Project Title: Two Wells Fargo Veranda Waterproofing

Location: Two Wells Fargo Center

Address: 301 South Tryon Street, Charlotte, NC 28202

Entry Classification: Waterproofing

Project Cost (US $): $930,977.00

Duration (calendar days): 158

Start Date: 10/25/13

Completion Date: 03/31/14

Work Scope: Stone Restoration of America (SRA) was awarded the Two Wells Fargo Veranda Waterproofing project in downtown Charlotte, NC in late 2013. The designated scope of work consisted of de-cladding and waterproofing 25,000 square feet of existing plaza, planters, and abandoned water features over an occupied real estate space. The project was completed between October 2013 and March 2014. SRA was responsible for removing all of the original granite cladding and four different types of existing waterproofing, as well as numerous old fountain elements, and an old skylight system above an entry. Removal of the old fountain system included liners, waterproofing, jets, and plumbing. Additionally, SRA performed extensive concrete repairs, installed new waterproofing, drains, and a solid skylight system, and re-installed and caulked the original stones. Approximately 5,000 pieces of granite were removed intact, categorized, and stored off-site due to limited storage areas at the job site. Once all waterproofing was completed, 85% of the original stone was re-installed throughout the property with the remainder of the stone replaced with new. The new waterproofing system was comprised of 215 mil hot rubberized asphalt membrane. All renovated surfaces were tested via high voltage vector map testing. The project was completed in 6 separate sections to maintain egress to the building. The building remained in use during the entire duration of the project in busy downtown Charlotte.

Abstract (what makes the project worthy):

The Two Wells Fargo Veranda Waterproofing project was a major undertaking due to the unique constraints of the job site, the extensive scope of existing waterproofing removal, various structural concrete repairs, and re-installation of the finishes that were required for this project. Our crew overcame many challenges, including a lack of original drawings and prior inconclusive destructive testing which lead to many design issues, as well as navigating endless changes in plane, small confined spaces, and overhead conditions. SRA completed the project on time with no leaks during or after completion. 100% of the scope was performed in-house with approximately 20 men.

Unforeseen Conditions:

Once the project was underway, SRA found that a good deal of the existing concrete had deteriorated, leading to much more extensive concrete repairs than were originally anticipated. Additional variations from the plans were found throughout the project due to a lack of original drawings and prior inconclusive destructive testing. A portion of the project was located over a subterranean tunnel and the main building electrical vault. Those spaces, along with the retail areas underneath, had to be protected and kept water tight for the duration of the project as they were kept in operation.

Problems/Challenges/Solutions:

Because the property had to remain open to the public at all times, the scope was completed in a very restricted and confined work space. Often our crew found themselves working in and around endless plane changes, small spaces, and overhead conditions. Extra precautions were taken to ensure that the retail space underneath the job site remained dry over the duration of the project.

Additionally, approximately 5,000 pieces of pre-existing granite had to be removed intact, labeled for location, and stored off-site due to the limited space at the job site. SRA re-installed 85% of the original granite once all repairs and renovations were completed. Any new stone installed had to match the original granite perfectly.

A lack of original drawings and inconclusive destructive testing performed prior to the start of the project left many unforeseen design challenges that were immediately addressed without delay to the progress of the repairs.

Safety Considerations (public/property/hours accident free, etc):

The Two Wells Fargo Veranda had to remain open to the public at all times. Our crew limited the construction site to a small section of the veranda at any given time so that the public could move freely around the plaza. The material was applied at 400 degrees sometimes mere feet from the general public. Lane closures were maintained from 9am -4pm Monday through Friday. Our crew remained accident and injury free over the duration of the project.

Community/Environmental Impact:

All of the salvaged stone and stainless steel fountain liners were recycled as well as the overburden in the planters. This project employed all local individuals.

Technology/Innovation:

High voltage vector testing was performed by IR Analyzers throughout the project to ensure that all waterproofing was sound.

Electronic leak detection eliminates the dangers and potential damage inherent in traditional flood testing. Even pinhole leaks invisible to the naked eye can be pinpointed with electronic leak detection, and repairs can be made on the spot and immediately retested to ensure watertight results. High voltage testing is performed on a dry horizontal or vertical surface using a very small current at relatively high voltage for safe and reliable testing.

Site Constraints:

The property was open to the public at all times, so our crew limited the construction site to a small section of the veranda at any given time so that the public could move freely around the plaza. The original granite that was removed and eventually re-installed was stored off-site over the duration of the project due to the limited space of the job site. A main portion of the job site was directly under a sky bridge offerings thousands of pedestrians a birds-eye view of all activities causing the team to really mind their actions.

Quality Control/Field Testing:

IR Analyzers performed leak analysis throughout the project. Engineers and SRA specialists performed repeated field testing as well.

Rigging Approach:

Telescopic forklifts were used to demo and reset various stone stairs around the plaza.

Sustainment:

The project is essentially complete with an estimated 20-year lifespan. The planters are maintained on a daily basis.

Submitted by

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