

## **Appendix D**

### **Trail Funding Sources**



**Massachusetts Department of Conservation and Recreation Recreational Trails Grant  
Program.**

# Recreational Trails Program

## APPLICATION (updated 5/30/07) *four copies due October 1, 2007*

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### **PART I: Complete the application cover sheet (below)**

### **PART II: Narrative (2-3 pages)**

1. Explain your project's scope of work and what you intend to accomplish.
  - Describe the range of trail uses / users the project will serve
  - If it serves more than one use / user describe how it will actively facilitate each trail use
  - Describe how your project connects to or enhances a greater trail system, or how it solves an existing problem or issue.
2. Summarize the specific tasks to be accomplished during the course of the project. Include work that is part of the project match as well as proposed grant funded portions of the project. (Be clear and realistic.)
3. How does the project fulfill a recognized recreational or social need? Describe the need, how it has been documented and how the project fulfills it.
4. Describe how the project furthers a goal of an adopted statewide, regional, or local plan, e.g. Commonwealth Connections (available at [www.mass.gov/dcr/stewardship/greenway/connections.htm](http://www.mass.gov/dcr/stewardship/greenway/connections.htm)), a state park management plans, local master plans and open space & recreation plans.
5. Describe the relevant environmental and cultural issues. Describe the existing conditions on the project site, and how the project will minimize and/or mitigate impacts to natural and cultural resources.
  - *Specifically discuss whether the project will impact any wetland, endangered species, or historic resources, and how you will address permitting issues.*
  - *If your project will involve excavation or soil disturbance, specifically describe the extent of excavation (depth, width, length) and the machinery or tools that will be used.*
6. Describe the type of support your project has from the community and any partnerships that will be formed among trail users, organizations, agencies, and others. To document this support, please provide a letter from the chief elected official of the municipality(ies) where the project will take place, as well as other letters or commitments of matching support.
  - *If you are proposing a project that will take place on land that is not owned or managed by your organization/agency, you must include with your application a signed statement from the appropriate landowner or manager authorizing the project and ensuring "continuing public access".*
7. Provide any additional information, not listed above, as to how your project meets the program criteria listed in the guidelines.
8. Provide a realistic time-line for completion of the project, including grant- and match-funded activities.
9. Visual Support.
  - *You must include clearly labeled USGS topographic map(s) showing the specific locations of all work.*
  - You may also include up to three (3) additional visual items (i.e., photographs, diagrams, or plans) if they help to illustrate the proposal.

**Please limit your description (Part II) to 3 typed pages. Address the selection criteria but send only material that is necessary to support your proposal. Concise is best. Remember, four copies of everything.**

### **PART III: Budget (1 page)**

#### **A. Funding Request**

1. Dollar amount requested.
2. Itemized list of proposed expenditures for which you are requesting funding. (For example, project personnel time and cost per hour, costs of materials needed to complete the project, etc.)

3. If your project encompasses multiple state fiscal years (July 1 to June 30), try to break down your budget by fiscal year.

**B. Match**

1. Full dollar value of match to be provided.
2. Itemized list of contributions toward the 20% (*minimum*) *local match*. List sources and value of funds, in-kind services, volunteer hours, donated equipment, materials, etc.

**Recreational Trails Program  
2007 APPLICATION COVER SHEET  
SAMPLE**

*Please complete this sheet using only the space provided.*

Project Name: Brushy Mountain Trails

Organization: Town of ---

Brief organizational overview (municipalities, state agencies n/a):

*The organization applying is a municipality or 1900 residents located in the northern Connecticut River valley.*

Contact Person and title: Name, Title

Address: Address

Telephone: Phone Fax:  E-Mail: Email - Important

Project Location (town): Municipality

Amount Requested: \$9,694.40 Total Project Value: \$12,118

Will the proposed trail project actively facilitate use by:

Motorized users     Non-Motorized users X Combination of Users    

Have you previously applied for Recreational Trails funding? No

If so when?                                      Years Funded                                     

Please provide a three-sentence description of your proposed project:

*In 2002, the Town purchased a 53 acre parcel of land located behind the Elementary School that goes up the eastern side of Brushy Mountain. This project proposes to create a new trail and trail vistas for the public use and enjoyment of the land, and to connect the center of town to the Metacomet-Monadnock long-distance trail.*

**Please attach this application cover sheet to your proposal and send four (4) copies of the complete package to:**

**Paul Jahnige  
Department of Conservation and Recreation  
136 Damon Road  
Northampton, MA 01060**

**ALL FOUR (4) copies of your application package must be received by October 1, 2007 --  
No faxed applications please.**

**Fields Pond Foundation, Inc.**

# Fields Pond Foundation Inc.

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## Application Guidelines

### About the Foundation

Fields Pond Foundation was established in 1993 as a Private Foundation under IRS Sections 501(c)(3) and 509(a). Its primary mission is to provide financial assistance to nature and land conservation organizations that are community-based and that serve to increase environmental awareness by involving local residents in conservation issues.

The Foundation's emphasis stems from its founding Directors' beliefs that the conservation of special places in our environment, and providing public accessibility to those conservation areas, is a desirable end in itself; but it is also a means of building public support for future land and river conservation by increasing the direct connection between individuals and their environment, and fostering active participation in the work of conservation. The Foundation hopes to nurture such efforts by making grants under the following priorities:

1. Project grants for trailmaking and other enhancement of public access to conservation lands, rivers, coastlines and other natural resources;
2. Land acquisition and conservation;
3. Assistance in establishment of endowments as a means of funding stewardship of conservation areas; and
4. Related education programs and publications.

