
FOREST PRESERVE DETAILED PROJECT WORK PLAN

Fiscal Year 2023-2024

Project # 2023-WB-011

CO WP 348

<u>Region</u> 5	<u>Project Title</u> Ragged Mountain Trail
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<u>Project Type</u> New Construction	<u>Town(s)</u> North Hudson	<u>County</u> Essex	<u>Management Unit</u> Vanderwhacker Mountain Wild Forest
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Description of Desired Condition(s) for Project

A properly designed and constructed hiking trail will maintain its firm and stable surface for the intended use and do so with minimal maintenance. A sustainable trail ensures environmental protection, user safety, function and enjoyment. In addition to the sustainability/resiliency of the trail, the trail must also be designed and constructed to blend well with the surrounding environments Wild Forest Character, which also enhances the user experience.

Climbing areas, especially at the base of routes offer a slightly different set of variables for desirable conditions than the access trail itself, but the overall goal of resiliency is the same. The top and bottom of climbing routes are often located on steep slopes of various soil types that can be prone to erosion. Desired conditions for routes are a firm and stable area to prepare for an ascent, a face that accepts removable anchors, and a top that is either firm and stable or that cannot easily be topped out. These conditions offer protection to the vegetation above the face and the face itself.

Description of Project Specifications

The 2018 Vanderwhacker Mountain Wild Forest (VMWF) Unit Management Plan (UMP) Amendment describes a trail from the Ragged Mountain Parking Area along Gulf Brook Road to the bottom of the rock-climbing routes on Ragged Mountain. There has been a well-established herd path here since the property was purchased in 2018, but it is not in a sustainable location and most of the grades exceed sustainable standards. To correct this, the UMP says:

- Construct a Class III foot trail from the Ragged Mountain Trailhead to the bottom of the climbing faces on Ragged Mountain. A herd path has already developed and in order to ensure a sustainable trail a formal trail will be designed and sustainably constructed.
- Stabilize soil at the top and bottom of climbing routes where erosion is identified as a problem. Terracing and other forms of stabilization will be used if erosion begins to occur.

The objective of this work plan and the facility itself is to outline and construct the immediate needs within the proposals laid forth above. The immediate needs being to construct a sustainable trail between the parking and climbing areas, and to harden the area at the base of the main routes, thereby creating a sustainable trail and stabilizing the soils at the base of the climbing routes to prevent additional erosion.

The connection from the parking area to the face of Ragged Mountain proceeds generally south through varied terrain. All aspects of sustainable trail construction will be used including but not limited to brush and tree cutting, bench cutting, steppingstones, downslope tread retention, and the construction of three bridges over drainages. These techniques will be implemented and used together in a way that creates a durable and sustainable surface while minimizing the overall impact to the site during trail construction. Trail hardening will be done with on-site natural materials and bridges will be constructed of treated lumber.

This route is primarily for climbers, but it also provides an opportunity for a short round trip of less than a mile for anyone seeking a quick roadside hike. The trail layout and construction techniques mentioned above not only armor against human use, but also runoff and erosion from ever changing weather events making the trail more resilient and sustainable long term.

Description of Measures Taken to Avoid, Mitigate and Minimize Impacts to Natural Resources

The 0.4-mile-long trail is designed to current sustainable standards which seek to minimize slope and sensitive areas, and fully develop a firm and stable tread that is resistant to user created and natural erosion. While the new trail will be constructed to be sustainable, it will remain aesthetically primitive in nature, so it blends with the wild character of the surrounding environment. Part of this blending is through careful micro layout that minimizes vegetative disturbance. This not only allows the trail to smoothly transition into its surroundings, but also maximizes root and soil retention in the corridor. Due to the trail layout, sustainable construction, and bridge design, the trail will not have any negative effects on water quality and will reduce the risk of future erosion into the stream systems by constructing a sustainable trail and bridges that are resilient and more resistant to weather events than the current herd path.

The trees to be removed are as follows: 66 trees between one- and three-inches Diameter at Breast Height (DBH) and 14 trees at three-inches DBH and above.

