

Telluride Amphitheatre Tensile Roof

Background

Telluride Town Park in Telluride CO, features a tension membrane structure that is used as shelter for concerts & events and as rest area for ice rink participants and other users of the park year-round. The structure was in disrepair and needed to be refurbished or replaced. The challenge was that the original drawings for the structure could not be found. Also, for budgetary purposes, the town requested that the steel structure, foundations, and cables be re-used to the maximum extent possible. Both of these challenges required a firm that could not only fabricate and install the materials required, but reverse engineer the structure to design the solution. Signature Structures LLC, of Bethlehem, PA, was selected due to their complete tensile fabric replacement process which they have refined through multiple similar projects.

Solution

A complete survey was conducted and the tensile roof was modeled using standard tensile software. Due to the age of the original structure (29 years), significant improvements to the design were required to meet stricter codes in reference to snow and wind loading. Signature provided the engineering documentation requirements necessary to obtain a building permit.

Details

The town requested minimal changes to the tensioning hardware to retain the rustic look that they favor. Although tensile technology has evolved greatly over the last 29 years, and options to update the technology were reviewed, the original tensioning methods were retained, both to keep the original aesthetics and to ensure that load distributions in existing frame parts and cable attachments would not change substantially.

Other challenges, including a tight working site and an aggressive timeline, required The Signature Team to develop custom methods to replace the tensile roof system. Signature did a complete overhaul of the existing infrastructure, sand blasted and painted the hardware, posts, bails and connection flanges. We replaced the cables with new PVC coated cables integrated within the fabric system and replaced the turnbuckles along with the catenary cables. The membrane was done with Ferrari 1202 and the demolition and construction was done in a one week period to facilitate events and seasonal activities, thanks to meticulous preparation and excellent cooperation with township personnel.

Ongoing Relationship

Signature is proud to have the Town of Telluride as a long term client. Signature dispatches technicians to inspect and maintain the structure on a regular basis. After sale service is truly the Signature Difference.

