



LOOP TRAIL PLAN

*FOR:
The Borough of Mendham*

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Prepared by:

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I. INTRODUCTION

The Mendham Borough Loop Trail is a designated path around the Borough comprised of woodland trails, paths, and sidewalks. The trail is designed to create access to forested properties and preserved open space providing new passive recreational opportunities to these natural resources within walking distance to all Borough residents. New connections will also make it possible for residents and children to more easily and safely walk and bike to schools and businesses throughout the Borough.

The Loop Trail was originally conceived in the early 1980s and was designed to provide a path around Mendham Borough, connecting the east and west sides of Patriot's Path and forming a loop around the municipality. The Borough currently has a developed trail system that is not well connected to all areas of the municipality. The Loop Trail will connect the system of preserved open space together and will provide a link to Mendham Township and the Schiff Natural Land Trust's extensive trail system. Much of the Loop Trail is located within the public road right-of-way or on existing sidewalks. There are however, several sections that traverse forested properties and preserved open space, such as the Borough-owned Cosma Tract. The northern extent of the Loop Trail consists of Patriots' Path, an interconnected network of trails that expand throughout Morris County.

II. LOOP TRAIL IMPLEMENTATION PLAN

1. GENERAL REQUIREMENTS

The total length of the proposed Loop Trail measures approximately 5.1 miles. Conceptual connections to the Schiff Natural Land Trust trail system will expand the future loop trail system to 6.3 miles.

The trail must be located on land that is either:

- a) Publicly owned; or
- b) Privately owned with a governmental agency holding an easement for public access. Land subject to the Green Acres Tax Exemption Program or a limited term access covenant under the Open Lands Management Program does not qualify as an easement under this requirement.

All trail routes shall be designated as multi-use providing opportunities for pedestrians and bicyclists. No motorized vehicles except authorized trail maintenance vehicles and emergency vehicles shall be allowed on the trails.

2. LOOP TRAIL DESCRIPTION

The Loop Trail system utilizes various types of existing and proposed surfaces and pathways. The designated path is consistent with the route originally proposed by the Mendham Borough Environmental Commission in 1984. The only significant deviation suggested by this report is the utilization of the existing sidewalk improvements along

Talmage Road to complete the southern segment of the loop trail rather than proposing to construct a new path along Cherry Lane. Existing site conditions and inadequate public access along Cherry Lane were the factors that concluded a route along Cherry Lane to be infeasible at this time. The proposed route achieves the original goals of providing a loop trail around the Borough, and provides conceivable opportunities for future connectivity at various points along the trail.

The trail segments are described between specific destinations and in terms of the existing status of each. The following sections provide a brief narrative of the Loop Trail, beginning in the northwesterly most corner of the trail at the connection with Patriot's Path on Loryn Lane. A summary of the various trail segments is contained at the end of this section in a chart which identifies the trail surface type, length, and access status. A map of the entire loop trail path is included in the Appendix. A description of the various types of trail surfaces identified in the chart can be found under the Trail Standards in Section III.

A. Patriot's Path to Cosma Place

This segment of the trail system utilizes existing paved roadways and sidewalks located within public lands and rights of way (ROW). The Loop trailhead begins at a defined access to Patriot's Path at the end of Loryn Lane. Trail identification signage is proposed at this location. The proposed trail continues from the intersection with Patriot's Path along existing roadway and sidewalks on Loryn Lane and Deerfield Road. The trail then continues along for approximately 0.2 miles within the paved traveledway of Linden Lane to a proposed connection through existing Borough ROW to the Cosma Tract. An additional trail marker is proposed on Linden Lane at this location to identify the trail route. The entire length of the trail segment measures approximately 0.6 miles. In order to complete the segment, approximately 300' of trail between Linden Lane and the existing 8' wide gravel path through the Borough owned open space property must be defined and constructed. It is anticipated that trail surface construction will utilize a wood mulch base.

This segment of the trail offers future opportunity for an alternate natural trail surface through the northern extent of a Borough owned open space tract. Approximately 0.5 miles of wooded trail may ultimately connect Cosma Place and Patriot's Path through the northern end of Linden Lane. This connection cannot be achieved until a suitable stream crossing is provided to link Linden Lane with the northern end of the open space property.

Until such time as an additional connection becomes feasible through the northern end of the Cosma tract, this segment of the trail will utilize the Loryn Lane trailhead and Linden Lane connection to provide a path from Patriot's Path to Cosma Place.

B. Cosma Place to West Field

Public traveled ways and sidewalks characterize this segment of the proposed trail. The entire trail segment is approximately 0.36 miles long. From Cosma Place the path traverses 0.21 miles of sidewalk along Lake Drive to the Borough owned West Field property and gravel parking area. No improvements are required to implement this segment of the loop

trail. A trailhead kiosk is proposed in the parking area of West Field. Future improvements to the route include potential public sidewalk from the West Field parking area to Main Street, and future traffic signage and crosswalk improvements at the intersection with Main Street.