The Foundation encourages proposals from municipal government agencies. The Foundation may also consider short-term loans to conservation groups for the purpose of acquiring conservation lands. Outside its primary mission, it will also consider grant requests from other not-for-profit organizations with a demonstrated local impact in precollegiate education.

The Foundation is looking for grantmaking opportunities where a modest investment of grant funds can help in a significant way to improve public access to and enjoyment of natural areas, while maintaining the health and integrity of the environment. Projects in which volunteerism is a significant component are more likely to be funded.

### Application Procedures

We hope to make the application process as straightforward as possible. To save you time, we suggest you first determine whether your proposal falls within our general guidelines. Organizations with unique or complex projects are welcome to discuss their proposal plans with us, and may wish to begin the application process by submitting a one-page proposal outline. Among other purposes, the proposal outline is intended to save applicants from spending a great deal of time and expense in preparing elaborate proposals which may not be funded. Outlines are considered at the regular meetings of Directors, and applicants will be notified promptly regarding the outcome. If the Directors or staff believe that the concept merits further consideration, a full proposal will be requested.

We encourage applicants to contact us informally before proceeding to prepare a formal application.

*We are pleased to accept proposals prepared under the Associated Grant Makers (AGM) Common Proposal Format.*

Other full proposals need not be more than three or four pages long, plus attachments, but should include the following:



## Information About Your Organization

- History of the organization, its mission and major accomplishments, its geographic scope and special populations served, if any.
- Board and staff rosters, and an indication of the capabilities of key staff to be involved in the proposed project.
- Current and projected operating budgets, the most recent financial statement, an annual report (if one is published), and a complete copy of the most recent IRS Form 990 (if appropriate to the organization).
- Current copy of the tax exemption letter from the IRS under Section 501(c)(3) of the Internal Revenue Code, including the indication that the organization is "not a private foundation" under Section 509(a).

## Proposal Content

- Concise description of the purpose for which the grant is sought, including both the general goals and the specific objectives of the project, and a summary of the anticipated benefits for the environment, the organization, local residents and the broader population.
- An indication of how your proposal is consistent with the Foundation's significant objectives.
- Evidence that the funds will be used to address an important need that would otherwise remain unmet.
- The project's budget, a description and summary of other firm or likely sources of funding, and, for projects that are intended to continue beyond the proposed period of the Foundation's support, an indication of plans for ongoing funding.

- An indication of plans for evaluating the project and reporting the results to the Foundation.

## How and When to Apply

- Two copies of your full proposal should be mailed or delivered to the Foundation office. Proposals must be complete in order to receive funding consideration. An incoming proposal is critically assessed to determine whether it meets current guidelines and interest. If it does not, the proposal may be denied immediately or following a regular meeting of the Directors. In all other cases, notification as to the Directors' decision will be given shortly after regular meetings.
- Proposals and concept papers may be submitted at any time, since the Directors meet regularly throughout the year.

## Grant Size and Type

The expected range of grants is \$500 to \$25,000 with most grants falling within the range of \$2,000 to \$10,000. The Foundation is willing to consider multiple-year grants.

Whenever possible we seek to expand the impact of limited funds through challenge grants, conditional grants, matching grants, and special initiatives, and by collaborating with other donors in joint funding efforts.

We welcome joint applications by two or more organizations coordinating their efforts on a single project.

## Grantmaking Limitations

- Although the Fields Pond Foundation attempts to be as inclusive as possible, there are some activities and interests that clearly fall outside the scope of these guidelines. As a normal practice, the Foundation is unlikely to make the following kinds of grants:
- support for deficits, for routine operating budgets or general appeals, or where the Foundation may become the predominant source of an organization's funding.
  - for funding efforts usually supported by public subscription or through national appeals, or for purposes which are generally understood to be the responsibility of government.
  - support for sectarian religious activities.
  - to individuals, such as for personal needs, welfare, travel, or research.
- Our regular grantmaking programs are presently limited to organizations in New England and New York State.

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### Fields Pond Foundation Inc.

Five Turner Street, Box 540667

Waltham, MA 02454-0667

Phone 781-899-9990 Fax 781-899-2819

[www.fieldspond.org](http://www.fieldspond.org)



**American Hiking Society National Trails Fund**



## National Trails Fund Guidelines

### What is the National Trails Fund?

Millions of people enjoy trails annually, yet many of our favorite trails are in a major state of disrepair due to an enormous federal backlog of badly-needed trail maintenance. By awarding much-needed grants to trail clubs across the nation, the National Trails Fund helps clubs secure volunteers, tools and materials to protect our cherished trails.

American Hiking Society's National Trails Fund is the only privately funded, national grant program dedicated solely to protecting hiking trails. Awards typically range from \$500 to \$5,000 per project. Now in its seventh year, the Fund has awarded nearly \$340,000 to 89 grassroots organizations all over the U.S working to establish, protect, and maintain foot trails in America. The National Trails Fund is supported thanks in part to generous donations from L.L.Bean and Therm-a-Rest and MSR, the program's Corporate Charter Sponsors.

### What types of projects will American Hiking Society consider?

- American Hiking Society interests are in funding projects that have hikers as the primary constituency; however, all human powered trail uses are applicable.
- Securing trail lands, including acquisition of trails and trail corridors, and the costs associated with acquiring conservation easements.
- Building and maintaining trails which will result in visible and substantial ease of access, improved hiker safety, and/or avoidance of environmental damage. (Higher preference is often given to projects with volunteer labor)
- Constituency building surrounding specific trail projects - including volunteer recruitment and support.

