



REQUEST FOR PROPOSAL

ENGINEERING SERVICES
FOR TELLURIDE'S VIA FERRATA

RFP Release Date: April 1, 2024

PROJECT: Telluride Via Ferrata Engineering Design

PROPOSAL DUE DATE: July 22, 2024

Telluride Mountain Club (TMtC) in collaboration with the Norwood Ranger District of the United States Forest Service (USFS) is seeking the services of a Qualified Licensed Professional Engineer (PE) to develop engineering designs, drawings, and specifications for Telluride's Via Ferrata (TVF). After the engineering design is completed and accepted by the TMtC and the USFS, a separate RFP will be issued for construction of the engineered design.

This Via Ferrata RFP and project is at the request of the USFS in order for the agency to adopt the route as a USFS-system trail. Telluride's Via Ferrata is a popular route among visitors and locals alike. It is a critical recreation staple for the Telluride area, and a key element of master planning for the head of the San Miguel Valley.

Background

In 2006, local welder and mountaineer, Chuck Kroger, along with help from friends, created the Telluride Via Ferrata (TVF) on the lower slopes of Ajax Mountain. The approximately 8,000 ft. long route traverses the south face of Ajax via a trail and ledge system between Marshall Creek and Ingram Creek. Access to the east end of the TVF is gained from a small parking area located at a switchback on Black Bear Pass Road between the bottom and top of Bridal Veil Falls. The ledge system that the TVF traverses is above the Pipeline Wall rock climbing for a portion of the trail. There are sections along the route where safety cables and progression aides (rungs) were added by Kroger, and after his death from cancer in 2007, by other local climbers & stewards.

In 2009, a participant sign-in register was installed at the bench near the center of the route. As of August 2018, over 17,000 user signatures were collected. Since that time traffic on the route has continued to increase, and the register was replaced by trail counters for a period of time. Current usage estimates are in the range of 2000 users per month during the June to September summer season.

Telluride's Via Ferrata was initially built on USFS land without the agency's knowledge. Starting in 2016, the Telluride Mountain Club (TMtC) began voluntary stewardship of the TVF. The TMtC commissioned an engineering study, and a follow-up engineering report to address questions that arose from the initial engineering study. Both reports were delivered in 2017¹. After these studies were completed, the TMtC coordinated a series of maintenance and upgrade work sessions to improve specific sections of the route. There have been no known instances of injury due to failure of installed equipment during the 15+ years of use. Since that time, the TMtC has coordinated annual maintenance required due to rockfall and erosion. Local guide companies contribute volunteer labor to that effort, as well as contributing financially to the Via Ferrata Sustainability Fund (TVSF) since 2019 through a small fee to clients. These funds have been used to purchase hardware used for upgrades and maintenance since then.

The TVF is fairly unique among current US via ferrata installations in that it remains a resource open for public use, similar to many alpine trails and climbing routes on our public lands. The risks are comparable to those encountered on many peaks in the San Juans. The local user community confirmed during public comment period that the region is best served by a route that remains publicly accessible, and not restricted to a concessionaire permit. Public comments also confirmed that route upgrades should maintain the character of the existing route, which is primarily a trail on a ledge system, by not installing extraneous sections of cable, or along the entire route (currently, less than a quarter of the route is cabled).

Objectives

The USFS issued a decision memo in June 2023 stating they will adopt the TVF as a National Forest System Trail once the route infrastructure is upgraded to reflect current USFS agency engineering standards². These standards, as referenced in the decision memo, require adherence to ASTM F24 which is an international standard for Amusement Rides and Devices which covers the design, manufacture, installation, operation, maintenance, auditing, and modification of a wide variety of recreational installations including ziplines, ropes courses, via ferrata, and other adventure courses.

