

Douglass Colony Group

Category: Meeting the Challenge of Difficult Job – Specialty Contractor

Project: Colorado State Capitol Reroof

At exactly one mile high above sea level, a brilliantly golden dome rises towards the sky like a landlocked lighthouse. In 2013, when it came time to restore this iconic dome, Douglass Colony Group was the choice contractor for the job. Now, four years later the building deserved a unique roof to match the grandeur of the dome towering over it, and Douglass Colony, again was selected as the choice roofing, metals, and waterproofing contractor for this honorable task.

Under the general contractor, Fransen Pittman, Douglass Colony took on the demolition of the existing roof and gutters, carpentry in the gutter reconstruction, copper gutters, standing seam roof, visible flashings, copper shingles, slate tiles, and ornate vent hoods. Though an enormous and daunting scope in the beginning, the final product spoke for itself, as Douglass was able to provide a one-of-a-kind roof for the historic building that will last for generations to come.

Special Challenges & Obstacles

This entire project, occurred while the government building was still fully functioning, creating strict time restrictions and tight access on the site. Crews had to be mindful to not tear off or perform any other noisy activities during legislative sessions, and always maintain an extreme awareness of people entering and exiting the building throughout the day. The entire project also had to be phased to completely halt work for months when Congress was in session, making it easy to lose momentum.

Additionally, any renovation on a 121-year-old building is bound to face a special, impossible to predict set of challenges, which Douglass was quick to discover. The first step in this project was to demolish and remove the old roofing system which consisted of layers upon layers of shingles and required full abatement due to asbestos. Douglass conducted special safety asbestos awareness training with all crew members before anyone even entered the jobsite. Once all tenting, scaffolding, and training was complete, the task of removing years' and numerous roof replacements' worth of shingles proved to be a time consuming, tedious one.

Even more difficult in the demolition stages, though, were the gutters. As crews dove into dismantling the gutters, many unforeseen obstacles arose. As a result of the old age of the building, teams found huge gaps in the gutters' framing – there were literal holes in the building. To address these voids, Douglass Colony engineered the new plywood structure to span over them and support the soon-to-be-installed copper gutter inlays. Douglass is not experienced in carpentry, so reconstructing this gutter system using the marine-grade plywood presented a challenge on its own, even without the added difficulty of having to account for a lack of existing framing.

Once the removal was finally complete, the install could begin, which brought on its own set of hardships. The timeframe of the project called for crews to be working on and installing a steep roof in the heart of a Colorado winter; one misstep on a slick, steep roof would have been disastrous. Safety concerns slowed progress and on multiple occasions called for a complete site shut-down.

The copper inlays which covered the plywood gutter system also proved difficult to work with. Thermal movement made the material hard to predict. A perfect fit was nearly impossible to accomplish, but through patience, skill, and teamwork, Douglass Colony was able to complete the complex gutter system to the highest standards of quality.

Stocking the job was also incredibly difficult. Being a popular tourist attraction and fully functioning government building on a heavily trafficked block, the access to the Capitol building for deliveries was severely limited. After navigating that hindrance and the materials made it to the site, a huge crane had to be maneuvered into the area to transport the supplies to where they were needed – the roof. Using a specific pick plan and intense rigging, Douglass Colony was able to efficiently accomplish all of its stocking.

Excellence in Project Execution & Management

In order to maximize efficiency, Douglass Colony utilized the nearness and expansive capability set of its metal shop at the company headquarters in Commerce City. All of the metal for phase two of construction – by far the largest phase – was prefabricated in the shop before being

shipped to the jobsite. This allowed for a level of preparedness that guaranteed no lapse in materials or work on site.

The level of detail and workmanship seen in the gutter system is unbelievable. Douglass's crews executed the install with an acute attention to detail as they formed the copper over the plinth blocks – no easy task. The entire system is fully soldered at all joints, requiring workers to be fully certified by the manufacturer and tested regularly.

To ensure nothing but the highest levels of quality and craftsmanship, the project manager and superintendent conducted regular site walks and participated in weekly meetings with the general contractor and other trades on the job. Douglass' superintendent was on site checking in on crews and providing any needed support at least three times a week and the project manager walked the job at least twice each work throughout the entirety of the project.

Construction Innovations

Every product used on this roof is nothing but the best to provide not only a one-of-a-kind roof, but a one-of-a-kind roof that will last for generations to come. From the standing seam panels to the shingles on the low-slope portions to the gutter, every piece of metal on that rooftop is copper – an extremely durable, long-lasting product. The “Freedom Gray” zinc tin alloy coated standing seam panels came from Revere Copper – a company whose roots extend back to 1802 when the famous Patriot Paul Revere opened the first copper mill south of Boston and now stands as one of the finest copper manufacturers in the world. Quarried and mined in the United States, the Buckingham slate tiles that decorate all building entrances also bring a unique element to the project as all slate – it was all raw material with the tiles cut directly from natural stone. All of the unique products combine to create a fully custom roof; nothing else like it exists in the world.

Because of the rareness of the materials and unfamiliarity with working with them, measures had to be taken to ensure perfection. Working closely with the architect and general contractor, Douglass Colony developed a full, 15-foot by 15-foot mockup of the roof that incorporated all elements and products in its shop before installing anything on the roof. That mockup was also available on the jobsite for reference throughout the project.

The installation of the four ornate vent hoods also called for special attention to guarantee perfection. Three of these highly decorative beautiful pieces measured 14 feet high and the fourth an astounding 16.6-foot pinnacle piece. When dealing with louvers of this size, there is no room for error. Therefore, Douglass Colony used scanning technology to record precise measurements on the existing structures, so the new, astonishing units would be an exact fit.

Environmental & Safety Awareness

With asbestos as a major concern, the entire project had to be abated. Special training was also conducted to ensure crews new how to properly and safely deal with that threat as they removed the existing roof. An intense scaffolding system surrounded the building for all of the gutter work, requiring great amounts of communication between the scaffolding contractor, general contractor, and other trades to protect crews and ensure all work areas were as safe as could be. Many areas also required that crews tie off, as is typical when working on a steep roof. The fact that this complex project was completed with no recordable accidents is a testament to the people on the job and their commitment to safety, something that Douglass Colony takes great pride in.

Excellence in Client Services

The State Capitol Building is an unmissable piece of Colorado history. Nestled in the heart of Denver, nobody passes through the city without noticing and admiring the shining dome. Now, the building also boasts a one-of-a-kind, equally impressive roofing system to compliment the brilliance of the golden beacon.

Douglass Colony has been fortunate enough to earn both projects at the Capitol, a national architectural icon. The company takes great pride in all of its work on this building, and both the dome and the roof will rank in the top five of the most unique and gratifying projects that Douglass Colony has been involved in over the past 70 years. Natives and tourists alike cannot help but appreciate this historic icon, and Douglass Colony was honored to have been selected to help make this Denver landmark a success.