### Funding and Accountability

- Award amounts typically fall between \$500 and \$5,000.
- Applicants must be **nonprofit 501(c)(3)** organizations.
- Projects should be beyond the financial resources of the sponsoring organization.
- Except for land acquisition programs, acceptable projects should be completed in one year. Multi-year projects will be considered only in exceptional cases.
- American Hiking will issue grant money to grantees, which will take care of subsequent disbursements.
- The grantee will conclude the project with a final report due by November 1 on the disbursement of moneys, progress of the report (including successes and failures) and the role played by the grant in the entire project.

### Publicity

Recipients of the National Trails Fund are expected to announce the project to local news media, as well as their local newsletter and web site to the maximum extent possible. This publicity will help expand the National Trails Fund's support to many more organizations each year.

### Charter Sponsors:

**L.L.Bean**

**THERMA-REST**



## Application Procedures

- Download the NTF application from American Hiking Society's website at [www.AmericanHiking.org](http://www.AmericanHiking.org).
- Limit your application, 3 pages, plus the cover page and required attachments.
- No hard cover notebooks or videos, please.
- All grant proposals should be mailed to:

American Hiking Society  
Attn: National Trails Fund  
1422 Fenwick Lane  
Silver Spring, MD 20910

## Timeline

November 1	Applications <b>postmarked</b> and sent to American Hiking Society. All applicants are sent a postcard acknowledging the receipt of their application.
Spring	AHS Board of Directors approves grant recipients
Spring	American Hiking notifies all applicants of the results. American Hiking mails or presents checks to grant recipients.
November 1	Final Report due to American Hiking Society

## Tips and Pointers

- Keep in mind that judges will read many applications - clear and concise descriptions are appreciated.
- Provide sufficient background for your organization and the project; never assume that the judges are familiar with your group or region.
- If your project is large, try to break it into parts and request funding for a piece that can be completed in one year. Though there have been exceptions, the Selection Committee is more likely to fund a small project where the grant will have a great impact.
- Provide examples of outcomes and impacts of your work.
- Complete all portions of the application.
- Include in your application other ways in which you have been involved with American Hiking Society's programs (Volunteer Vacations, Advocacy Week, National Trails Day, etc.) - especially if American Hiking has been mentioned in your newsletters or local newspapers.
- **Members of American Hiking's Alliance of Hiking Organizations receive extra points on their National Trails Fund applications.** To find out more about the Alliance, go to [www.AmericanHiking.org](http://www.AmericanHiking.org) or contact [ILevin@AmericanHiking.org](mailto:ILevin@AmericanHiking.org).

Thank you for your interest in the National Trails Fund. If you have any questions, please feel free to contact Ivan Levin, Trail Programs Manager, at 301-565-6704 x 208 or [ILevin@AmericanHiking.org](mailto:ILevin@AmericanHiking.org).

### Charter Sponsors:

**L.L.Bean**

**THERMAREST**





## 2008 National Trails Fund Application Cover Sheet

Date: \_\_\_\_\_

Sponsoring Organization: \_\_\_\_\_

Member of American Hiking's Alliance of Hiking Organizations? ☐ Yes ☐ No  
(note: American Hiking's Alliance members automatically get extra points added to their applications. Find out more about the Alliance at [www.AmericanHiking.org](http://www.AmericanHiking.org)).

Contact Person \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Email \_\_\_\_\_

Web Site \_\_\_\_\_

Project Name \_\_\_\_\_

Trail Name \_\_\_\_\_

Amount Requested (typically limited to \$500- \$5,000): \_\_\_\_\_

Have you received a National Trails Fund grant in the past? ☐ Yes ☐ No

Partner Organizations:

\_\_\_\_\_

\_\_\_\_\_

Type of Project:

☐ Land Acquisition

☐ New Trail

☐ Trail Facility

☐ Constituency Building

☐ Improvements to Existing Trail

☐ Other \_\_\_\_\_

## **2008 National Trails Fund Grant Guidelines**

**In no more than 3 pages, please answer the following:**

- Mission and description of your organization.
- Describe your project.
- What are the objectives of the project?
- Describe specifically how an American Hiking Society grant will be used to further your objectives.
- What resources will your organization contribute to the project? This can include money, tools, donated materials, volunteer labor, etc.
- Does success of the project depend on receiving funds from other sources? If so, briefly describe your efforts to secure all necessary funds.

**In addition, attach:**

- a. Project budget, including how National Trails Fund grant would be spent
- b. Project timeline

You will be notified in spring 2008 whether your proposal has been approved or not. Funds will be distributed at that time. Good luck!

**By November 1<sup>st</sup>, send completed application to:**

American Hiking Society  
Attn: National Trails Fund  
1422 Fenwick Lane  
Silver Spring, MD 20910

### **Questions?**

Contact Ivan Levin, Trail Programs Manager, at: [ILevin@AmericanHiking.org](mailto:ILevin@AmericanHiking.org) or 301-565-6704 ext. 208.

Visit American Hiking Society's website at [www.AmericanHiking.org](http://www.AmericanHiking.org) for further information about the National Trails Fund.

