

**Appendix B-8**

**LAKE TAHOE RESTORATION PROJECTS  
ESTIMATED NECESSARY EXPENSES & KEY MILESTONE DATES**

Project Name: Basin Wide Trails ATM Phase 3 Agency: USDA Forest Service, LTBMU  
 Prepared by: Catherine Schoen Phone: (530) 543-2670 EIP #: 965.10  
 SNPLMA Project #: \_\_\_\_\_

**Identify estimated costs of eligible reimbursement expenses:**

**1. Planning, Environmental Assessment and**

**Research Costs** (specialist surveys, reports, monitoring, data collection, analysis, NEPA, etc.) \$ \_\_\_\_\_ %

**2. FWS Consultation—Endangered Species Act** \$ \_\_\_\_\_ %

**3. Direct Labor (Payroll) to Perform the Project** \$ 160,000 21 %

**4. Project Equipment** (tools, software, specialized equipment, etc.) \$ 10,000 1 %

**5. Travel** (including per diem where official travel status required to carry out project, such as serve as COR, experts to review reports, etc.) \$ 30,000 4 %

**6. Official Vehicle Use** (pro rata cost for use of Official Vehicles when required to carry out project) \$ 5,000 1 %

**7. Cost of Contracts, Grants and/or Agreements to Perform the Project** \$ 400,640 53 %

**8. Other Direct and Contracted Labor:** Agency payroll for the Contracting Officer to do project procurement, COR, Project Inspector, Sec. 106 Consultation if required, NEPA Lead, Project Manager, Project Supervisor, and subject experts to review contracted surveys, designs/drawings, plans, reports, etc.; Also covered is the cost to contract for a Project Manager and/or Project Supervisor if contracted separately from other project contracts) \$ 57,000 8 %  
 \$ 90,360 12

**9. Other Necessary Expenses** (See Appendix B-11) \$ \_\_\_\_\_ %  
**TOTAL:** \$ 753,000 100 %

**Estimated Key Milestone Dates:**

Milestones/Deliverables:	Date:
<b>Complete project designs</b>	<b>April 2010</b>
<b>Complete contracts/agreements</b>	<b>July 2010</b>
<b>Complete construction</b>	<b>October 2012</b>
Final Completion Date:	December 2012

**COMMENTS:**

\_\_\_\_\_  
 \_\_\_\_\_

**ROUND 10 CAPITAL PROJECT NOMINATION FORM**  
**LAKE TAHOE FEDERAL SHARE EIP CAPITAL PROJECTS**  
**APPENDIX K**

**Project Name:** Basin Wide Trails Access and Travel Management (ATM) Plan Phase 3

**Federal Agency Sponsor:** USDA Forest Service

**Contact:** Catherine Schoen

**Threshold:** WQ

**Phone Number:** (530)543-2670

**Threshold Standard:** WQ-5

**Email Address:** cschoen@fs.fed.us

**Funding Requested in this Round:** \$753,000

**Total Project Cost:** \$5,000,000

**Federal Share EIP rationale** (select and describe appropriate EIP criteria from 5 items below – projects must meet one or more of these 5 items) :

1. Does the project involve federal land? **Yes**
  - If so, is the federal land involved important to successful implementation of the project? **Yes, all Forest Service trail projects are located on federal land to provide public recreational access to National Forest; therefore the federal land is important to the successful implementation of the project.**
2. Does the EIP identify the federal funding for the EIP project (project #)? **Yes, EIP # 965.10**
3. Does the project involve the conservation of a federal or regional threatened, rare, endangered or special interest species? **No**
4. Does the project involve an identified federal interest such as the detection and eradication of noxious aquatic or terrestrial invasive species? **Yes, it addresses unmanaged recreation which is identified as one of the four major threats to National Forests.**
5. Does the project otherwise directly support federal implementation of capital projects in the EIP (e.g. technical assistance, data management, resource inventories, etc.)? **No**

**List Capital Focus Area(s)** (as described in the 2006 Federal Vision):

Watershed and Habitat Improvement  
Recreation and Scenic  
Air Quality and Transportation

**Circle all that apply** (must meet a minimum of one category):

1. Continued emphasis on forest ecosystem health/fuels reduction projects considering the LTBMU Stewardship Fireshed Assessment and Lake Tahoe Basin Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy.
- ▶ 2. Continued implementation of projects approved in Rounds 5 through 9 which implement the EIP. Project proposal should identify the applicable project(s) from Rounds 5 through 9 and clearly describe the phase/product being produced along with the consequence of not completing the project phase proposed for Round 10.