The TMtC plans to raise funds to support the proposed upgrades through donations and grants, and will manage the selection and oversight of engineering and construction contractors. The

¹ The initial engineering report was delivered by Canyon Bridge LLC in January 2017, and focused on conformance with International via ferrata standards (EN 16869) which were provisional at that time. The second engineering report was completed in December 2017 by Buka Engineering, Inc. It included documentation of the route, results of load testing of the safety equipment, and recommended upgrades to conform with EN16869.

² See *Decision Memo Telluride Via Ferrata Adoption*, issued June 29, 2023 by the Norwood District Ranger.

process will include review of bids and specifications by USFS regional engineering staff to assure conformance with USFS standards, and the regional USFS office in Denver will approve the contractor selection. This RFP does not include development of access trails, signage, or parking impacts. Nor does it include any assessment of guiding permits or other regulation.

Scope of Work

This section outlines the tasks to be completed under the engineering contract.

Engineering Design

All engineering design will comply with the most recent versions of Forest Service Manual (FSM) 2341.3 Designing Structures and Facilities, and applicable design and construction requirements of FSM 7330 Natural Resource-Based Recreational Facilities. These manuals describe the specific requirements for design and construction of facilities such as via ferrata including the most recent versions of:

- ASTM F24, and specifically F2959 Standard Practice for Aerial Adventure Courses and all of its Referenced Documents including F770, F1159, F1193, F2291, and F2974;
- EN 16869 Design/Construction of Via Ferratas (if not covered by, or more restrictive than ASTM F24 above); and
- Other applicable Federal, State, and local laws, codes, ordinances, and standards if more restrictive

Engineering Design by a Qualified Licensed Engineer should include (at a minimum):

- drawings, including location and type of equipment to be installed (cable end-point anchors, mid-point anchors, cable, rungs, and any other hardware),
- engineering calculations,
- hazard/risk analysis per F2959, section 11.5
- an inventory of all equipment to be removed,
- material specifications,
- layout diagrams,
- review of construction materials submittal to assure conformance with performance standards photos as pertinent, and
- post-construction stamped certification by the Qualified Professional Engineer of the design certifying that the via ferrata was constructed in full conformance with the approved designs and applicable standards.

The design should take into consideration the current route's layout, features, and hardware locations. The intention of this project is to keep the nature and character of Telluride's via ferrata the same, and to preserve the natural environment on the route to the extent possible.

This includes only adding cables to sections after careful assessment of the need per the hazard/risk analysis.

The engineering proposals will be reviewed jointly by USFS ropeway engineering staff and the TmTc engineering team. It is not yet determined whether bidder interviews will be required.

The Engineering cost proposal should include a submittal timeline and include the following three Design Review meetings with TmTc and USFS ropeway engineering staff:

- preliminary design (35%) review to assure conformance with hazard/risk analysis
- pre-final (95%) design review
- final design review

Final Design and Construction documents must be stamped by a Professional Engineer licensed in the State of Colorado, and submitted for acceptance by the USFS Regional Engineer.

Project Timeline

It is anticipated that engineering design will be completed during the summer 2024, including review by the TmTc selection committee, which will include USFS engineering representation.

- Construction RFP and timeline will be determined by the final design, weather, equipment availability, and other factors

Instructions to Bidders

Proposals should include:

- Structural & Civil Engineering cost estimate and timeline
- Engineering qualifications for a via ferrata project
- Professional Engineering license in the State of Colorado with registration number
- Two references, including contact information
- Historical knowledge of USFS standards and guidelines

RFP Timeline

RFP posting and release:	April 1, 2024
Preliminary questions due:	May 1, 2024
Preliminary Q&A response provided:	May 15, 2024
Pre-bid Tour (required):	June 10, 2024

Final questions due: June 17, 2024
Final Q&A response provided: June 24, 2024
Proposals due: July 22, 2024 5:00 PM

The pre-bid tour will include a site walk of the area and route approaches. Bidder may choose to do the complete route or not. If the bidder is not able to attend the pre-bid tour, arrangements must be made with the TmTc to tour the site at a different time before June 17. It is also essential that all bidders review the site walk notes and Q&A responses to be provided.