### **Charter Sponsors:**

**L.L.Bean**

**THERMAREST®**









# Application Guidelines



## About the Program

The National Park Service (NPS) manages some of our nation's most historic sites, scenic resources, and critical natural areas. NPS also provides assistance to locally-led natural resource conservation and outdoor recreation projects through the Rivers, Trails, and Conservation Assistance (RTCA) Program. RTCA staff work in urban, rural, and suburban communities to help applicants to conserve rivers, preserve open space, and develop trails and greenways. Our staff help on a variety of natural resource conservation and outdoor recreation projects including multi-use trails, single-purpose trails, greenways, water trails (also called blueways), river corridor conservation, land protection, and park planning.

RTCA staff help with partnership-building to achieve community-set goals, organizational development, assessing resources, developing concept plans, public education and participation, and identifying potential sources of funding. The project applicant may be a state or local agency, tribe, non-profit organization, or citizens' group. Federal agencies, including the National Park Service, may apply only in collaboration with a non-federal partner. RTCA does not provide financial assistance to support project implementation.

Applicants are strongly encouraged to discuss their project with RTCA staff before sending in an application. It can be helpful to schedule an advance field visit by our staff to best understand how RTCA can be of assistance.

Please return your completed application to the Program Leader for the region in which your project is located. Contact information is available under "Contact Us" on our website. You may also contact Charlie Stockman, NPS RTCA Chief (Acting), at 202-354-6900.

For further information about RTCA and the work we are doing around the country with nearly 300 communities, please visit our national web site at <http://www.nps.gov/rtca>.

## Project Selection Criteria

Please make applications brief (generally no more than 3 pages, see attached application form). Applications are evaluated according to the following criteria (questions 1-5 on the application):

1. The project has specific, partner- defined goals and tangible conservation or outdoor recreation results expected in the near future.
2. The project protects or improves important natural resources or enhances outdoor recreation opportunities.
3. Roles and contributions of project partners are substantive and well- defined.
4. There is evidence of broad community support for the project.
5. The anticipated role for RTCA is clearly stated and is appropriate.

Questions 6-10 on the application provide background information to allow us to better understand your project.

In evaluating applications, preference will be given to projects that:

- a. provide physical connections among resources, including connecting communities to parks;
- b. include both natural resource conservation and outdoor recreation;
- c. partner with an NPS area;
- d. partner with a health organization.

Projects should include significant community involvement and outreach, and should also include the commitment, cooperation, and cost- sharing of all partners. Because partnerships are key to the success of community- based projects, we strongly encourage the inclusion of support letters with your application.

Applications are due by **August 1<sup>st</sup>** for assistance beginning the following fiscal year (October 1<sup>st</sup> through September 30<sup>th</sup>). Assistance is for one year, and may be renewed for a second year upon request. Project selection is generally announced in early November after passage of the federal budget.



## Application for NPS RTCA Assistance

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***Please include:***

### **Applicant Information**

What is the project name and location? Please include city, county, state, and congressional district.

Who is the applicant(s)? Please include a primary contact, title, address, email, daytime phone, and fax.

### **Project Description**

1. Describe the project goals, including any tangible conservation or outdoor recreation results expected (e.g.: miles of river protected, restored or enhanced; miles of publicly accessible trail created or enhanced; acres of parkland created.)
2. Identify the important natural resources to be improved or protected, and/or the outdoor recreation opportunities to be enhanced.
3. Identify the partners that will be *actively* and *substantively* involved in the project. Describe the existing or anticipated role and contribution of each. *Support letters from project partners detailing the nature of their intended involvement are strongly encouraged.*
4. Provide other examples of support for the project including: recognition in local, regional and state plans; endorsements from elected officials and boards; supportive public votes or surveys; grants and other funds awarded; or media coverage.
5. Describe the kind of assistance you are seeking from RTCA staff. *(For examples of the kinds of technical assistance RTCA staff can provide, click on "What we do" on our website, [www.nps.gov/rtca](http://www.nps.gov/rtca)).*

### **Project Background and Context**

6. Provide a map showing the project location. *Briefly* summarize the area's relevant natural, cultural, historic, scenic, and outdoor recreational resources.
7. Describe how the project provides physical connections to and/or enhances other natural/cultural/recreational resources in the region.
8. Describe public participation in the project so far, and any future plans.
9. Outline the history and prior activity on the project (if any) and its current status. (If known), what is the expected completion date of the project?
10. Which aspects of your project are going well? Where does your project need the most help?

# Regional RTCA Contact Information

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## Alaska Region

RTCA  
National Park Service  
240 West 5th Avenue,  
Anchorage, AK 99501  
Fax (907) 644-3807

Lisa Holzapfel, Program Leader  
lisa\_holzapfel@nps.gov  
(907) 644-3586

## Intermountain Region

CO, MT, UT, WY  
RTCA  
National Park Service  
P.O. Box 25287  
Denver, CO 80225-0287  
Fax (303) 987-6676

Duane Holmes, Program Leader  
duane\_holmes@nps.gov  
(303) 969-2855

## AZ, NM, OK, TX

RTCA  
National Park Service  
P.O. Box 728  
Santa Fe, NM 87504-0728  
Fax (505) 988-6097

Alan Ragins, Program Leader  
alan\_ragins@nps.gov  
(505) 988-6091

## Midwest Region

IL, IN, MI, OH, WI  
AR, IA, KS, MN, MO, NE, ND, SD  
RTCA  
National Park Service  
601 Riverfront Drive  
Omaha, NE 68102  
Fax (402) 661-1982

Mark Weekley, Program Leader  
mark\_weekley@nps.gov  
(402) 661-1570

## National Capital Region

Washington D.C., and portions of MD,  
VA, WV  
RTCA  
National Park Service  
1100 Ohio Drive, SW  
Washington, DC 20024  
Fax (202) 619-7220