**See detailed project description.**

► 3. Project is consistent with and contributes toward TMDL pollutant reductions within the four source categories (atmospheric, urban & groundwater, forested uplands, and stream channel). List source category being addressed and integrate into the project nomination the following TMDL considerations (\*see attached TMDL references – page 6). Source Category: Forested Uplands

a) Describe whether, and how, the project demonstrates advanced, alternative, or innovative practices.

**The trail projects to be implemented will utilize advanced trail design and construction techniques to mitigate the natural resource impacts of system and user-created trails. These practices include: relocating system trails out of stream environment zones (SEZs), upgrading stream crossings, installing way finding and restoration area signage to guide trail users to Forest Service system trails, and obliterating non-system trails.**

b) If project includes project level monitoring, describe ability of proposed monitoring strategy to contribute to the state of TMDL knowledge. Also describe if purpose of the capital project is to conduct data collection and/or analysis related to Lake Tahoe clarity.

**The only monitoring funded through this proposal will be implementation monitoring in the form of construction contract inspections. The LTBMU also does other implementation and effectiveness monitoring for the roads and trails program as described in the LTBMU 5 year monitoring plan (5 YR PLAN) which is funded through USFS base appropriations. The LTBMU's 5 YR PLAN project-level monitoring results will be periodically assessed in a comprehensive evaluation to calculate an estimated sediment load reduction from actual trails work and inform the TMDL effort for forested upland watersheds.**

c) Describe treatment approach for reducing pollutants, and/or measures to address connectivity between pollutant sources and Lake Tahoe or its tributaries. Identify target pollutants, and, to the degree feasible, provide quantitative estimates of project effectiveness at reducing pollutant loads (and/or a commitment to provide post-project estimates).

**User-created and poorly designed and located trails capture and concentrate surface runoff which increases the effective drainage of the areas in which they are located. Forest Service trail access and travel management (ATM) projects implement water quality best management practices (BMPs). Trail water quality BMPs are designed to reduce trail sediment erosion sources and surface hydrologic connectivity. This approach reduces the loads of fine sediment and dissolved nutrients that are mobilized and delivered to Lake Tahoe and its tributaries. Forest Service system trails will be relocated out of SEZs where possible to reduce soil impacts and trails remaining in SEZs will be reconstructed to drain away from the SEZs to reduce runoff delivery to these areas. Additionally, the Forest Service will retrofit substandard trails with drainage improvements to reduce the surface hydrologic conductivity and the occurrence and risk of erosion. Trail drainage improvements include reducing the lengths of possible runoff flow along the trail by installing drainage dips and using the natural topography to reverse the trail grades. This trail design and upgrade approach reduces the erosive energy, erosion potential, and sediment delivery to surface waters by trail runoff.**

**The project effectiveness for reducing target pollutant loads cannot be predicted at this time because the conceptual project plans do not provide enough detail for input to the Road Water Erosion Prediction Program (Road WEPP) model. Road WEPP modeling**

**has been used to identify the erosion risk and sediment delivery potential of the existing trails and to verify that installing trail water quality BMPs will reduce both erosion and sediment delivery. The LTBMU's 5 YR PLAN project-level monitoring results will be used to calculate an estimated load reduction from actual trails work with Road WEPP.**

d) If appropriate, describe whether, and how, the project can be combined or coordinated with other TMDL implementation projects.

**The Angora Fire Trail project (the major focus of phase 3 of the Basin Wide Trail ATM) will be combined and coordinated with the stream restoration and Angora Fire Road Mitigation (approved in Round 9) components in the Angora Fire Restoration project. All of these components of the Angora Fire Restoration project are anticipated to provide pollutant load reductions from stream channel and upland forest for achieving the Forest Service's Lake Tahoe Clarity TMDL allocations. The proposed Angora Fire road and trail improvements will provide a sustainable transportation system to allow for administrative vehicle access and quality recreation opportunities that will reduce fine sediment and dissolved nutrient loads to Lake Tahoe for the benefit of lake clarity. Similarly, the High Meadow/Cold Creek Ecosystem Restoration Project is a combined meadow restoration (implementation funding approved in Round 8), trail, and road decommissioning project that will provide water quality benefits and improve recreation opportunities.**