Cost Proposal

This will be a fixed price contract. Provide a breakdown of costs by task, including total costs for engineering design. Clearly indicate optional costs for any alternative design elements proposed and itemize areas of cost uncertainties that may need to be addressed once the engineering design is completed and approved.

Please propose a milestone-based payment schedule.

Questions and Bidder Responses

Please direct all preliminary and final questions to our question intake portal:

<https://airtable.com/appxEKbph1MDeq9fz/shrrKgCwr0coKmWdE>

Award of a contract under this RFP is contingent upon a number of factors. Funding will be key to the timing and completion of this project. TmTc will contract the project in two phases. The first being a contract for engineering design, followed by a construction RFP and contract. TmTc will be the primary point of contact for the project and will have a memorandum of understanding (MOU) with the USFS.

TmTc has the right to accept or reject any and all proposals, as well as the right to accept or reject only part of a proposal.

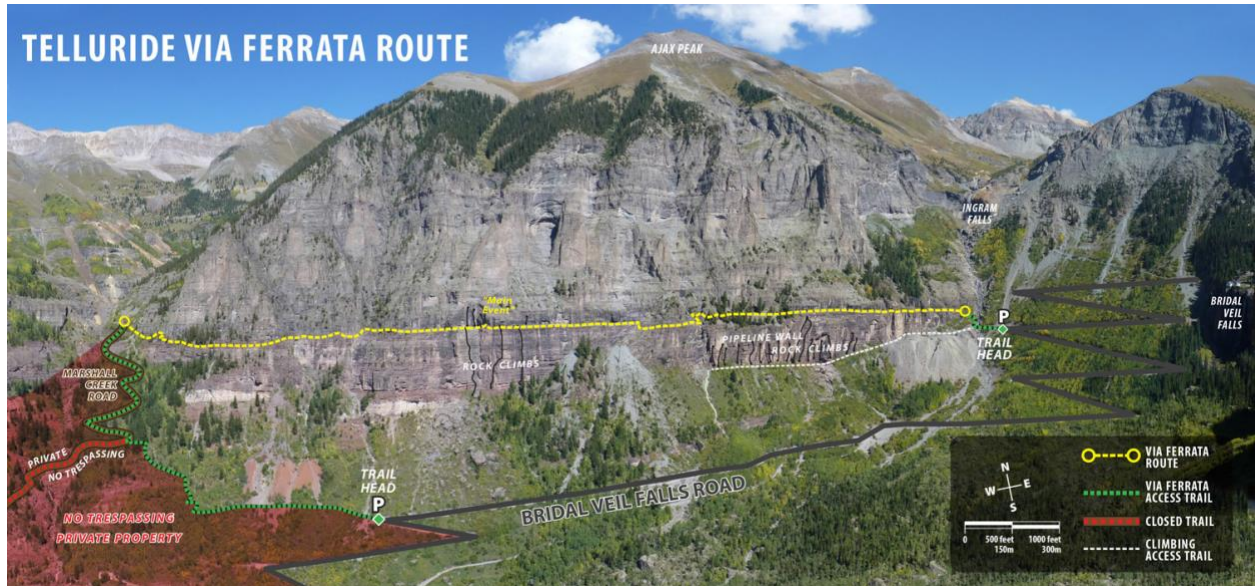
Telluride Mountain Club

telluridemountainclub@gmail.com

<https://www.telluridemountainclub.org/via-ferrata/project/>

ATTACHMENTS

Via Ferrata Overview Map





Decision Memo

Telluride Via Ferrata Adoption

USDA Forest Service
Norwood Ranger District
Grand Mesa, Uncompahgre & Gunnison National Forests
San Miguel County, Colorado

Background

The Telluride Via Ferrata (TVF) is an existing, user-created, route on National Forest System (NFS) lands that has not previously undergone National Environmental Policy Act analysis. Due to increasing popularity of the route, and associated impacts of increasing visitation including competition for limited parking, erosion, and potential impacts to wildlife and plant habitat, it was necessary to analyze the environmental and social impacts of adopting this route as part of the Forest Service trail system.