Christopher Niewold, Program Leader  
christopher\_niewold@nps.gov  
(202) 619 7195

## Northeast Region

CT, MA, ME, NH, NY, RI, VT  
RTCA  
National Park Service  
15 State Street  
Boston, MA 02109  
Fax (617) 223-5164

Steve Golden, Program Leader  
steve\_golden@nps.gov  
(617) 223-5123

## DC, DE, MD, NJ, PA, VA, WV

RTCA  
National Park Service  
200 Chestnut Street, Third Floor  
Philadelphia, PA 19106  
Fax (215) 597-0932

Dave Lange, Program Leader, Acting  
david\_a\_lange@nps.gov  
(215) 597-6477

## Pacific West Region

ID, OR, WA  
RTCA  
National Park Service  
909 First Avenue  
Seattle, WA 98104-1060  
Fax (206) 220-4161

Michael Linde, Program Leader  
michael\_linde@nps.gov  
(206) 220-4113

## CA, HI, NV

RTCA  
National Park Service  
1111 Jackson Street, Suite 700  
Oakland, CA 94607  
Fax (510) 817-1505

Barbara Rice, Program Leader  
barbara\_rice@nps.gov  
(510) 817-1449

## Southeast Region

AL, FL, GA, KY, LA, NC, SC, TN, US  
Virgin Islands  
RTCA  
National Park Service  
Atlanta Federal Center  
1924 Building  
100 Alabama Street, S.W.  
Atlanta, Georgia 30303  
Fax (404) 562-3282

Chris Abbett, Program Leader  
chris\_abbett@nps.gov  
(404) 562-3175

## National Office

Mailing Address:  
National Park Service  
RTCA  
1849 C Street, NW, Org. Code 2220  
Washington, D.C. 20240

Physical Location and address for FedEx  
and overnight packages:  
National Park Service  
RTCA  
1201 Eye Street, NW (Org Code 2220)  
Washington, D.C. 20005  
Fax : 202-371-5179

Charlie Stockman, Acting Chief  
charlie\_stockman@nps.gov  
202-354-6900

## **Appendix E**

### **Trail Construction Cost Estimate**

# McLean Open Space - Trail System Analysis and Implementation Plan

## Trails Recommendations Plan Construction Cost Estimate

Prepared for the McLean Open Space Land Management Committee

January 2008

### Primary Trails

#### Trail #1

		Quantity	Unit	Unit Price	Total
1	Closure and naturalization of abandoned trail (Pleasant Street)	500	SF	\$1.75	\$875
2	Repair steep sections of existing trail surface (lower section)	16,000	SF	\$6.00	\$96,000
3	Install drainage swale (lower section)	1,000	LF	\$12.50	\$12,500
4	Improve existing trail surface (upper section)	1,700	LF	\$4.00	\$6,800
5	Remove tree from trail	1	LS	\$750.00	\$750
6	Closure and naturalization of trail around fallen tree	240	SF	\$1.75	\$420
7	Clean culvert of debris	1	LS	\$500.00	\$500
8	Install raised trail section ("via turnpike construction")	1,500	SF	\$7.50	\$11,250
9	Install private property signs	4	EA	\$150.00	\$600
10	Install information bulletin board at Pleasant Street trailhead	1	EA	\$1,500.00	\$1,500
11	Install trail signage and markers	1	ALLOW	\$300.00	\$300
12	Engineering study of ground water seepage area	1	ALLOW	\$8,000.00	\$8,000
13	Silt fence installation for trail improvement areas	1,400	LF	\$3.00	\$4,200
14	Install prevention method for ground water seepage area	1	ALLOW	\$16,000.00	\$16,000
<b>Subtotal for Trail #1</b>					<b>\$159,695</b>

#### Trail #2

		Quantity	Unit	Unit Price	Total
15	Closure and naturalization of abandoned trail at Trail #1 intersection	400	SF	\$1.75	\$700
<b>Subtotal for Trail #2</b>					<b>\$700</b>

#### Trail #3

		Quantity	Unit	Unit Price	Total
-	No work recommended within Open Space Land				\$0
<b>Subtotal for Trail #3</b>					<b>\$0</b>

#### Trail #4

		Quantity	Unit	Unit Price	Total
16	Closure and naturalization of abandoned trail at Trail #1 intersection	400	SF	\$1.75	\$700
<b>Subtotal for Trail #4</b>					<b>\$700</b>

#### Trail #5

		Quantity	Unit	Unit Price	Total
17	Install private property signs	2	EA	\$150.00	\$300
<b>Subtotal for Trail #5</b>					<b>\$300</b>

#### Trail #6

		Quantity	Unit	Unit Price	Total
18	Improve existing trail surface	960	LF	\$3.00	\$2,880
19	Install private property signs	1	EA	\$150.00	\$150
20	Install trail signage and markers	1	ALLOW	\$150.00	\$150
<b>Subtotal for Trail #6</b>					<b>\$3,180</b>

#### Trail #7

		Quantity	Unit	Unit Price	Total
21	Closure and naturalization of abandoned trail (loam and seed)	950	SF	\$1.00	\$950
22	Install rerouted trail through meadow area	700	LF	\$3.50	\$2,450
23	Install new trail connection to Trail#10	175	LF	\$3.50	\$613
24	Install information bulletin board at Cemetery trailhead	1	EA	\$1,500.00	\$1,500
25	Install trail signage and markers	1	ALLOW	\$100.00	\$100
<b>Subtotal for Trail #7</b>					<b>\$5,613</b>

