



Request for Proposals

Loops Renewal on the SHT: Bean and Bear Lakes Loop

Issued: December 7, 2023

Proposals Due: January 8, 2024

The Superior Hiking Trail Association (SHTA) seeks proposals from individuals and businesses with expertise and extensive experience in rehabilitation/renewal of existing hiking trail according to modern, sustainable construction techniques and standards, including, but not limited to: clearing; building tread; installing puncheon and boardwalk; using local, on-site stone to build retaining walls, steps, and other trail improvement features.

About the SHTA and the Bean and Bear Loop:

The SHTA is a non-profit organization tasked with the maintenance and renewal of the approximately 320-mile long Superior Hiking Trail that follows the rugged terrain along Minnesota's north shore of Lake Superior from the Wisconsin border at its Southern Terminus to the Canadian Border at the Northern Terminus.

The Bean and Bear Lakes Loop is located almost entirely within Tettegouche State Park just outside of Silver Bay, MN. It is a very popular loop trail, approximately 4.5 miles in length. The section begins at the trailhead on Penn Boulevard in Silver Bay. After about two miles, the trail splits as it comes to the loop portion. The main trail continues to the west, or clockwise and follows the high ridges above Bean and Bear Lakes. The trail splits again just beyond Bear Lake, follow the spur trail south (the backside of the loop) to close the loop (the main SHT continues east). For reference, the area can be broken down into the "stem" of the loop (Penn Blvd to the first split), the front side, or main trail that passes by the lakes, and the spur or backside that leads back to the stem. There is another spur trail that heads east and ultimately

south about halfway down the backside of the loop. This trail goes to the Visitor Center in Silver Bay, and is not part of this project.

About the Project:

The SHTA is seeking approval and support from the DNR and Tettegouche State Park to close the front side of the loop for the 2024 season, and the backside of the loop for the 2025 season. The stem will remain open to facilitate travel by through-hikers.

This project is primarily focused on the rehabilitation of existing, worn out tread (reshaping, installing drainage), replacement of worn out puncheon, boardwalk or stairs, or installation of new structures. There is plentiful natural stone in this area, and it is hoped that the Contractor will make use of this material, especially for stone steps, to create a beautiful and durable trail that blends in with the natural surroundings.

Tread repair involves reshaping the tread to facilitate the flow of water across the trail and the movement of people along the trail. This includes but is not limited to: removing slough and berm; cleaning drains that have filled in or installing new ones where needed; uphill ditching and cross drains; mitigating rocks, roots and stumps that hold water and impede traffic; and defining the trail where it has widened for various reasons.

Due to the heavy use in this area, consider the construction or definition of “pull-off spots” that allow people to move aside to facilitate passage of other users. Logical locations for these features would be at the top, bottom, or possibly the midpoint on a hill, or at either end of a long structure. These could be identified during the pre-construction site visit.

We have provided a map with data points that show the major problem areas along the loop that need to be addressed, along with a spreadsheet with proposed solutions. **These are the project deliverables.** Some of the recommendations have already been addressed by SHTA in recent years (colored bright green in the spreadsheet), but they were left in for reference. Some points were removed from the spreadsheet, but may still be on the map, disregard these. Where structures are to be used, the type (boardwalk, puncheon or steps) and length is specified. The design of the structure is negotiable, as long as it meets or exceeds the SHTA specifications. As stated before, the trail is within a state park and very heavily used, and all work must be completed to the highest standards for safety and longevity.

Puncheon and boardwalk should be 32” wide throughout the loop. All puncheon and boardwalk should have about 6” of clearance from the ground to the bottom of framing. Timber and stone steps should be a minimum of 36” wide, and step height should range from 7” - 8” high.

Please include material costs (lumber, hardware, etc.) with your proposal.

A portion of the proposed work is still in need of approval by the DNR but is currently under review, this includes a realignment of the access trail for the campsite at Bear Lake along with six new tent pads, two short reroutes on the main trail (about 300 feet long and 600 feet long),

and one longer reroute on the backside (about one mile in length). SHTA requests that your quote breaks out the cost of these individual projects due to their contingency status.

The reroutes must be built with a finished tread width of 24 inch, full-bench construction, with a cleared corridor width of approximately 36 inches on either side of the center of the trail, for a total cleared width of 72 inches, or six feet. Trail can be roughed in with machinery, not to exceed 48-inch track width, but must be finished with a hand crew.

