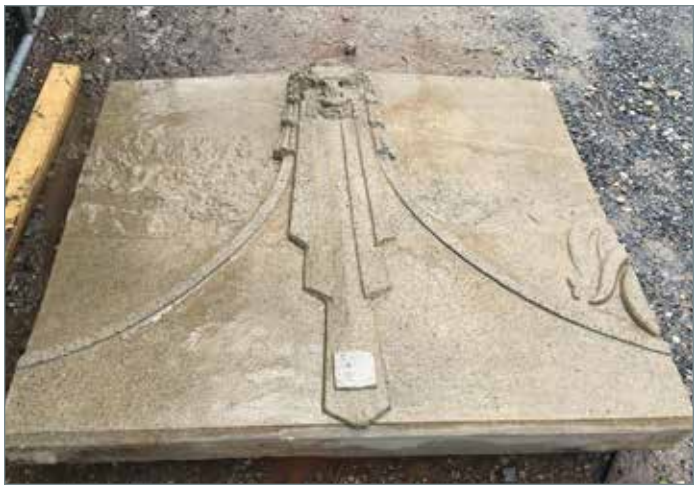
Step 1 – The "model" panel(s) must be thoroughly cleaned and repaired. Failure to repair damaged areas and all air-voids will transfer all defects to the future casts and make it difficult to strip the rubber mold from the model panel.

Step 2 – Create the form work and apply the release agent. We used the optional colored water-soluble release agent, using the clear release agent makes it difficult to see where the liquid has already been applied on the model panel.

Step 3 – Mix and pour the rubber.

Step 4 – Remove the form work and strip the rubber molds.

Step 5 – Clean the release agent from the model panels to be ready for reinstalltion on the project.



Using polyurethane and silicone rubbers to make molds to cast on-site repairs

This is performed on-site with the original model installed. For these vertical applications a sprayable or brush applied rubber is used and a hard shell is created.

Step 1 - Inventory the damaged areas to determine how many rubber molds are required from intact areas. On the below project we required left and right ear molds, left and right horn molds, and a snout mold.

Step 2 – Apply the release agent and brush apply the paintable rubber to intact areas of the model unit. Apply 3 to 4 layers until a mold thickness of at least 1/4 is reached. Allow each layer to gel before applying the next layer.

Step 3 – Create a two-part mold shell using a polyurethane plastic/liquid plastic. Brush apply the liquid plastic. We used a thin waffle board to create the seam between the left and right halves, be sure to create a raised flange on the waffle board to be able to create future bolt holes. We also incorporated a plastic conduit to create a pour hole for the repair material.

Step 4 – After removing the hard shell and rubber mold, drill a series of bolt holes to tightly secure the mold system to the areas of repair. Pour the repair material into the pour hole. Tap the hard shell to consoladate the repair material and remove any air holes. After 12-24 hours remove the mold system and perform any minor touch-up to the repair area.

If you would like a full list of basic tools, specialty tools, and products along with where to purchase just email me at kiley@metroprecast.com

Until next time,
Kiley Marcoe
Metro Precast & Stone Services, Inc. Metroprecast.com

APA MEMBER BENEFIT:

HR & EMPLOYMENT HOTLINE

As valued association members of the **Architectural Precast Association**, you have unlimited access to a complimentary HR & Employment HOTLINE through our partnership with **Seay Management Consultants**. This HR & Employment HOTLINE is available to you at NO COST and will provide answers to your human resources, personnel management and employment related questions.

Hundreds of employee questions arise in day to day business and almost every one of them can be different – questions about COBRA, FMLA, EEOC, ADA, and so many others. Sometimes a simple question can turn into a complicated or costly concern if it's not handled properly.

When you have a question and need an accurate, straight forward answer, simply contact Seay Management Consultants and identify yourself as an APA member.

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2024 SAVE THE DATE!

OCTOBER 25–28, 2024

2024 APA ANNUAL CONVENTION

Grand Summit Hotel – Park City, Utah

The APA knows that having the right tools is essential to your success.

APA members are NOW ELIGIBLE for substantial discounts on office supplies through Office Depot's ODP business to business platform. You can receive up to 75% off ODP's "Best Value List" items and the average savings for participants is 24%.

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For more details, go to: https://bit.ly/APA-ODP

On March 1, 2024 most APA plants will have at least one employee with an APA certification (QC I, QC II or Batch Plant Operator) who will have to submit verification of their 12 hours of Continuing Education (CE) requirement.

A list of qualifying CE options and the CE Log Form are on the APA website and can be found at: www.archprecast.org/personnel-certification

If you have questions, please call 850.205.5637 or e-mail to bkirkland@executiveoffice.org

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