C. West Field to Heather Hill Way

This trail segment will connect the Borough owned West Field property with Borough owned open space located at the end of Heather Hill Way. Heather Hill Way then consists of approximately 0.3 miles of sidewalk from the open space property to the intersection with Hilltop Road. Approximately 0.2 miles of this proposed segment utilizes existing natural hard surface paths that are defined through privately owned lands between the Borough owned West Field Property and open space tract at the end of Heather Hill Way. Implementation of this trail segment requires a pedestrian access easement through the privately owned property, but little else in terms of trail construction or improvement.

An existing pathway through the privately owned lands may provide a future connection from the proposed loop trail to the Schiff Natural Land Trust trail system. Although an existing natural hard surface path is partially defined along this route, an easement for pedestrian access would also be required to complete this future connection.

D. Heather Hill Way to Talmage Road

Aside from the existing crosswalk across Hilltop Road from Heather Hill Way, this entire 0.23 mile segment of the loop trail requires improvement to be used safely and effectively by pedestrians. Steeply sloping grades and existing residential improvements along the roadsides limit the construction alternatives available to achieve this connection. This segment of the hiking trail will need to be improved utilizing concrete sidewalk within the existing Hilltop Road ROW. The County of Morris owns and maintains the ROW along Hilltop Road, so future construction will require coordination and approval from Morris County. The ROW width along Hilltop Road varies, but it is predominantly 50 feet wide in the vicinity of the required improvements. The pavement area of Hilltop Road is approximately 24 feet wide, so a ROW area along the east side of the roadway 13 feet in width would encompass the sidewalk improvements. Completion of this trail segment also requires crosswalk improvements at the crest of Talmage Road in the vicinity of the intersection with Hilltop Road. Design plans, County approval, and funding will be required before this segment of the trail may be implemented to connect Heather Hill Way to Talmage Road. Future easements through private lands may provide alternate opportunities to implement a connection between Heather Hill Way and Talmage Road.

E. Talmage Road to Mendham High School

A significant portion of this trail segment utilizes existing public sidewalks for pedestrian movement along Talmage and Coventry Roads to the Borough owned open space property which borders Mendham High School. The open space tract which borders the high school property is partially improved with sidewalk and gravel paths to the public access located

on Franklin Road. Less than 0.1 miles of gravel path is required and proposed to stabilize the remainder of this trail segment to define the route to the high school property along the existing soccer fields. Opportunity also exists to connect the loop trail via Franklin Road to the Tempe Wick Reserve open space tract located within the Township of Mendham. This conceptual future link will require analysis and coordination with the Township of Mendham to determine an appropriate access trail from Franklin Road to the Tempe Wick Reserve trail network.

F. Mendham High School to Main Street

This segment of the loop trail is proposed through lands owned by the West Morris Regional High School Board of Education (BOE). The 0.55 mile segment through the High School property is a critical link between Main Street and the Borough owned open space tract extending to Franklin and Coventry Roads. The proposed trail through the BOE property will require an easement to the Borough to permit trail construction and pedestrian access. Detailed topographic surveying, engineering design, and coordination with BOE representatives will be required to define the trail type and route. Preliminary trail planning suggests that gravel paths and sidewalks will be best suited for this segment and will likely comprise the majority of the trail construction. The trail surface composition may vary along the proposed route to conform to BOE requirements and to minimize impact to existing areas of the property. Steep areas of the property dictate that certain sections of the trail will require stepped, ramped, or terraced walkways to accommodate the changes in grade. Trail planning through this segment will evolve to consider aspects of location, trail volume, and accessibility in order to establish the safest and most appropriate pathway possible. Future traffic signage and crosswalk improvements at the intersection with Main Street may be considered to increase pedestrian and motorist safety.

G. Main Street to Patriot's Path

The last trail segment completes the loop around the Borough back to Patriot's Path and measures approximately 0.57 miles in length. This section of the trail is located entirely within the public ROW and uses existing sidewalks along Main Street and Dean Road. Other than a proposed trail marker at the intersection of Patriot's Path and potential future traffic signage modifications at the Main Street crosswalk, there are no proposed improvements necessary to implement this segment of the loop trail.

3. FUNDING

The trail will be funded through dedicated sources at the county, state and federal levels. These grant fund sources include the National Trails Grant Program through the DEP and the Safe Routes to Schools and Bikeway Programs from the DOT.

