

CASE STUDY

Hilltop Companies Instrumental in Restoring Union Terminal Plaza

Hilltop's unique mixes and Ready Mixed Concrete enabled historic fountain and plaza to return to 1930's glory

CHALLENGE: The Cincinnati Union Terminal restoration project was a multi-faceted, multi-phased project that brought the iconic building back to its 1930's condition. Prus Construction led the project to restore the main plaza and fountain to the historical façade and fabric. The project was complex from the start, as the look, colors, texture and shape had to match the original Art Deco style, but with new, more durable products. The structure includes a unique, intricate, seven-layer fountain with variable heights and hardscape on a roof. The teams worked through seasonal complications and other restrictions, as the Children's Museum remained open during construction. "Prus managed a very complex and demanding project with professionalism and attention to detail," said Bud Ruffing, Sales Representative for Hilltop Companies.

SOLUTION: Prus knew from the beginning that Union Terminal was a one-of-a-kind project that needed a Ready Mixed Concrete supplier that provided not just consistent, high-quality product, but the knowledge necessary to develop new mixes. Prus chose Hilltop Companies to provide the Ready Mixed Concrete for this complex project.

In total, Hilltop delivered over 4,000 cubic yards (1,560 tons) of Ready Mixed Concrete for the Union Terminal project, with almost 3,000 cubic yards going to the fountain and plaza.

Hilltop created more than twenty mixes for the job, five times more than an average project. Many of the mixes had not been used in the market. As an example, Hilltop included special sized aggregates to reach specific fluidity.

Hilltop developed 5 different mix designs for the fountain that gave each the same consistency but with variable cure times, as there were many weather changes throughout the project.



Situation at a Glance

- Union Terminal is an iconic, historic structure in Cincinnati that recently underwent a massive restoration.
- Prus Construction was selected as a top contractor and partnered with Hilltop Companies for their quality product, service and ability to deliver complex mix designs.
- Hilltop Companies provided over 4,000 cubic yards of Ready-Mixed concrete broken out in 20+ different mixes.
- Union Terminal plaza and fountain were restored to their original Art Deco style.
- Hilltop and Prus won an Ohio Concrete award for the project.

Want to learn more about Hilltop capabilities? Contact us today!

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APPROACH: Prus brought Hilltop into the project early with the architectural firm (GBBN), the owner and Turner Construction. Hilltop engineers worked hand in hand with Prus throughout the project.

The team used photographs to determine the shape and joining patterns. They found a few original pieces of concrete on the back of Union Terminal that they used for color matching purposes.

Prus and the team worked for many months on the design to form, place and finish it. They used Prus' concrete lab and created test samples to ensure they matched the original color and finish. The mix design experimentation also included sealant, which sometimes changes the color of the concrete. It took several iterations of trial batches and mixes to get the 1930's Art Deco design with modern products that would last longer. The team created small batches and then full-sized mockups before starting full production.

Jared McFaddin, Project Executive from Prus Construction stated, "We overcame many things. I don't think anyone else in Cincinnati would have been able to get over those difficulties. Hilltop is the only one who can handle the number of mixes, types of chemicals, admixtures, scheduling, weather, and the color components."

RESULTS: The plaza and fountain were restored to the fabric and façade of the original 1930's Art Deco style. It was completed on time and within budget. The complexity of the concrete and the project was also recognized, as Prus and Hilltop won the "Project of the Year Award" from Ohio Concrete in November 2018.

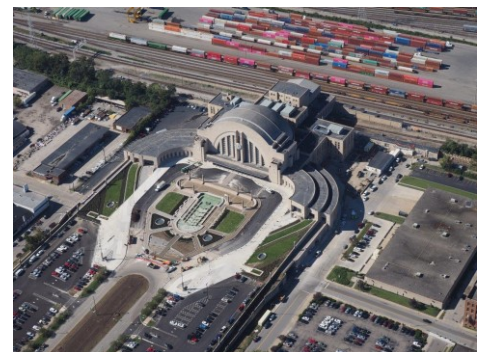
Union Terminal reopened in November 2018 to great fanfare. The fountain and plaza were a part of the 'grand reveal,' just as when it opened over 80 years ago. The iconic building is now equipped for a long future ahead.



Union Terminal – circa 1933



Restored Plaza and Fountain



Union Terminal - Restored