Rehabilitation of the Bear Lake Campsite

The campsite and access trail at Bear Lake is not large enough to accommodate the use, and has other serious issues. There is plentiful stone in the area for steps, checks and retaining walls, as needed.

1. **Access Trail:** The current access trail is about 500' long.
 - a. The intersection with the SHT and the campsite access trail needs to be improved with a level landing and proper drainage to keep water from running down the access trail.
 - b. The first 250' is steep and has failing stone steps near the top. The steps need to be rebuilt (about 100') and drainage provided. The grade mellows out after that, so a series of checks should be sufficient.
 - c. At the bottom of the hill, the trail follows the lake to the site and is too close to the shoreline. Close and rehab this section of the trail. May need to use primarily rock, as any brush will just float away during high water.
2. **New Campsite Access:**
 - a. A new access trail to the campsite is proposed to accommodate new satellite tent pads branch off along its length. The new trail is about 530'. It begins at the bottom of the hill, and heads back uphill for a short distance then follows the hillside above the lake. Once it reaches the campsite, it climbs, crosses the existing latrine trail and continues.
 - b. A trail from the proposed trail to the campsite exists, but needs to be defined and improved.
 - c. The latrine trail above the proposed access trail should be preserved, while the portion of the latrine trail below the access trail should be rehabbed and closed down. It is severely eroded.
3. **New Tent Pads:**
 - a. Six new tent pads are proposed. The locations are flagged out. The access trails to the tent pads are not flagged, but will need to be constructed, each are about 10-20' long. The tent pad locations are all on the hillside to discourage sprawl. They will need a short retaining wall built on the downhill side and filled to provide a level (with a slight downhill pitch) pad, approximately 10'x10'.
4. **Existing Campsite:** The current campsite contains a firepit area and tent pad in one location with a trail that leads to another tent pad.
 - a. Move the firepit/common area away from the lakeshore and rehab this area. Use the existing tent pad for the firepit/common area.

- b. Construct new benches and firepit
- c. Improve the trail (45' long) leading to the back tent pad. It needs to be drainage to allow seeps to continue downhill and not down the trail.
- d. Level back tent pad
- e. Latrine trail heads uphill from the back tent pad. As stated above, rehab and close down the latrine trail.

Reroute on the Backside of the Loop

The mile-long reroute on the backside of the Bean and Bear Loop is laid out and flagged. Some minor shifts in alignment are permitted with prior approval/discussion. It is anticipated that one boardwalk, approximately 130' long, will need to be constructed across a low wetland, the rest will all be standard tread construction. Two short connector trails will need to be built at two locations to connect the new route to the overlook at Elam's Knob (~320') and the trail that goes back to the visitor center (~275').

Timeline for Completion:

We plan to tackle this project in two phases, based upon our proposed schedule for trail closures. 2024 work will address the main trail, including the stem and the front side of the loop, which totals about 3.4 miles of trail, and work on the back side of the loop, which is about 1.25 miles in length, will take place in 2025. The rehab to the campsite can happen in 2024 if approved in time, otherwise it will be done in 2025.

Access for the Project:

There are many ATV trails around the Bean and Bear Loop that can provide access to various points of the loop.

Rehabilitation of Old Trail and Removal of Materials:

All old material and construction waste should be removed and disposed of. Any abandoned trail should be rehabbed and closed down.

Specifications:

1. Duties and Responsibilities of Contractor.

- 1. Contractor is expected to possess the necessary experience, skills and craftsmanship to renew and/or build high quality and sustainable natural surface hiking (or experience with similar) trails meeting or exceeding accepted industry standards.
- 2. Contractor is expected to possess the necessary experience, skills and craftsmanship to construct and install trail hardening structures such as

puncheon, boardwalk, stairs, etc., with lumber or other materials intended to take the place of lumber (fiberglass or other composites, etc.) or stone.