4. Control of aquatic invasive species and prevention and/or detection of new aquatic invasive species.

**Not applicable.**

**Provide an overall Project Summary (maximum 200 words): (describe ONLY this Round 10 project):**

This proposal represents the third phase of the Forest Service's Basin Wide Trails Access and Travel Management (ATM) Plan. This phase will fund the completion of final project designs for and construction of the Angora Fire Trail Project. Project funding will also be applied to constructing the following trail ATM projects (as funding allows): the Fallen Leaf Bike Trail ATM, trail components of the High Meadows/ Cold Creek Ecosystem Restoration project, and the Forest Service's portions of the Daggett Summit Trail System. The Angora Fire Trail Project consist of: relocating system trails to meet Forest Service trail design standards and for removal from SEZs; upgrading system trail stream crossings; obliterating non-system trails; upgrading adopted trails to Forest Service standards; installing trail system signs; and installing water quality BMPs at trail head parking. The Angora Fire Trail project will also provide a new system trail over Tahoe Mountain and new system trail links to mitigate unmanaged recreation impacts. The purposes of these actions are to provide a sustainable trail system that provides quality recreation opportunities and to reduce the propagation of user-created trails. The trail system is designed to reduce impacts to resources while improving access to National Forest.

**Please provide clear and concise written responses to each of the items below.**

**Please state "not applicable" if you believe the item or question is not applicable to your project.**

**Is this project proposed as a multi-round project (previous or future)? YES**

**(If yes, for previous or future projects describe in the Detailed Project Description below number of years or phases and which year the requested funding will cover).**

**Detailed Project Description** (focuses on what Round 10 is funding; list the number of years the requested funding will cover; briefly describe how this project links into previous and future projects).

The third phase of the LTBMU's Basin Wide Trail ATM Plan will fund the final stages of the engineering design and the construction of the Angora Fire Trail Project. This project will provide a water quality retrofit of the non-motorized recreation trails in and near the Angora Fire area to mitigate the adverse affects of unmanaged recreation use on National Forest land resources. As proposed in the project planning (which is occurring under the larger Angora Fire Restoration Project planning with non-SNPLMA funds), the Angora Fire Trail Project will result in:

- Constructing of approximately 3 miles of new trail to provide managed system trail links between new and existing roads and trails in the forest including segments of a new system trail over Tahoe Mountain on Forest Service land (which will also be comprised of existing system and adopted non-system trail segments).
- Rerouting of approximately 1.5 miles of system trail out of SEZs to less sensitive, higher capability land.
- Upgrading approximately 2 miles of adopted non-system trail and approximately 0.5 miles of non-system road to Forest Service trail standards.
- Converting 0.2 miles of unneeded system road through a SEZ to system trail.
- Constructing 2 trail stream crossing upgrades consisting of a multi-use bridge (preliminarily estimated to cost up to \$165,000) and a stream ford.
- Installing trail system way finding and restoration area signs at public access points to discourage use of obliterated trails. There are many user-created trails within the Angora Fire area. In order to change the current public use pattern, the new trail systems will need to be well posted and restored areas protected with signage. SNPLMA funding credit will be included on way finding signs at major access points.
- Installing water quality BMPs on the north side of Sawmill Road east of the intersection with Lake Tahoe Boulevard (in coordination with El Dorado County Sawmill 1B Bike Path and Erosion Control project planning) to mitigate the impacts of the compacted dirt shoulder parking at this trail system access point.
- Obliterating trails and restoring soil function on approximately 1.5 miles of decommissioned and rerouted system trail and on approximately 8 miles of non-system trails. Natural soil function will be restored by decompacting the soil with subsurface tilling and by providing a protective soil cover of plant materials or rock mulch. Surface recontouring will occur, where alteration of the natural topography by the trail (or road) prism creates erosion, to restore natural surface drainage patterns. Placement of large downed trees and rocks will be used to obstruct use of decommissioned and obliterated system and non-system trails.

It is anticipated that the construction of the Angora Fire Trails Project will occur over 3 years, starting in 2010 and continuing to completion by the end of calendar year 2012. The project description above is the proposed action for the Angora Fire Trails Project which is currently in planning and may change as a result of the National Environmental Protection Act (NEPA) process due to public scoping.

This proposal is for the third phase of the Forest Service's Basin Wide Trail ATM Plan. The funds will be used primarily for implementing the water quality retrofits of Forest Service system trails in the Angora Fire Area. The previous two phases of the Basin Wide Trail ATM Plan were funded under the following SNPLMA approved projects:

Round 8 – LTBMU- Basin Wide Trails BMPs Phase 1, and  
Round 9 – Basinwide Trails ATM Phase II.

Remaining Round 8 funds will be used to construct the North Shore Trail ATM. Round 9 (Phase II) funds will be fully utilized to implement the East Shore Beaches Trail ATM and a portion of the trail components in the High Meadows/Cold Creek Ecosystem Restoration Project (which will require addition funds to fully implement).