Trail #8		Quantity	Unit	Unit Price	Total
26	Closure and naturalization of abandoned trail	750	SF	\$1.75	\$1,313
27	Install rerouted trail thru forested area	210	LF	\$4.50	\$945
28	Install raised trail section ("turnpike")	500	SF	\$12.00	\$6,000
29	Install wooden bridge	1	ALLOW	\$5,000.00	\$5,000
30	Install private property signs	1	EA	\$150.00	\$150
31	Install trail signage and markers	1	ALLOW	\$200.00	\$200
32	Install silt fence within 100' wetland buffer	290	LF	\$3.00	\$870
<b>Subtotal for Trail #8</b>					<b>\$14,478</b>

Trail #9		Quantity	Unit	Unit Price	Total
-	No work recommended within Open Space Land				\$0
<b>Subtotal for Trail #9</b>					<b>\$0</b>

Trail #10		Quantity	Unit	Unit Price	Total
33	Closure and naturalization of abandoned trail (loam and seed)	960	SF	\$1.00	\$960
34	Install rerouted trail through meadow area	175	LF	\$3.50	\$613
35	Trail connection to Trail #7 extension	100	LF	\$3.50	\$350
36	Install erosion control measures for cell tower driveway runoff	1	ALLOW	\$1,500.00	\$1,500
37	Clear trail extension to Concord Avenue	150	LF	\$1.00	\$150
38	Install trail signage and markers	1	ALLOW	\$100.00	\$100
<b>Subtotal for Trail #10</b>					<b>\$3,673</b>

Trail #11		Quantity	Unit	Unit Price	Total
39	Closure and naturalization of abandoned trail (loam and seed)	1,530	SF	\$1.00	\$1,530
40	Install rerouted trail through meadow area	575	LF	\$3.50	\$2,013
41	Install raised trail section ("turnpike" or "causeway")	500	SF	\$7.50	\$3,750
42	Install trail signage and markers	1	LS	\$200.00	\$200
43	Install silt fence within 100' wetland buffer	280	LF	\$3.00	\$840
<b>Subtotal for Trail #11</b>					<b>\$8,333</b>

Trail #12		Quantity	Unit	Unit Price	Total
44	Closure and naturalization of abandoned trail (loam and seed)	2,400	SF	\$1.25	\$3,000
45	Install rerouted trail through meadow area	400	LF	\$3.50	\$1,400
46	Install private property signs	1	EA	\$150.00	\$150
47	Install trail signage and markers	1	ALLOW	\$50.00	\$50
48	Install silt fence within 100' wetland buffer	75	LF	\$3.00	\$225
<b>Subtotal for Trail #12</b>					<b>\$4,825</b>

Trail #12a		Quantity	Unit	Unit Price	Total
49	Install new trail through meadow area	1,235	LF	\$3.50	\$4,323
50	Install new connector trail to Trails #11 and #16	135	LF	\$3.50	\$473
51	Install trail signage and markers	1	ALLOW	\$200.00	\$200
52	Install silt fence within 100' wetland buffer	640	LF	\$3.00	\$1,920
<b>Subtotal for Trail #12a</b>					<b>\$6,915</b>

Trail #13		Quantity	Unit	Unit Price	Total
53	Closure and naturalization of abandoned trail (fill eroded areas)	4,250	SF	\$2.00	\$8,500
54	Install rerouted trail thru forested area	375	LF	\$4.50	\$1,688
55	Install bulletin board at Mill Street trailhead	1	EA	\$1,500.00	\$1,500
56	Install trail signage and markers	1	ALLOW	\$200.00	\$200
<b>Subtotal for Trail #13</b>					<b>\$11,888</b>

**Note:** Trail 13a excluded from this cost estimate

Trail #14		Quantity	Unit	Unit Price	Total
57	Closure and naturalization of abandoned trail (upper part only)	850	SF	\$1.75	\$1,488
Subtotal for Trail #14					\$1,488

Trail #15		Quantity	Unit	Unit Price	Total
58	Closure and naturalization of abandoned trail (fill eroded areas)	1,600	SF	\$2.00	\$3,200
59	Install rerouted trail through forested area	550	LF	\$4.50	\$2,475
60	Install trail signage and markers	1	ALLOW	\$200.00	\$200
Subtotal for Trail #15					\$5,875

Trail #16		Quantity	Unit	Unit Price	Total
61	Install bulletin board at Concord Street trailhead	1	EA	\$1,500.00	\$1,500
62	Install trail signage and markers	1	ALLOW	\$200.00	\$200
Subtotal for Trail #16					\$1,700

Total of All Primary Trails \$229,360  
Contingency @ 20% \$45,872

Total of All Primary Trails with Contingency \$275,232

## Secondary Trails

Trail A		Quantity	Unit	Unit Price	Total
63	Closure and naturalization of abandoned trail	300	SF	\$1.75	\$525
64	Install rerouted trail through forested area	780	LF	\$4.50	\$3,510
65	Install trail signage and markers	1	ALLOW	\$100.00	\$100
66	Install silt fence within 100' wetland buffer	300	LF	\$3.00	\$900
Subtotal for Trail A					\$5,035

Trail B		Quantity	Unit	Unit Price	Total
67	Closure and naturalization of abandoned trail	1,100	SF	\$1.75	\$1,925
68	Install rerouted trail through forested area	650	LF	\$4.50	\$2,925
69	Install wooden walkway structure at stream crossing	1	EA	\$2,000.00	\$2,000
70	Install trail signage and markers	1	ALLOW	\$100.00	\$100
71	Install silt fence within 100' wetland buffer	150	LF	\$3.00	\$450
72	Install additional silt fence at stream crossing	50	LF	\$3.00	\$150
Subtotal for Trail B					\$7,550