The TVF was constructed in the early 2000's by well-known climber, and long-term Telluride resident, Chuck Kroger. The route was completed in his honor by friends and family after his passing in 2007. The approximately 8,000-foot route includes a combination of traditional trail tread, metal rungs, and cabling that traverse the cliff band below Ajax Peak in the Telluride Valley. Over time, the popularity of the route grew, including recognition in mainstream media outlets and outdoor magazines. In 2020, trail counters on the route showed numbers exceeding 2,000 visitors a month.

In 2015, prior to the USFS considering including the route as part of the NFS trail system, the agency approached the operating outfitter and guide services, the Telluride Mountain Club, the Town of Telluride, and San Miguel County to gauge interest in owning and operating the route and all declined citing liability concerns.

Decision

Once the route infrastructure has been upgraded to meet current agency engineering standards the Telluride Via Ferrata will be incorporated as a National Forest System trail and open to pedestrian use. I am including design criteria identified below in my decision. Engineering standards will meet ASTM F24 (including related F2959, F1193, and F770) as referenced in Forest Service Manuals (FSM) 2340 and 7330, approach trails will be constructed to meet Trail Class III standards, and the Via Ferrata trail tread will be maintained to Trail Class II standards (FSM 2353) to meet public safety requirements.

This action is categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). The applicable category of actions is identified in agency procedures as 36 CFR § 220.6(e)(1): "*Construction and reconstruction of trails.*" This

category of action(s) is applicable because the preexisting trail being adopted requires reconstruction work to be incorporated into the Forest Service trail system.

I find that there are no extraordinary circumstances that would warrant further analysis and documentation in an EA or EIS. I considered resource conditions identified in agency procedures that should be considered in determining whether extraordinary circumstances might exist:

- *Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species* – Incorporation of the TVF into the Forest Service trail system and associated upgrades to meet USFS standards will have little biological impact.

There is slight potential for four Endangered Species Act (ESA) listed species to be present in or immediately adjacent to the area: Canada lynx, grey wolf, Mexican spotted owl, and monarch butterfly. None of these species have been documented in the project area, no Critical Habitat for any species is present. The nature of the project presents no real risk of impact to any of the habitat features or conditions required by these species. The incorporation of the TVF into the Forest Service trail system will have ESA determination of “no effect” on any listed species.

There is potential for four Regional Forester Sensitive Species (RFSS) to be present in the plan area: pygmy shrew, American marten, northern goshawk, and boreal owl. There are no known raptor nests or marten dens in the vicinity. The project may result in some unintentional harassment of these species by users of the trail. However, that use has been on-going for decades and will not change due to the incorporation of the via ferrata into the Forest Service trail system. Due to the lack of changes in visitor use and the absence of the need for tree removal the project may adversely impact individuals but is not likely to result in a loss of viability in the project area, nor cause a trend toward federal listing of the aforementioned RFSS species.

Three RFSS plant species have potential habitat in the project area: Peculiar Moonwort (*Botrychium paradoxum*), Colorado Tansyaster (*Machaeranthera coloradoensis*) and Dwarf Raspberry (*Rubus arcticus ssp. acaulis*). Based on existing spatial data, there are no known occurrences of any of these plants within the project area for the Telluride Via Ferrata. New disturbance due to project activities will be very limited and predominantly within the existing footprint of the trail. Due to the lack of known occurrences and the limited size of the disturbance, this project may adversely impact individual *Botrychium paradoxum*, *Machaeranthera coloradoensis*, and *Rubus arcticus ssp. acaulis*. but it is not likely to result in a loss of viability in the Planning Area, nor cause a trend toward federal listing for any of those three species.

- *Flood plains, wetlands, or municipal watersheds* – There are no discernable floodplains present within or adjacent to the project area.