State Land Tree Tally

Project: Ragged Mountain Trail

State Land Unit: Vanderwhacker Mountain Wild Forest

County: Essex

Town: North Hudson

Date Tallied: 5/2/22

Tallied By: Robert Ripp

Species	Diameter														Total
	2	4	6	8	10	12	14	16	18	20	22	24	26	28	
American beech		1													1
Sugar maple		6													6
Striped maple		2													2
Yellow birch			1												1
Ash		2	1												3
Red maple		1													1
Two-inch category	66														66
															0
Total	66	12	2	0	0	0	0	0	0	0	0	0	0	0	80

Click or tap to enter a discussion of the earthwork and disturbance necessary to complete the project. Include identification and justification of any work anticipated outside the trail corridor.

The earthwork necessary to create a sustainable tread will vary throughout the trail due to varying slopes, soils, and location, but all of it will require the removal of organic soil layers and their replacement with mineral soil. Drainage features such as proper side slope, grade reversals, etc., will be incorporated throughout the trail to ensure water is shed as quickly as possible while keeping the tread firm and stable. The constructed tread will be nominally 14-18 inches wide, and the clear corridor encompassing the tread will be up to four feet wide and 12 feet high. This will allow for proper tread development and comfortable visitor use in all seasons.

The preferred maximum slope is 10%, which can and will be achieved throughout the majority of the trail. Given difficult terrain conditions, 10% may need to be exceeded in select areas. In these areas, additional hardening, downslope retention, steppingstones, or other features may be necessary to ensure the tread remains sustainable against use and erosion. Where the trail crosses a side slope which is steeper, the upslope/backslope, above the hinge will be greater and extend further than lower slopes. In these rare instances some work outside of the trail corridor may be necessary. If work outside the corridor does become necessary for sustainability and erosion control purposes, work will be kept to the minimum footprint necessary and will not exceed 24 inches outside the corridor.

Three bridges will be necessary along the bottom portion of trail to cross streams. There will be two 16-foot-long and one 10-foot long. All three will be four feet wide and constructed of natural materials, be well above mean high water, and outside of any wetlands. These stream crossings are necessary and will be located at the narrowest areas with the highest firm and stable banks. This will

be a significant gain in stream protection, as these streams are currently being forded by hikers, which is resulting in streambank degradation and erosion. Installing new bridges at locations which minimize impacts will significantly reduce current erosion and prevent future streambank erosion and degradation. The rest of the trail avoids stream crossings and wetlands to minimize any immediate and long-term impacts to these sensitive areas.

The upper section of trail immediately before the walls is steep with shallow soils. An approximately 75-foot-long section of trail will require downslope retention. This will ideally be constructed of on-site rock, but given the steep and shallow soils, mining rock may put slopes at risk. If this is the case, 6x6 timbers will be used to constrict the downslope soil retention. Regardless of material, the retention wall may need to be pinned to the bedrock to ensure stabilization.

The trail will end at the base of the main face which is where the majority of the climbing routes are located. This is where the highest level of use and user congregation occurs. Soil erosion has started occurring here in an approximately 14 feet by 20 feet area at the base of the main face. Soil loss varies from 12 inches to 21 inches of depth. The average amount of soil loss appears to be about 12 inches. Photos of this can be seen in pictures below. Vegetation and soil loss will continue through natural weather events and human use if the area is not stabilized. A two-tiered approximately 14 feet by 14 feet three-sided downslope retention wall will be constructed here. The lower tier will encompass the entire social area at the bottom of the route. The upper tier will be a smaller area within the first tier located next to the wall. This will serve as the start to the routes. The tiers/crib walls will ideally be constructed of on-site rock. Given the steep and shallow soils here, mining rock may put slopes at risk. If this is the case, six by six timbers will be used to constrict the crib walls (tiers). These areas will be filled with mineral soil which will stabilize the site and provide a desirable congregation area for climbers to use. Steps may be installed to transition from the cribbed walkway area to the crib retention wall.

The work outlined above is intensive in some areas, but it is necessary for long-term resiliency to guard against ever increasing weather events and human use. All the variables mentioned above were weighed and balanced in an effort to minimize the overall short- and long-term impacts to the site. This minimization and balance will result in a sustainable facility that protects the natural resource while also serving the users of the area.

There are no documented Natural Heritage does not list any occurrences of Rare, Threatened, or Endangered species occurrences within 0.25-miles of the project location.