3. Contractor, crew, and any subcontractors associated with this project are expected to conduct themselves in a professional manner at all times.
2. **Field Layout and Design.** Where reroutes are proposed, they have been carefully laid out and flagged, but some minor adjustments may be permitted. If the contractor has any questions regarding the proposed alignment, they must discuss this with the SHTA prior to making any changes. If the contractor deviates from the established route, or outside any agreed upon buffer without permission, they may be required to fix the work without additional compensation.
 1. Corridor width shall be 6 feet wide, or 3 feet to either side of the centerline, and 8 feet high.
 2. Contractor should try to preserve large trees (8+” DBH) within this corridor and move the trail around them if possible
3. **Structure Construction (lumber).** Structures will be constructed using quality materials, built to withstand high use and the ravages of the elements. Substructure lumber (sills, stringers, posts, headers, etc.) will be treated, while preferred decking material is rough-sawn, and can be treated or natural. The design shall be simple and easy to maintain. Structures will remain sturdy and level over time and through changing seasonal conditions. They must not obstruct the natural flow of surface water, and should have, on average, at least 4 to 6 inches of clearance between the bottom of the framing and the ground. SHTA will provide design specifications and plans for all wooden structures (puncheon and boardwalk) that are SHTA-preferred methods of construction. Other styles or construction methods are permissible (if they meet or exceed the standards of the designs provided) but must be discussed with SHTA prior to construction.
 1. **Puncheon** is defined as having a sill on the ground which supports two stringers that run with the direction of travel. The decking is laid on top of the stringers, perpendicular to the direction of travel.
 2. **Boardwalk** is defined as a structure that is supported on two upright posts that are connected with a horizontal ledger. The posts have a wide foot attached to the bottom that carries the weight of the structure over soft or saturated soils. The frame sits on top of the ledger, and the decking is attached to the frame, which is perpendicular to the direction of travel.
 3. **Timber steps** are typically constructed with 6x6s and consist of a riser (front) and two side pieces that are dug into the hill. The pieces are lap jointed and pinned together. The center is filled with native material if suitable soil can be found, otherwise they can be decked with wood.
4. **Site Meeting/Visits.** Contractor will participate in an on-site construction meeting with the SHTA to discuss the project prior to commencement of work. SHTA will perform regular site visits as the project continues. Contractor needs to schedule a meeting with the SHTA any time there is uncertainty with the project.
5. **Trail Construction.** Contractor and all crew members shall be required to be knowledgeable of and have proven capability of meeting or exceeding the trail building

standards as defined in the MN DNR's Trail Planning, Design, and Development Guidelines along with all general standards and conditions defined in this RFP or otherwise adopted for this project prior to and during construction. Specifics include:

1. **Trail building techniques.** The Contractor is expected to be fully versed in the techniques used to build sustainable hiking trails; this includes, but is not limited to, understanding and applying rolling grades, inslope/outslope tread, knicks, grade reversals, rock armoring and trail hardening (including wooden structures), climbing/descending turns, water diversions, etc.
2. **Trail grades.** Grades shall not exceed guidelines as defined in referenced manuals, typically not exceeding ten percent (10%), unless approved by the SHTA. All trail grades must be sustainable, as determined by the Contractor.
3. **Surface water control features.** The trail shall use rolling contour or grade system, with the trail traversing hills or side slopes and incorporating natural grade reversals (which are typically required every 20 feet to 50 feet. If a grade reversal is not feasible, other surface water drainage structures at the same frequency to minimize the effects of water flow and erosion shall be required, such as rolling grade dips and knicks; the Contractor is expected to be fully versed in trail building techniques commonly used to prevent trail erosion and ensure long-term sustainability.
4. **Trail Construction in Flat Terrain.** Where the trail needs to be constructed on flat ground, Contractor needs to take added and adequate measures (trail hardening, including, but not limited to: boardwalk, stonework, or elevated tread and/or ditching) to ensure that the trail is sustainable and wetlands are protected.
5. **Tread Construction.** The Contractor shall typically follow these basic steps to construct a **full bench** cut sustainable trail, including:
 1. **Excavating the tread.** Cutting the entire specified trail width into the side slope; excess soil shall be broadcast down slope of the trail (failure to disperse material down slope and away from the trail tread will not be allowed).
 2. **Cutting the backslope.** Backslope shall be compacted and naturally blend into the slope above the trail; maximum backslope shall be at natural angle of repose, but not exceed 45-degrees angle unless approved by Construction Manager.
 3. **Outslope the tread.** Typically 5 percent to ensure proper sheet flow of water across the trail tread, rather than down the trail tread; where the existing surface sideslope is less than 5 percent, the outslope shall conform to the existing sideslope; removed material shall be broadcast down slope of the trail in a thin layer; the critical point where the trail tread meets the downhill slope shall be rounded and well compacted.
 4. **Fine rake and compact the tread.** The entire width of the trail tread shall be evenly raked and then compacted by mechanized equipment furnished by the Trail Builder; soil compaction shall be completed with adequate soil moisture content to ensure proper compaction; fine raking

shall leave the trail tread flat and even, with no areas for water runoff to pocket.

