

# THE VIEW FROM HERE

A CAMPAIGN FOR THE PIKES PEAK SUMMIT COMPLEX

## Sustainability Initiatives:

Pikes Peak – America’s Mountain is the only fourteener (mountain over 14,000 feet in elevation) that everyone can experience regardless of age or fitness level. However, the extreme weather conditions atop the mountain, including drastic temperature swings, wind gusts over 150mph, and intense rain and snowstorms, mandate the provision of a shelter so that all visitors remain safe and can fully enjoy their experience no matter the conditions. As building on top of a mountain is inherently unsustainable, the design team’s mission from day one was to greatly improve upon the performance of the current Summit House, minimize the effect on the mountain, including surrounding views, and make the project as self-sustaining as possible. Taking this challenge to heart, the project is pursuing both LEED and Living Building Challenge certifications.

## Energy:

The team’s overall goal was to design a facility with net-positive energy to both minimize the ecological impact of the building and reduce operational costs. Numerous computer simulations were run to help optimize the building design which resulted in the implementation of several strategies, including: southeast orientation of the building to take full advantage of the enhanced solar thermal gain at altitude as well as daylight harvesting, LED lighting and limiting the exposure to the prevailing north and west winds; a solar array installed a few miles away but as part of this project to provide most of the building’s energy needs on sunny days.

Located in a polar climate zone, the temperature on the peak barely reaches 50 degrees in the summer and night temperatures drop to near-freezing or below year-round. As such, the HVAC system is focused on heating and was designed with the following: reduction in energy loads, radiant flooring system, building zones that vary in temperature based on the activity taking place, energy recovery and transfer air ducts to dump excessive heat into adjacent cooler space, displacement ventilation, VAVs for better individual control of large spaces, and Fan Coil Units (FCUs) for small spaces that are too far from the plant to tie back in.

## Water:

The use of a vacuum toilet system reduces water usage by 75% and lowers the number of trips up and down the mountain for water delivery and wastewater removal (the current Summit House requires 300+ trips annually, which will be drastically reduced resulting in decreased traffic, emissions, and operational costs). In addition, the new Visitor Center is one of only two buildings in the state of Colorado that have been approved to reuse treated water on-site as a significant fresh water reduction strategy. This, along with the low flow fixtures and vacuum system, will allow the rainwater harvest system (when its use is allowed by future changes to Colorado water law) to collect enough rainwater for the building to be net-zero water consuming.

**GiveToPikesPeak.org**  
**P.O. Box 1575 • MC 060**  
**Colorado Springs, CO 80901**

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## Materials:

Having observed the difficult climate and summit conditions, the design team sought to balance resiliency to the extreme climate, sustainable, non-toxic and non-red list items, regionally sourced materials per the LBC guidelines, and aesthetics consistent with the peak. The exterior is clad in natural elements to withstand the harsh winds and wind-blown gravel, including weathering steel, which will develop a protective coating, and locally quarried stone similar in color to the peak. The interior also features weathering steel and stone as well. The design team has also explored locally reclaimed wood for benches, casework, and doors.

## Site Ecology:

When designing the new Summit Visitor Center, the team took great care to minimize negative impacts and even improve the environment for the native flora and fauna. An essential component of this project is the restoration of the tundra that has been subject to years of human impact, as the site is currently completely open to visitors. Located above the timberline, there is minimal flora that can endure the harsh conditions. While tundra vegetation exists in the form of lichen and wildflowers, it is delicate. New pathways through the site with educational exhibits have been designed to control foot traffic and educate visitors to preserve as much of the rare vegetation as possible. A long-term plan to restore the tundra vegetation at controlled locations on the peak has also been designed. Additionally, curtain wall glazing incorporates frit patterning to minimize bird strikes as predator and migratory birds are known to fly through this zone and elevation.

Sustainable design is inherent in our two firms' philosophy and begins at each project's initiation. We believe in providing for less consumption and environmental impact and more efficiency, savings, and sensitivity whether a client has decided to pursue formal certification or not. Through a coordinated effort with all members of the design team, we explore how each design decision affects the building's energy use, occupant comfort, durability, etc. which allows for purposeful decision-making and alignment with each project's big idea. In the case of the Pikes Peak Summit Complex, the design team sought a balance between a dynamic building that presents a clear destination and a minimalist structure deferential to the peak. This respect for the peak enlivened a passion within the team to protect and preserve, leading them to pursue Living Building Challenge and framing each decision through the lens of a sustainable future for the peak.

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