The existing TVF traverses portions of three separate hydrologic unit code 14 (HUC14) watersheds, all of which lie within the larger HUC12 Headwaters San Miguel River Watershed: from southeast to northwest these are the Ingram Creek, Upper San Miguel River C, and Marshall Creek watersheds. The access trail to the TVF crosses Ingram Creek

just north of the Black Bear Pass Road parking area. Due to Ingram Creek’s intermittent flow, steep gradient, and rocky substrate, it supports riparian vegetation only in occasional patches. There is also a spring flowing from the base of the cliff below the TVF. The stream exiting the spring also supports adjacent small patches of riparian vegetation. There is no designated wetland vegetation within the project area. The proposed action would include no disturbance of these streams or any adjacent riparian zones, and thus would have no associated impacts if the listed design criteria are adhered to.

- *Congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas* – none present.
- *Inventoried roadless areas or potential wilderness areas* – none present.
- *Research natural areas* – none present.
- *American Indians and Alaska Native religious or cultural sites* – none identified.
- *Archaeological sites, or historic properties or areas* – A field inventory was completed by the Forest specialist. Three historic properties are located within the area of potential effect; however, the proposed project would not significantly affect the character defining features of these historic properties. The Forest Service concluded that a finding of "no adverse effect" pursuant to 36CFR800.5(b) is appropriate for this undertaking. The Colorado State Historic Preservation Officer provided concurrence with a finding of "no adverse effect" on 12/21/2022.

Table 1. Project Design Criteria

Resource	Design Criteria
Water Resources	<ol style="list-style-type: none"> 1. The access trail from the Black Bear Pass Road parking area crosses Ingram Creek on NFS land. No vehicular passage or stream alteration at this stream crossing is permitted without written authorization from the Forest Service Authorizing Official. 2. The existing trail along the base of the cliff below the TVF, which provides access to the “Pipeline Wall Rock Climbs” as shown on the project scoping notice, crosses a perennial spring. No ground disturbance is permitted within 100 horizontal or vertical feet from this spring, or from the stream that it feeds, without written authorization from the Forest Service Authorizing Official.

Public Involvement

This action was originally listed as a proposal on the Grand Mesa, Uncompahgre and Gunnison National Forests National Forest Schedule of Proposed Actions and updated periodically during the analysis. A public scoping period was available for public comments during May of 2022 and a virtual public meeting was held on May 11, 2022.

16 letters were received during the comment period including letters from San Miguel County, current outfitters & guides, and users of the route. Comments were predominantly in support of system upgrades, with many individuals expressing a desire to see upgrades kept to the minimum necessary for public safety and to protect natural resources, and expressly speaking against cabling the entire route. While the cable upgrades will be dependent on site-specific engineering studies the intent is to keep the route, and the cabled sections, as close to the original alignment as possible.

Many comments were in opposition of requiring guides to access the route which is currently open to the general public. Recommendations were made to consider a permit system if use continued to grow, and to increase parking at the off-Forest Trailhead which serves as access to the Via Ferrata, Bridal Veil Falls, and the exit to Black Bear Pass. The issues of guide services, permitting, and off-site parking are outside of the scope of this analysis.

Additional recommendations from commenters included installing signage in both English and Spanish and supporting one-way directional travel both of which will be implemented when signs are upgraded.

Findings Required by Other Laws and Regulations

This decision is consistent with the 1983 Grand Mesa, Uncompahgre and Gunnison National Forests Land and Resource Management Plan and associated amendments. Requirements of the Endangered Species Act, the National Historic Preservation Act, and the Clean Water Act (as it relates to floodplains, wetlands, and waters of the United States) are also addressed.

Administrative Review Opportunities

This decision is not subject to administrative appeal or objection.

Implementation Date

This project may be implemented upon completion of all necessary reconstruction and standardization work. The trail shall pass any required engineering inspections before being adopted as a National Forest System trail.

Contact

For additional information concerning this decision, contact: Megan Eno, District Ranger, at megan.eno@usda.gov or 970-327-4261.

MEGAN ENO

Date

Norwood District Ranger



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