5. **Finish the tread and trail corridor.** Remove any flagging and broadcast organic material originally raked off of the trail tread location down slope over the loose soil from the tread excavation; 'leave no trace' principles will apply; the area adjacent to the trail shall be restored to appear undisturbed; restoration of disturbed areas shall include but not be limited to raking and leveling disturbed soil adjacent the trail tread, spreading leaves and other similar organic material over exposed soil, and removing all evidence of construction and equipment.
6. **Mechanized Equipment Best Practices.** It is the intent of the SHTA to minimize the impacts of construction, especially mechanized equipment. As such:
 1. All equipment will be clean and free of debris before being introduced to the work site. Equipment is subject to inspection at the start and during the project.
 2. All mechanized equipment shall be in good mechanical condition, free of any fluid leaks and be equipped with spark arrestors if applicable.
 3. Each machine will be equipped with a readily accessible fully charged fire extinguisher.
 4. Machine service and fueling is not permitted within 500 feet of a wetland or drainage.
 5. A spill kit suitable for five gallons of fluid will be onsite and within 500 feet of mechanized equipment whenever equipment is being operated.
 6. Using mechanized equipment equipped with tracks is strongly recommended. All track marks will be raked smooth and affected areas will be finished to have a natural shape, e.g., spoils piles rounded, smoothed and cleared of significant brush, blade edges blended.
 7. Scarring of trees within and outside the corridor is to be avoided.
 8. Machine access is restricted to the trail corridor, separate access routes may only be created and used with prior written permission of the SHTA. Any approved access route must be retired and reclaimed back to its original condition upon project completion. Any proposed turnarounds shall be approved prior to construction and must be retired and reclaimed back to its original condition upon project completion.

Any equipment that does not meet these criteria shall be shut down until in compliance. If not correctable, it will be removed from the project site at the request of the Owner and at no additional cost to the Owner. As part of their bid package, the contractor will be asked to supply the expected list of mechanized equipment required to complete the project.

6. **Performance and Progress Assessment.** If the SHTA feels that the project is not moving according to schedule, or that the work is not up to industry standards, the Contractor will be notified and must take steps to remedy the matter. If improvements are not made satisfactorily, the SHTA reserves the right to remove the Contractor from the project.

7. **Quality Control and Crew Expectations.** As previously defined, the Contractor shall employ workers skilled and experienced for the specific task required. The Contractor and crew leaders are responsible for the performance and professional manner of all crew members. Any crew or crew member acting in a nonprofessional or inappropriate manner that jeopardizes the health, safety and welfare of other crews working on the site, or the public at large, will be cause for dismissal of that member or the entire crew, at the discretion of the SHTA. Failure to immediately address such issues may be cause for cancellation of the contract.
8. **Backcountry Protocol/Safety.** The Contractor and crew members shall be familiar with backcountry operation and safety protocols as well as be familiar and adept at “leave no trace” practices. Cell reception is spotty. Having back-up communication and navigation devices is strongly recommended. Contractor is responsible for providing all necessary Personal Protective Equipment. Crew members operating machinery or a chainsaw should work in close proximity with at least one other person. Each crew should have an OSHA-compliant first aid kit readily available.
9. **Construction Facilities and Site Protection.** The Contractor is responsible for maintaining the work site in a safe and responsible manner. This includes erecting and maintaining fences and barricades when necessary to provide adequate protection for their own and other crews, and other authorized project members. The Contractor shall secure, properly cover and protect his own equipment, materials and work against damage of any kind until this project is complete and the SHTA takes possession. The Contractor shall maintain a neat and orderly job site and shall promptly remove all debris and dispose of the debris legally off site. The Contractor shall remove all temporary fences, barricades, signs, etc. upon completion of the work.
10. **Tree and plant protection.** The Contractor shall protect trees and root systems outside of the defined trail tread, front slope, and back slope area from damage from construction equipment or damage due to soil compaction. The Contractor shall erect snow fences or flagging around any trees or plants designated by the SHTA to be protected or at other locations as directed.
11. **Working with Volunteers.** Volunteers may be involved with this project in some capacity; the Contractor must indicate whether they are willing and able to work with, or supervise, volunteers, and how that affects bid pricing.

Invasive Species Prevention

Contractors must follow Minnesota DNR’s Operational Order 113, which requires preventing or limiting the introduction, establishment and spread of invasive species during activities on public waters and DNR administered lands. This applies to all activities performed on all lands under this grant-funded contract and is not limited to lands under DNR control or public waters. Duties are listed under Sections II and III (p. 5-8) of Operational Order 113 which may be found at: http://files.dnr.state.mn.us/assistance/grants/habitat/heritage/oporder_113.pdf.