If the Angora Fire Trail Project scope is reduced as a result of the NEPA process, any excess Round 10 Basin Wide Trails ATM Plan funds will be applied where needed for the implementation of the Fallen Leaf Bike Trail ATM, the trail components of the High Meadows/Cold Creek Ecosystem Restoration project, and/or the Daggett Summit Trail System Project. Project planning for these trail ATM projects has been funded with the following approved SNPLMA projects:

Round 7 – Fallen Leaf Bike Trail Analysis and Design

Round 5 – High Meadows BMP NEPA/Design

The Daggett Summit Trail System planning was funded by a collection agreement with the Tahoe Rim Trail Association.

Not funding this round of the Basin Wide Trail ATM Plan will delay implementation of the Angora Fire Trails project. The delay would result in continued negative soil and water quality impacts from poorly located and sub-standard trails that lack the appropriate drainage improvements, and would prevent the planned trail system improvements that should decrease the propagation of new user-created trails.

**Describe the specific goals and objectives of the project and describe how fulfilling those objectives will contribute to the achievement of one more environmental thresholds (air quality, water quality, soil conservation, vegetation, fisheries, wildlife, scenic, noise, recreation).**

The overall goal of the Angora Fire Trail Project and all Forest Service trail ATM plan projects is to establish a sustainable trail system that will provide for recreation access to National Forest lands while minimizing impacts to natural and heritage resources. Specifically, the trails on Forest Service land will be designed and managed to protect water quality and restore soil function and natural surface drainage. Objectives to accomplish the project goal include:

- Select trail alignment, and design and upgrade trails to reduce water quality impacts.
- Minimize the concentration of runoff flows and erosion risk by system and non-system trails and their drainage improvements.
- Design and upgrade drainage improvements and stream crossings on system trails to withstand the appropriate design storm flows.
- Ensure BMP effectiveness through monitoring, maintenance, evaluation, adaptive management, and public education.
- Decommission unnecessary trails and reroute out of sensitive natural resource areas (including SEZs) where possible.
- Water quality retrofit trailheads.
- Protect heritage, wildlife, and botany resources.
- Prevent spread of noxious weeds.
- Provide system trail links between recreation, residential, and transportation center locations to provide alternative mode transportation routes.

Fulfilling these project objectives will provide contributions to achieving the water quality, soil conservation, recreation, and transportation/air quality thresholds. Minor contributions to achieving the air quality, vegetation, wildlife, and scenic thresholds may also result from implementing the project objectives

that restore soil function in areas of compacted soil.

**Describe the anticipated project accomplishments (i.e. products or identifiable environmental benefits being produced or implemented under this project):**

As stated in the detailed project description, the Angora Fire Trail Project could result in the following accomplishments:

- Construction of approximately 3 miles of new trail.
- Rerouting of approximately 1.5 miles of system trail out of SEZs and drainage courses.
- Upgrading adopted system trails to Forest Service standards on approximately 2 miles of existing non-system trail and 0.4 miles of non-system road.
- Conversion of 0.2 miles of system road to system trail.
- Construction of 2 trail crossing upgrades (one multi-use bridge and one stream ford).
- Installation of way finding and restoration area signs at new and obliterated public access points.
- Installation of water quality BMPs for shoulder parking on Sawmill Road east of Lake Tahoe Blvd.
- Obliteration of trails and restoration of soil function on approximately 1.5 miles of decommissioned and rerouted system trail, and on approximately 8 miles of non-system trails.

The project description above is the proposed action for the Angora Fire Trails Project which is currently in the planning stages. Planned and actual accomplishments may change as a result of the NEPA process. Additional accomplishments may be achieved in implementing portions of the other potential trail projects listed but cannot be estimated at this time.

**Describe the “readiness” of this project to move forward (urgency, capacity, capability, environmental documentation, interagency agreements, etc.):**

The Angora Fire Trail Project is currently in the planning stages as a component of the Angora Fire Restoration Project. Work on the project NEPA requirements has begun and is anticipated to be completed in mid 2009. The trail project design and implementation activities will be coordinated with the other Angora Fire Restoration Project stream restoration and forest fuel treatment activities to provide the earliest possible implementation of the proposed trail system improvements. Implementation of the proposed trail system improvements is urgent due to the increase risk and incident of user-created trail propagation in the burned area. The LTBMU will be increasing the number of trail crew personnel in 2009 to allow for greater trail project implementation capacity. The project will be implemented over a period of three construction seasons which should also allow for more flexibility in the coordination of needed resources.