(Soil from climbing route moving downslope)



(Erosion from climbing route)



(Left side of climbing area, natural soil line marked by orange flagging. Approximately 21 inches of soil loss at this point)



(From a distance, same 21 inches soil line as previous picture)



(Right side of climbing area, natural soil line marked by orange flagging. Approximately 17 inches of soil loss)



(Trail near climbing area, natural soil line marked by orange flagging. Approximately 10 inches of soil loss)



(Climbing area soil loss)

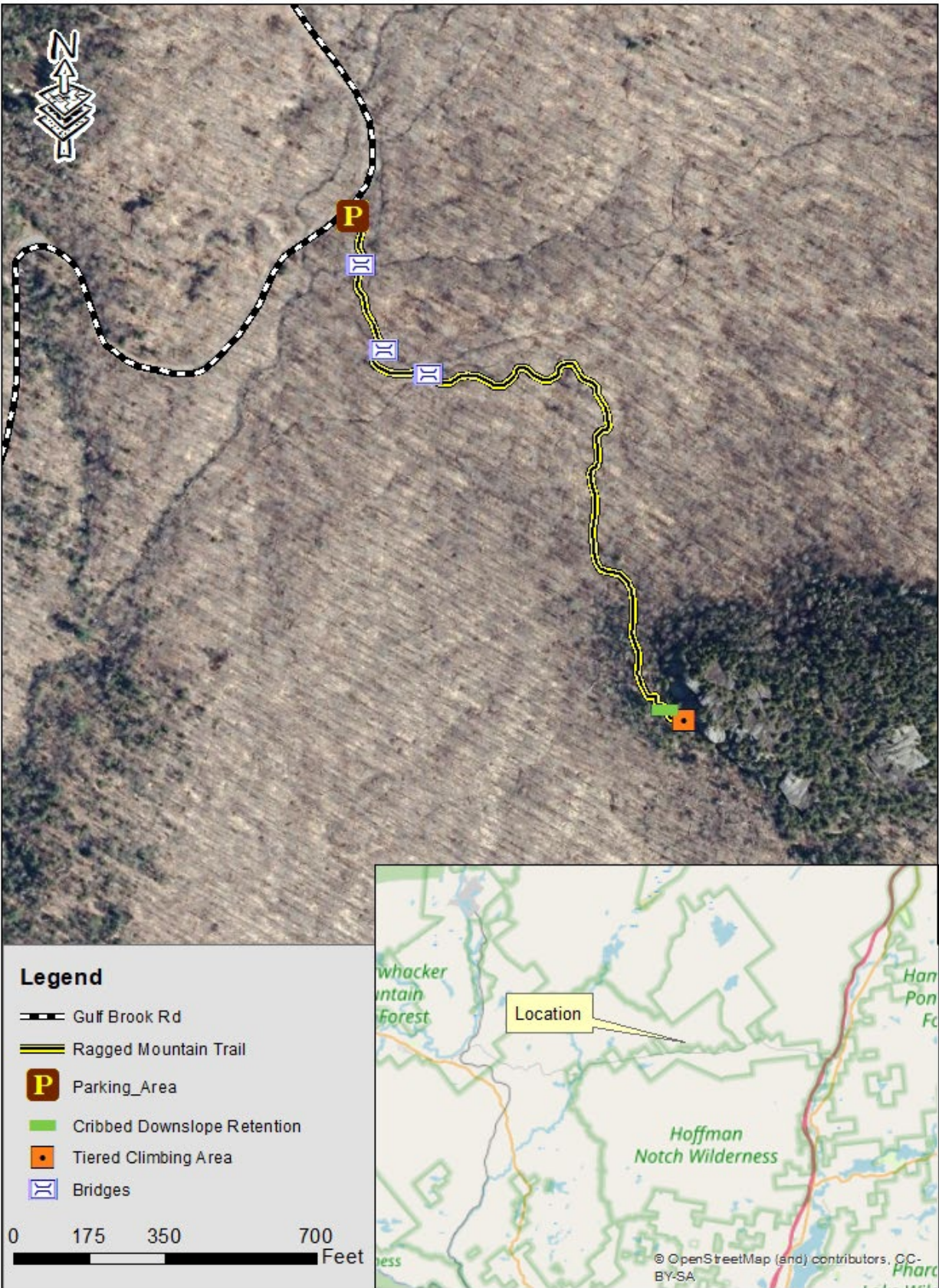


(Center of main congregation area at wall base. Twelve inches of soil loss)