Prevailing Wage

All State funded or partially State funded work against this contract is subject to the prevailing wage requirements pursuant to Minnesota Statutes 177.41 to 177.44 and corresponding Minnesota Rules 5200.1000 to 5200.1120 as established by the Minnesota Department of Labor and Industry. Specifically, all contractors and all tiers of subcontractors must pay all laborers and mechanics the established prevailing wages for work performed under the contract. Failure to comply with the aforementioned may result in civil or criminal penalties. The Department of Labor and Industry has a web page with Frequently Asked Questions about prevailing wages at:

<http://www.dli.mn.gov/business/employment-practices/prevailing-wage-information>.

Labor Codes applicable to this project, taken from the **Highway/Heavy** wage rates (for the most up-to-date information on wage rates, please visit https://workplace.doli.state.mn.us/prevwage/highway_data.php?region=01. Complete job description can be found at: <https://www.revisor.mn.gov/rules/5200.1101/> and <https://www.revisor.mn.gov/rules/5200.1102/>):

- As of April 4, 2023 these job descriptions and wage rates apply:
 - **101 – Laborer, common:** Loading, unloading and staging construction materials; clearing and grubbing with hand tools; using a chainsaw to clear trees and brush; removing materials to be discarded.
 - **Basic Rate: 35.53 Fringe Rate: 22.67 Total Rate: \$58.20**
 - **703 – Bricklayers (includes stonemasonry):** Laying all riprap, rubble work, with or without mortar, setting all cut stone, marble, slate, or stone work.
 - **Basic Rate: \$31.83; Fringe Rate: \$35.32; Total Rate: 67.15**
 - **704 – Carpenter:** Constructing, erecting, installing, and repairing structures, structural members, and fixtures made of wood, plywood, and materials that take the place of wood, such as metals, composites, and fiberglass, using carpenter hand tools and power tools.
 - **Basic Rate: 38.21 Fringe Rate: 27.58 Total Rate: \$65.79**
 - **313 – Hydraulic backhoe (track or wheel mounted):** and/or similar equipment with shovel type controls up to 3 cubic yards including all attachments.
 - **Basic Rate: 42.81 Fringe Rate: 25.00 Total Rate: \$67.81**

If the contractor anticipates performing tasks that are not covered by this list, please contact the project manager (SHTA).

The contractor must also submit Department of Labor certified payroll forms with each invoice (forms can be found at:

https://www.dli.mn.gov/sites/default/files/pdf/pw_certified_payroll_form.pdf)

For questions regarding the Prevailing Wage Laws, contact the Department of Labor and Industry at 651.284.5091.

Please include the following information with your proposal:

1. Cost estimates for the project, broken down into mobilization, labor, materials, travel and lodging. If you have a fixed cost for structure construction that lumps labor and materials together, that is fine, just specify that this is the case.
2. Labor costs should be broken down into:

1. Bringing in materials for puncheon, boardwalk, stairs, etc.
 2. Tread rehab
 3. Tree and brush clearing and removal on reroutes, if this is an additional cost
 4. Structure construction (puncheon boardwalk, stairs, etc.)
 5. Construction of three reroutes
 6. Removal and disposal of old puncheon and construction waste
 7. Decommissioning/closure of the old trail where reroutes are constructed
3. Your availability, or potential start date.
 4. Your qualifications for performing rehabilitation to a natural surface trail and constructing durable structures, and your past experience building and maintaining hiking trails or other recreational trails, including creating accurate cost estimates.
 5. Documented evidence (photos, organizational newsletters or other material) of trail construction or repair projects you have overseen or participated in.
 6. At least two references from customers of your work. (If you work for a nonprofit organization, please provide testimonials or references from volunteers who have worked with you.)
 7. A list of all equipment (make, model, year and width) that will be used on this project must be submitted with bid for approval.
 8. A list of all equipment operators with hours of experience on each piece of equipment must be supplied with your bid.

PLEASE SUBMIT YOUR PROPOSAL NO LATER THAN January 8, 2024. If your proposal is selected, contract details can be made final following your on-site review of the project, if needed.