Trail C		Quantity	Unit	Unit Price	Total
73	Closure and naturalization of abandoned trail	180	SF	\$1.75	\$315
74	Install rerouted trail through forested area	100	LF	\$4.50	\$450
75	Install trail signage and markers	1	ALLOW	\$50.00	\$50
76	Install silt fence within 100' wetland buffer	120	LF	\$3.00	\$360
Subtotal for Trail C					\$1,175

Trail D		Quantity	Unit	Unit Price	Total
77	Closure and naturalization of abandoned trail	1,050	SF	\$1.75	\$1,838
78	Install rerouted trail through forested area	540	LF	\$4.50	\$2,430
Subtotal for Trail C					\$4,268



Trail E		Quantity	Unit	Unit Price	Total
-	No work recommended				\$0
Subtotal for Trail E					\$0

Trail F		Quantity	Unit	Unit Price	Total
-	No work recommended				\$0
Subtotal for Trail F					\$0

Total of All Secondary Trails	\$18,028
Contingency @ 20%	\$3,606
<b>Total of All Secondary Trails (includes 20% contingency)</b>	<b>\$21,633</b>

**Total of All Primary and Secondary Trails (includes 20% contingency) \$296,865**



## **Appendix F**

### **Trail Construction and Maintenance Resources**

# Trail Planning, Design, Construction, and Maintenance Resources

## Publications

AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, 1st Edition (2004)

Birkby, Robert C. (2005) *Lightly on the Land--The SCA Trail-Building and Maintenance Manual*, Mountaineers Books

Birchard, Jr., William., R. Proudman, and M. Dawson (2000) *Appalachian Trail Design, Construction, and Maintenance*, second edition, Appalachian Trail Conference.

Demrow, Carl, and David Salisbury (1998) *The Complete Guide to Trail Building and Maintenance*, 3rd Edition, Boston, MA, Appalachian Mountain Club Books

Duffy, Hugh (1991, June), *Developing Sustainable Mountain Trail Corridors*, National Park Service, Rivers & Trails Program, Denver, CO.

Finstick, Eric, "Managing Heavily-Used Trails: Alternative Day Zoning," article published by American Trails, in *Trail Tracks*, Stuart MacDonald, editor, Volume 32, Number 2, Summer 2003, p. 26.

Flink, Charles, and R. Searns (1993), *Greenways: A Guide to Planning, Design, and Development*, Washington DC, Island Press.

Flink, Charles, K. Olka and R. Searns (2001) *Trails for the Twenty-First Century--Planning, Design, and Management Manual for Multi-Use Trails*, second edition, Washington DC, Island Press.

*Managing Mountain Biking: IMBA's Guide to Providing Great Riding*, International Mountain Bike Association

[http://www.imba.com/resources/bike\\_management/managing\\_mountain\\_bikes.html](http://www.imba.com/resources/bike_management/managing_mountain_bikes.html)

Moore, Roger, (1994) *Conflicts on Multiple-Use Trails: Synthesis of the Literature and State of the Practice*, sponsored by The Federal Highway Administration and the National Recreational Trails Advisory Committee, (Report #FHWA-PD-94-031), Washington DC, 70p

National Park Service Management Policies (2001), Chapter 9, Park Facilities, National Park Service, Washington DC.

Parker, Troy Scott, (2003), *Natural Surface Trail Design: The Pattern That Works*, Natureshapes, Inc.

Parker, Troy Scott, (2004), *Natural Surface Trails by Design: Physical and Human Design Essentials of Sustainable, Enjoyable Trails*, Natureshapes, Inc.

Proudman R.D and Rajala (1981) *Trailbuilding and Maintenance*, Boston, MA, Appalachian Mountain Club, 286p.

Rathke, David M. and Melvin Baughman (1994), *Recreational Trail Design and Construction*, Minnesota Extension Service and University of Minnesota.

Recreational Trail Design and Construction, University of Minnesota Extension  
<http://www.extension.umn.edu/distribution/naturalresources/DD6371.html>

Ritter, Mike, Jan Ritter, Joey Klein, Rich Edwards, and Jen Edwards, (2001), Building Better Trails: Designing, Constructing, and Maintaining Outstanding Trails, International Bicycling Association, Boulder, CO, 64p.

Ryan, Karen-Lee, editor (1993), Trails for the Twenty-First Century: Planning, Design, and Management Manual for Multi-Use Trails, Rails-To-Trails Conservancy, Island Press, Washington DC, 214p.

Standard Specifications for Construction and Maintenance of Trails (2006), USDA Forest Service, Engineering Staff.

The Trail Construction and Maintenance Notebook (2004, April), USDA Forest Service, Technology and Development Program, in collaboration with the Recreational Trails Program of the Federal Highway Administration, Missoula, MT  
<http://www.fhwa.dot.gov/download/hep/fspubs/pdf00232839.pdf>

Trail Solutions: IMBA's Guide to Building Sweet Singletrack, International Mountain Bike Association  
[http://www.imba.com/resources/trail\\_building/trail\\_solutions.html](http://www.imba.com/resources/trail_building/trail_solutions.html)

Twitchell, John (1994) Best Management Practices for Erosion Control During Trail Maintenance and Construction, New Hampshire Division of Parks and Recreation  
<http://www.nhtrails.org/Trailspages/BMPmanual2004.pdf>

The Universal Trail Assessment Process Training Guide (1998), Beneficial Designs Inc., PAX Press, Santa Cruz, CA, 74p.

