

Lower Tiers of Zion Golden, Colorado

Overview

The Boulder Climbing Community's (BCC's) trail crew finished 13 weeks of work at the Lower Tiers of Zion climbing area in Golden, Colorado. Jefferson County Open Space (JCOS) was the contracting partner for this project. This project had two main objectives and four large scale worksites spanning the entire width of the crag, which were completed with help of volunteers from the community and corporate volunteer groups.

Project Synopsis

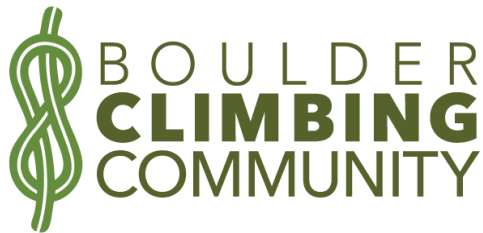
With approximately 30 routes varying from beginner to moderate range, Lower Tiers of Zion has grown in popularity among climbers and guided groups. Along with its close proximity to the Denver Metro area it has become a very popular destination for quick "after work" climbing. The BCC's main goal was to address erosion and safety concerns at the base of the main climbing areas.



Figure 1: 20 ft long retaining wall

The BCC had two main objectives divided into four separate worksites for this project. The two objectives required a large amount of stone material to build structures. For objective one, the BCC constructed a 20-foot long retaining wall supporting the trail leading to the far right side of the crag as seen in Figure 1. A belay pad was constructed below one of the most popular routes, Three Little Birds 5.9, as seen in Figure 5. For objective two, the BCC constructed a belay pad underneath the climbing route Buffalo Soldier 5.10c and reinforced the trail underneath the route. The BCC also constructed a staircase in the gully leading to the routes on the East Wall, or the far left wall of the crag. A large retaining structure was also re-constructed underneath the East Wall climbing routes.

Due to the nature of this area, all rock material was located over 100 feet away and down a steep slope. A total of five highline rigging and hauling systems were utilized to transport materials over large distances as seen in Figure 2. Not only did these highline systems make gathering materials easier, they also reduced the environmental impact on the surrounding area.



Project Outcomes

By the end of the 13 weeks, the BCC had constructed 511 square feet of retaining structure along with 73 stone steps. The BCC also had an amazing turn out with volunteers with a total of 29 volunteers putting in 185.5 hours of work. See Metrics Tables 1 and 2 for project metrics and labor hours.



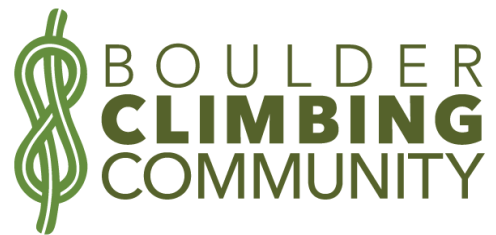
Figure 2: Rock loaded up in the BCC's highline rigging system.

BCC Metrics Table 1

Labor Hours	Amount
Staff Hours	2,185.25
Volunteer Hours	185.5

BCC Metrics Table 2

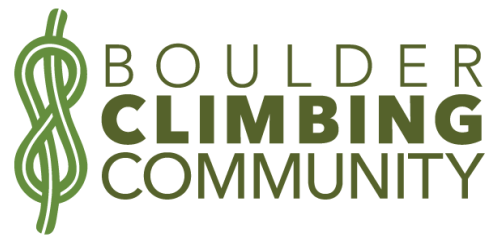
Project Outcomes	Unit	Amount
Trail restored	Linear Feet	105
Retaining structure	Square Feet	511
Highlines	#	5
Stone Steps	#	73
Rocks Moved via Rigging	#	347
Estimated Tons of Rock Moved	Tons	18.3



Before and After Photos



Figures 4 and 5: Eroding trail and loose belay pad (left) turned into a durable trail supported by a stone retaining wall and a sustainable stone belay pad for Three Little Birds 5.9 (right).



Before and After Photos



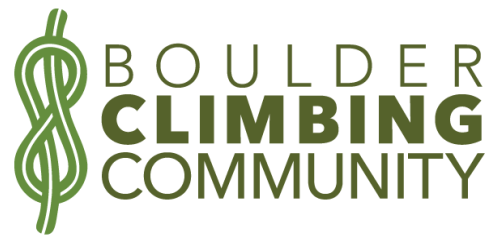
Figures 6 and 7: Old trail held up by a singular dead log (left) replaced with a large stone retaining wall (right).



Before and After Photos



Figures 8 and 9: Same structure as seen from above in Figures 6 and 7.



Before and After Photos



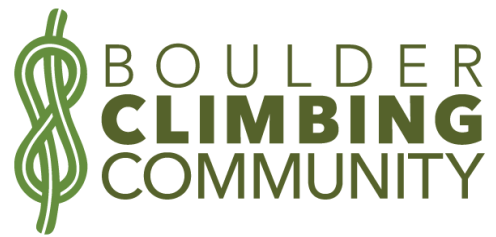
Figures 10 and 11: New stone staircase(right) leading to the East Wall of Lower Tiers of Zion. The Old gully (left) was full of loose rocks and was a major tripping hazard.



Before and After Photos



Figures 12 and 13: This is the highest trafficked area of the crag, which is the junction between the East Wall and main wall of Lower Tiers of Zion. The old eroding structure (left) was not built to withstand the traffic of the crag vs the new professionally built structure (right).



Before and After Photos



Figures 14 and 15: The base of the eroding East Wall (left) is now built up with a stone retaining structure and now has a large belay pad for the three climbing routes (right).