Send Proposal, or questions to:

Tamer Ibrahim, Trail Operations Director
Superior Hiking Trail Association
tbrahim@superiorhiking.org
218-370-8393

“Funding for this project was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR)”

Waypoint Code	Action Need	Notes
BB-01	Repair rock steps near highway (armor sides) or relo trail thru parking lot and angled up hill-thus eliminate rock steps. If relo won't work, add 5 ck steps/waterbars between ATV and open area.	
BB-02	Install 5 check steps/waterbars	
BB-03	Fix and improve rock steps just below road-just beyond, put blazes on trees not rocks.	
BB-04	Install 1 switchback to SE to avoid steep trenched trail. Each leg approx 100'.	This section was addressed with some drainage and stone steps, but it may need an additional step or two.
BB-05	Install 3 waterbars on slope.	
BB-06	Rearrange loose rocks to create flatter walking surface with some steps.	
BB-07	Replace all the conglomeration of stuff in place with 250' of puncheon.	
BB-08	Cross ATV trail	
BB-09	Some existing puncheon. Replace and extend to 340'.	Approx. 500' puncheon built in 2019. Extend existing puncheon another 16-20' and provide drainage at mid-point between sections and at north end.
BB-09a	Rearrange loose rocks to create flatter walking surface with some steps, add drainage where necessary, approximately 250'	
BB-09b	Rearrange rocks, add fill/crush, install drains as needed, 100'	
BB-09c	Crush and fill, 20'	
BB-10	Install drainage ditch(s) and install stepping stones.	10 stones set in 2019, 1-2 more stepping stones needed on far (west) end
BB-10a	Improve old stone staircase, reset and add steps	
BB-10b	Finish staircase that was started in 2019	Might need 10 more steps, with drainage above
BB-11	Relo trail 100' length to NE to avoid 45' wet area. See track recorded.	No action needed
BB-11a	Add checks and drains, 120'	
BB-11b	Add checks and drains, 120'	
BB-12	Construct 300' reroute to avoid wet area	Pending approval
BB-12a	Rearrange loose rocks to create flatter walking surface with some steps.	
BB-13	Install wood/rock check steps and waterbars. About 5.	Significant erosion, especially near bottom of slope
BB-13a	Reset steps and add new as needed to keep step height consistent	
BB-14	Install rock steps to tie in with sloping bedrock-possibly 3-5.	
BB-15	Construct 600' Relo to avoid steep slope and wet spot.	Pending Approval
BB-16	Relo to avoid two wet spots.	1700' reroute completed in 2023.
BB-17	Install 300' puncheon.	Bypassed with reroute
BB-18	Rebuild rock staircase	
BB-19	Rebuild rock staircase	
BB-20	Install 5 waterbars on spur to Penn Cr Campsite	
BB-21	Spur to Bean Lake, unofficial	
BB-22	Install wood or stone check steps and waterbars for 200'	
BB-23	Install wood or stone check steps and waterbars for 200'	
BB-24	Install simple drainage ditch to drain water hole.	
BB-26	Install 3 check steps.	
BB-27	Install large stones along sides of rock steps to force use of steps.	
BB-28	Deberm and install waterbars	
BB-29	Crush and fill to harden wet area for 100'	
BB-31	Install approximately 10-12 check steps/waterbars between 31&32	
BB-32	Install approximately 10-12 check steps/waterbars between 31&32	
BB-34	Install about 10' of stepping stones thru muddy area.	
BB-35	Rearrange rocks for 185'. Now loose/scattered. Improve walkability.	
BB-35a	Install/repair stone steps, add drainage	
BB-36	Install 3 waterbars on slope.	
BB-37	Install 35' puncheon	
BB-37a	Approximately one mile reroute will follow high ground just past 37 until it meets the trail again at the new reroute at BB-16. Datapoints 38-47 will be bypassed	Pending approval
BB-38	Install simple drainage ditch to drain water hole.	
BB-39	Install 48' of puncheon	
BB-40	Replace existing structure with 16' Puncheon Bridge	
BB-41	Install 165' Puncheon	
BB-42	Explore simple relo to N (probably 1 switchback) to avoid fall line trail.	
BB-43	Explore simple relo to N (probably 1 switchback) to avoid fall line trail.	
BB-45	Install 120' puncheon	

BB-46	Design 1 switchback (each leg about 100') to NE to avoid steep rock descent.	
BB-47	Install 128-130' Puncheon	
	Color Key:	
	Puncheon	305 (or 784 if long reroute is not built)
	Treadwork	
	Rockwork	
	Reroutes	
	Wooden Check steps	
	Completed!	
	Miscellaneous	