(From a distance, center of main congregation area at wall base. Twelve inches of soil loss)

Ragged Mountain Trail



Analysis of Project Location and Design Alternatives

The no action alternative was considered but given the amount of erosion that has occurred at the base of the main wall and the erosion that has started near the stream crossings, it was dismissed in favor of correcting these eroded areas and creating sustainable structures resilient to weather changes and human use. The current 0.4-mile-long alignment is located in a manner that minimizes slopes and poorly drained soils and also places stream crossings in areas where the stream is narrow and the banks are firm and stable, which will maximize sustainability and minimize the risk of erosion. Other routes connecting the parking area to the climbing wall were looked at, but they utilized steeper terrain, would have required more tread development, and likely would not have been sustainable for human use or resilient to weather events. They were dismissed in favor of the proposed route. Tree cover is consistent throughout the area, so it was not the main consideration in the general location of the trail, but it was strongly evaluated during the micro layout of the trail. Whenever possible, tree cutting is avoided to maximize the remaining vegetation and help to blend the trail into its surrounding environment.

Description of Use of Motorized Equipment and/or Motor Vehicles (if any)

Chainsaws will be used to clear the corridor, and battery drills will be used to build bridges. The majority of tread development will be completed using a micro-sized tracked excavator and tracked mini skid steer. This micro-sized equipment easily fits within the trail corridor and has very little impact to the soil. Using this equipment will minimize the time needed to complete the project and significantly decrease the amount of traffic needed on soils during construction.

Description of Applicable Standards for Accessibility by People with Disabilities

The construction of this trail will not meet the standards for an accessible trail. Compliance with accessibility requirements is not practical because compliance would fundamentally alter the nature of the proposed hiking trail. Bringing the trail into compliance with accessibility standards would also result in more terrain manipulation and tree cutting. Given these considerations, a foot trail will be constructed as prescribed in the UMP.

Other Relevant Considerations

The user created herd path is starting to show signs of erosion near water crossings and the area at the base of the main wall has lost soils that can be measured in feet rather than inches. These issues need to be corrected to protect water quality and additional soil loss along the climbing wall. The path provides easy access to a desirable climbing route that data shows is often used. Constructing a new sustainable access site that is resilient to use and increasing weather events is the most favorable erosion control and ecological management decision. The decision will also improve the access and aesthetics, making it a more desirable destination for users.

Prepared by (Name & Title): Robert Ripp
Phone: (518) 897-1305

Date: 7/28/2023

Approvals:

Comments:



Regional Program Manager
Date: 12/1/2023



Regional Director
Date: 9/04/2024



Division Director
Date: 8/28/2024

REGULATORY CLEARANCE CHECKLIST – STATE LANDS and CONSERVATION EASEMENT PROJECTS

PROGRAM	PERMIT	REQUIRED		SECURED BY	COMMENTS
		YES	NO	(NAME)	
Air Resources	Restricted Burning	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Mineral Resources	Mining	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Materials Management	Solid Waste Mgt. Fac.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Water	Dam Safety Review	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Const. in Flood Hazard	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Public Water Supply	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	SPDES	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Spills Management	Petro. Bulk Storage	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Lands and Forests	Unit Management Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Robert Ripp	Approved in the 2018 VMWF UMP Amendment
	Tree Cutting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Robert Ripp	Approved through this work plan
	Protected Native Plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Historic Preservation	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Fish and Wildlife	Freshwater Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Wild Scenic & Rec. River	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Compliance Services	Other Protection of Waters	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	EAF	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Negative Declaration	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Env. Impact Statement	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Water Quality Cert.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
DEC (other)	CP-17	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Commissioner (aircraft, motorized equipment)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Flight Request	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Contract Clearance Sh.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	DOB Exemption	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Other Agencies	APA MOU	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	APA Wetlands Permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Corps. of Engineers	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Building Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Local Permits	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Easements	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	Highway Enter DOT	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Wastewater Disposal	<input type="checkbox"/>	<input checked="" type="checkbox"/>			