US Forest Service National Trail Drawings and Specifications  
<http://www.fs.fed.us/database/acad/dev/trails/trails.htm>

The Virginia Greenways and Trails Toolbox, (2000), Department of Conservation and Recreation, Commonwealth of Virginia.

The Virginia Bicycle Facility Resource Guide, (2002, January) Virginia Department of Transportation, Commonwealth of Virginia.

Wetland Trail Design and Construction, USDA Forest Service (2001, September), USDA Forest Service, Technology and Development Program, in collaboration with the Recreational Trails Program of the Federal Highway Administration, Missoula, MT.  
<http://www.fhwa.dot.gov/environment/fspubs/01232833/>

## **Organizations**

**American Trails** American Trails is the only national, nonprofit organization working on behalf of *all* trail interests, including hiking, bicycling, mountain biking, horseback riding, water trails, snowshoeing, cross-country skiing, trail motorcycling, ATVs, snowmobiling and four-wheeling.  
<http://www.americantrails.org/>

**American Hiking Society** American Hiking Society is the only national organization dedicated to promoting and protecting America's hiking trails, the natural areas that surround them, and the hiking experience itself.  
<http://www.americanhiking.org/>

**Appalachian Mountain Club.** Since 1876, the Appalachian Mountain Club has been promoting the protection, enjoyment, and wise use of the mountains, rivers, and trails of the Northeast outdoors.  
*<http://www.outdoors.org/>*

**International Mountain Bicycling Association.** The International Mountain Bicycling Association is a non-profit educational association whose mission is to create, enhance and preserve great trail experiences for mountain bikers worldwide.  
*<http://www.imba.com/>*

**Professional Trailbuilders Association.** The Professional Trailbuilders Association (PTBA) is North America's largest private sector group of trail specialists, professional trail contractors, designers, and consultants.  
*<http://www.trailbuilders.org/>*

## **Appendix G**

### **Accessible Trail Guidelines**

## Accessible Routes, Outdoor Access Routes & Trails

Accessible routes, outdoor access routes and trails are all paths that have varying requirements based on their purpose, what they connect to and the environment they fall within. The following table identifies the technical provisions as they apply to each of the different paths.

	Access Route (ADAAG)	Outdoor Access Route	Trail
<b>Surface</b>	Stable, firm, Slip resistant	Firm and Stable	Firm and Stable <i>Exception*</i>
<b>Max Running Slope</b>	1:12	1:20 (for any distance) 1:12 (for max 50 ft) 1:10 (for max 30 ft)	1:20 (for any distance) 1:12 (for max 200 ft) 1:10 (for max 30 ft) 1:8 (for max 10 ft) <i>Exception 1:7 (for 5 ft max for open drainage structures)</i> <i>Exception*</i>
<b>Max Cross Slope</b>	1:50	1:33 <i>Exception 1:20 (for drainage purposes)</i>	1:20 <i>Exception 1:10 (at the bottom of an open drain where clear tread width is a min of 42 inches)</i>
<b>Min Clear Tread Width</b>	36 inches 32 inches (for no more than 24 inches)	36 inches <i>Exception 32 inches when * applies</i>	36 inches for any distance <i>Exception 32 inches when * applies.</i>
<b>Edge Protection</b>	Where provided, min of 2 inches.	Where provided, min of 3 inches.	Where provided, 3 inches min.
<b>Tread Obstacles</b>	(Changes in Level) 1/4 inch (no beveled edge) 1/4-1/2 inch must have a beveled edge with a max slope of 1:2 . Over 1/2 inch=ramp.	1 inch high max <i>Exception 2 inches high max (where beveled with a slope no greater than 1:2 and where * applies.)</i>	2 inches high max <i>Exception 3 inches max (where running and cross slopes are 1:20 or less)</i> <i>Exception*</i>
<b>Passing Space</b>	Every 200 feet where clear tread width is less than 60 inches, a minimum 60 X 60 inch space, or a t-shaped intersection of two walks or corridors with arms and stem extending min of 48 inches.	Every 200 feet where clear tread width is less than 60 inches, a minimum 60 X 60 inch space, or a t-shaped intersection of two walking surfaces with arms and stem extending min of 48 inches. <i>Exception every 300 feet where * applies.</i>	Every 1000 feet where clear tread width is less than 60 inches, a 60 X 60 inch min passing space or a t-shaped intersection of two walking surfaces with arms and stem extending min of 48 inches. <i>Exception*</i>
<b>Resting Intervals</b>	(Landings) 60 inch min length, min width as wide as the ramp run leading to it, if change in direction occurs, must have 60 X 60 inch space	60 inches min length, width at least as wide as the widest portion of the trail segment leading to the resting interval and a max slope of 1:33 <i>Exception a max slope of 1:20 is allowed for drainage purposes.</i>	60 inches min length, width at least as wide as the widest portion of the trail segment leading to the resting interval and a maximum slope of 1:20. <i>Exception*</i>

\*(16.1.1 Conditions for Departure) The provision may not apply if it cannot be provided because compliance would cause substantial harm to cultural, historic, religious or significant natural features or characteristics; substantially alter the nature of the setting or purpose of the facility; require construction methods or materials that are prohibited by Federal, state or local regulations or statutes; or would not be feasible due to terrain or the prevailing construction practices.