

**Project Name: Namaste Solar**

**Category: 8 – Best Building Project – GC (Under \$10 Million)**

**Contractor: Swinerton**

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Namasté Solar is a 13-year-old, Colorado-based solar company serving both residential and commercial customers. Their business model is unique in that it's an employee-owned cooperative, democratically run and committed to pioneering conscientious business practices. As the organization continues to grow, its cooperative ownership recognized the need for additional space.

It seems only fitting that the Certified B Corporation - meaning that it must meet rigorous standards of social and environmental performance, accountability and transparency - selected an existing building, in one of Denver's lowest-income neighborhoods. Namaste's investment in the Sun Valley neighborhood, just west of downtown Denver, aligns with their commitment to improve the quality of life and support the communities in which they do business.

Namaste purchased a 60-year-old building, ripe for repurposing, as their third location in the Denver metro area. Previously a multi-tenant retail building, Swinerton abated and gutted the 24,000-square-foot building located south of the Denver Broncos football stadium, leaving just its exterior brick and CMU structure, roof and concrete floor – all in desperate need of repair.

Work transformed the dingy space into a bright, open and LEED Silver certified office and warehouse for Namaste employees, complete with a welcoming lobby, conference and meeting rooms, work and gaming areas, kitchen, workout facility and locker rooms. A new roof with a 100kW photovoltaic solar array, measuring ~11,000 square feet and producing 140MWh annually, was installed. The building also received all new efficient MEP systems, and new or enlarged windows to meet natural day lighting LEED requirements – all within six months.

### **Must-fixes before going forward**

The 1957-era building had seen its fair share of uses over the years and was ready for a new life. Like many buildings its age, several existing conditions needed resolution before the transformation could begin.

For instance, intense soil settlement over time had caused visible slab depression, with cracks in the slab-on-grade floor wider than 1", steel column movement and vertical cracks within

the exterior CMU walls. Settling damaged roughly 10 percent of the building, and cracking throughout the entire space indicated additional damage.

Namaste hired Swinerton for preconstruction services, and these existing conditions quickly became the first issue to resolve. Swinerton provided guidance to Namaste by helping them focus on their return on investment as their construction budget did not account for their entire wish list of repairs. An integrated approach to prioritizing and solving these challenges involved the Swinerton team, Namaste representatives, the structural engineer and architect, applicable subcontractors and a third-party roofing consultant.

Pre-installation and coordination meetings addressed concerns related to quality, safety, cost and schedule. The results formulated by the extended team included structural remediation work entailing grinding, floating, repairing and installing joint filler at the large cracks and deformations in the slab, 850 LF of tuck pointing, and replacing the entire loading dock. Pre-planning enabled Swinerton to complete simple crack remediation in 2-3 days and to replace the damaged loading dock in one week. The repaired, polished and sealed concrete floor contribute to the space's modern and sustainable feeling. In a nod to the building's 60-year history, Namaste asked that some of the brick and plaster walls remain, providing rustic character to the space.

The existing conditions did not impact the schedule nor budget due to the team's intensive pre-planning. Swinerton completed the project in six months, turning over the building in May 2018, on budget.

### **Similar cultures boost teaming approach**

Despite the respective differences in company size and age, Namaste and Swinerton share similar cultures through employee ownership, giving back to the community, and expertise in solar installation, operations and maintenance programs. These similarities became the team's foundation when issues arose. By bringing up issues early (whether good or bad) the team promptly and collectively addressed situations before they became larger issues.

Team buy-in and transparency resulted in a cohesive team trusting each other to find resolutions which did not negatively impact schedule, quality or cost.

One example of the team uniting to solve a challenge centered on a City and County of Denver requirement that all new roofs maintain a minimum R-value of 30. The current roof had a value of R-20. This situation required building up the roof pitch. However, once investigated during preconstruction, the team realized the existing roof was in such bad shape that a completely new roof was needed instead.