**Describe partnerships for this project. (if applicable, project should identify committed/secured partner funding and/or other partner contributions (describe) and how it is integrated into the project):**

The LTBMU will continue to develop agreements with the Nevada Conservation Corps to utilize their crews in the implementation of trail projects. These trail crew agreements can be effective in reducing project implementation costs.

The Angora Fire Trail Project does overlap with and require coordination with other partner projects which are also currently in the planning stages (specifically El Dorado County’s Lake Tahoe Boulevard Lane Reduction/Bike Path and Sawmill 1B Bike Path projects). Another possible partnership with the Lake Tahoe Unified School District (LTUSD) exists to provide a trail link with the South Tahoe High School, but is not likely to result in additional project funding. Additional project scoping is needed to determine the full scope of project partnerships and to identify in-kind and other partner contributions.

The Tahoe Rim Trail Association has provided substantial contributions to the LTBMU's trail program and plans to continue their volunteer efforts toward implementation of the Daggett Summit Reroute project.

**Describe the estimated environmental risks from unintended consequences of the proposed project:**

There are no estimated environmental risks from unintended consequences of the proposed project. Replacing the existing high density, substandard trail network with a sustainable trail system may result in increased use by local users and Tahoe Basin visitors, but that increased use should not result in environmental degradation due to trail construction to Forest Service design standards and because Forest System trails are monitored and regularly maintained.

**Describe the project monitoring that will be implemented as part of this project including:**

The only monitoring funded through this proposal will be implementation monitoring in the form of construction contract inspections. All other implementation and effectiveness monitoring for the roads and trails program is funded through USFS base appropriations, and described in the LTBMU 5 YR PLAN. The 5 YR PLAN monitoring strategy is also described below.

**1) The questions the monitoring program is designed to answer**

Project funded monitoring: Is the project being implemented according to contract project plans and specifications?

Monitoring under LTBMU's 5 YR PLAN (funded from USFS base appropriations):

- Has the implementation of road and trail decommissioning and BMP upgrades reduced the potential for water quality impacts, and to what degree were BMPs successfully implemented and effective?
- What impact do forest roads and trails have on sediment loading to Lake Tahoe, and how successful are BMP retrofits and decommissioning in mitigating those impacts?
- Are temporary BMPS being adequately designed, implemented and maintained during construction projects?

**2) Describe the methods and strategies (i.e. monitoring, research, or both) that will be used to verify whether the project goals and objectives have been met? (Note, a detailed monitoring plan and/or research plan is not required, however, enough detail must be provided to allow someone that is unfamiliar with the project to understand and evaluate the proposed methods and strategies)**

Project funded monitoring will be direct visual observation of project implementation.

Monitoring under LTBMU's 5 YR PLAN (funded from USFS base appropriations): As described in 5 YR PLAN, a combinations of visual surveys (BMPEP evaluations, Temp BMP evaluations, Water Quality Risk Assessments) and WEPP modeling will be used to determine whether BMPs were implemented as prescribed, and the degree to which they were effective in reducing runoff and sediment loading.

**3) Describe whether the monitoring or research associated with this project fits into or is part of a larger monitoring or research program**

Project funded monitoring is not part of a larger monitoring or research program.

The 5 YR PLAN monitoring described above will be a continuation of the roads and trails monitoring program already initiated on the LTBMU, and documented both in the 5 YR PLAN, and the Comprehensive Roads Monitoring Report posted on the LTBMU external website. The protocols and evaluations described in this roads report will be utilized in a similar fashion for trails monitoring.

**4) Describe how information from the monitoring and/or research will be used to improve the continued performance of the proposed project or future similar projects**

Project-level monitoring results will be used in the short term to determine whether maintenance or corrective actions are needed to meet design goals and specifications. Project-level monitoring results will also be periodically assessed in a comprehensive evaluation to evaluate overall success of trail design approaches, and to calculate an estimated load reduction from trails work. The modeled load reductions will contribute to the TMDL effort for forested upland watersheds.

**Describe how the project results will be communicated and made available to the public.**

The proposed Angora Fire Restoration Project, including the Angora Fire Trail Project, will be presented in the NEPA documentation for this project. This information will be made available to the public per NEPA regulations. The results of the project will be communicated to the public through way finding and restoration protection signage throughout the project area, and by updating area trail maps to show the new transportation system configuration in the project area. Trail maps are available on request from the Forest Service.

**If applicable, include an 8 ½ X 11 map depicting the project.**