Understanding the potential risks to schedule, budget and quality – and with little design details available - Swinerton quickly engaged with a third-party roof consultant to provide in-depth submittal and shop drawing reviews, participate in pre-install meetings to review means and methods, and then observe roof installation to ensure quality assurance.

While a structurally sound and functioning roof is important on any project, it was especially critical on this project because the client, Namaste, was going to install its own photovoltaic panels on their roof. And this aspect of the project required a bit more intention than the usual client/general contractor coordination.

To accommodate the solar panel's weight, Swinerton installed single bar joists between each existing 6-foot span to provide extra support where Namaste was installing the 11,000-square-foot array.

The entire process from there was quite simple as once Swinerton received approval from the city's roofing inspector, Namaste proceeded with their installation. Once Namaste was done, Swinerton received its final roofing inspection and the project continued on its path to on-time completion thanks to upfront planning by those sharing similar cultures!

### **Going beyond for sustainability**

Recognizing that solar power is only part of the quest for a sustainable project, Swinerton went beyond what is required to achieve Silver certification in hopes of establishing a high bar

for future projects in the area. While the Sun Valley neighborhood has seen little redevelopment in numerous years, many developers and the City of Denver have their sights set on this neighborhood for future redevelopment.

Swinerton installed multiple dumpsters on site to separate the recycling of wood, plastics, metal and cardboard. Waste diversion was not required to obtain LEED certification; the team took it upon themselves to implement this best practice as a way to better the surrounding environment and limit the impact of our construction efforts.

Despite the project not having a civil engineer of record nor civil drawings, Swinerton developed a storm water management plan to prevent construction debris or run-off leaving the site and disturbing downstream inlets. The State of Colorado requires every site larger than one acre to have a storm water management plan in place; Namaste's site is less than one acre. The team felt that protecting our water sources from construction debris was the right thing to do.

The HVAC system and controls, lighting controls, electrical system and monitoring take place through an eGauge meter for tracking power usage. This device lets Namaste calculate power and data from sensors that assess flow rate, temperature, and wind speed, among other measurements. For a company that stakes its reputation on its advanced monitoring and optimizing system performance, their willingness to monitor their own energy consumption further advances their credibility in the commercial and consumer solar markets. Additional LEED elements include:

- Daylighting
- Enhanced commissioning and building monitoring
- Electric forklift used in the warehouse to eliminate emissions
- Public bike racks and added pedestrian sidewalks for community use
- Two electric car charging stations, with priority parking for fuel-efficient vehicles

## **Working safely in winter conditions**

The project finished with zero lost time incidents and no serious injuries during the six-month duration of the project and approximately 40,000 manhours. Swinerton's superintendent conducted 72 safety orientations and typically managed 30-45 workers on site daily. Site safety remained as the top priority through Swinerton's site-specific safety plan, daily stretch and flex routines, new hire safety orientations, and Swinerton's Stop Work Authority program which gives every person on site the authority to stop any unsafe working condition.

For high safety risk scopes of work, Swinerton directed pre-installation meetings with the related subcontractors to review safety concerns. These meetings were held specifically for scopes focusing on the roof, mechanical rooftop unit replacement, structural steel and the solar panels, reinforcing the important message of wearing a safety harness or lanyard, and using tie-off points to ensure safety. These scopes presented heightened safety challenges due to their elevated work areas, leading edge above 6' and exposure to the busy traffic below on Federal Boulevard. With most of the roofing and exterior work underway in Denver's winter and spring seasons, weather conditions such as snow, rain and wind impacted working conditions on the roof, crane placement for roof picks, and hoisting and unloading materials.

## **Namaste**

The word "namaste" is a traditional Sanskrit greeting of respect that recognizes the interdependence of all living things. The founders of Namaste Solar chose this word to represent their company values and ability to distinguish themselves from others.

*"Swinerton was an amazing partner! The end result is an amazing space that we at Namaste Solar are proud of and where we are all excited to come work."*

Swinerton is honored to work for a company that recognizes the interconnectedness between people and the environment.