Loop Trail Summary

Trail Segment	Length (miles)	Type	Access	Phase	Description
Patriot's Path to Cosma Place	0.45	I, II	Boro. ROW	Existing	Existing roadway and sidewalk.
	0.06	IV	Boro. ROW	Proposed	Path from N. Linden to Cosma tract.
	0.08	III	Boro. ROW	Existing	Existing gravel path through Cosma tract.
	0.50	V	Open Space	Future	Wooded path and stream crossing through Cosma tract.
	0.02	IV	Boro. ROW	Future	Connection from end of North Linden to Patriot's Path.
Cosma Place to West Field	0.10	II	Boro. ROW	Existing	Cosma Place to Lake Dr. Sidewalk
	0.21	I, II	Boro. ROW	Existing	Lake Drive to Main Street
	0.09	II, III	Open Space	Existing	Main Street to West Field parking area.
West Field to Heather Hill Way	0.11	III	Open Space	Existing	Existing
	0.22	V	Easement	Proposed	Easement required for existing path.
	0.05	V	Open Space	Existing	Connect private land to Heather Hill Way ROW.
	0.30	I, II	Boro. ROW	Existing	Heather Hill Way sidewalk.
Heather Hill Way to Talmage Road	0.23	I, II	County ROW	Proposed	Sidewalk construction necessary for pedestrians.
	0.01	II	Boro. ROW	Proposed	Crosswalk improvements.
Talmage Road to Mendham High School	0.77	I, II	Boro. ROW	Existing	Talmage Rd and Coventry Rd sidewalks
	0.15	I, III	Open Space	Existing	Existing path from Coventry Rd to Franklin Road
	0.10	III	Open Space	Proposed	Define gravel path along soccer fields to HS prop.
Mendham High School to Main Street	0.39	I, III	Easement	Proposed	Define path along ballfields through HS property
	0.11	III	Easement	Proposed	Define gravel path around HS parking area
	0.05	I, II	Easement	Proposed	Utilize existing sidewalk from parking area to Main St.
Main Street to Patriots Path	0.57	I, II	Boro. ROW	Existing	Main Street and Dean Rd sidewalks.

III. TRAIL STANDARDS

Proposed trails shall be designed and constructed with the goals of producing minimal disturbance to the natural environment; ensuring the safety and enjoyment of the user; protecting adjacent resources and property; preservation of the aesthetic quality of an area; and adequately functioning for the intended use. All trail routes shall be designated as multi-use providing opportunities for pedestrians and bicyclists. No motorized vehicles except authorized trail maintenance vehicles and emergency vehicles shall be allowed on the trails. Trails shall consider a design which is compatible with the landscape, surrounding land and trail use. Should conflicts arise on specific trail segments in the future, the Borough may restrict the use on certain segments to avoid environmental degradation, conflicts with properties adjacent to the trail, or trail user conflicts.

In general, standards for construction of bicycle paths included in the American Association of State Highway and Transportation Officials' (AASHTO) Guide for the Development of Bicycle Facilities, 1999 are recommended for construction of new facilities (see below). However, these may not necessarily apply to mountain bike or multiuse trails. Maximum path width in wetlands or wetland buffers must comply with rules of the New Jersey Land Use Regulation Program, which may require a narrower maximum width.

1. DESIGN

Trail design guidelines must consider aspects of the specific trail segment proposed. Generally, no trail shall be constructed with a path less than 4' wide, a vertical clearance of less than 8', and a horizontal clearing distance less than 6' wide. Terrain and geographic location shall dictate the configuration, path surface, path width, clearing width, clearing height, grade, turning radius, sight distance, water crossings, and special requirements. Tree removal shall be avoided to the greatest extent possible.

Surfaces of the Loop Trail are defined by the following five types:

- Type I:** Sidewalks. These routes typify existing sidewalks which complete linkages in the trail system. Sidewalks are proposed for those sections of the trail where pedestrian use and Municipal or County Standards dictate construction. Sidewalks may be constructed of concrete or asphalt but must conform to the Standards of the agency with jurisdiction over their construction.
- Type II:** Pavement. Many sections of the trail utilize public roadways and sidewalks to complete the various segments to enable multi-use activity. Some trail segments include areas along public roadways where sidewalk construction does not exist or is infeasible.
- Type III:** Gravel surface paths. Gravel surface paths are proposed for trail segments where the anticipated use or volume may cause erosion and stability problems for natural or wood mulch surfaces. Gravel paths serve to define the trail and provide a stable surface while promoting surface water infiltration. Gravel paths shall have a constructed width of 6'-8' wide, a minimum vertical clearance of 8', and a horizontal clearance of 10'-12' wide.
- Type IV:** Wood mulch surface path. These routes are similar to Type V trails but shall be utilized where surface soils are unstable or the volume of trail use poses soil erosion and stability hazards. Wood mulch paths shall have a constructed width of 4'-6' wide, a minimum vertical clearance of 8', and a minimum horizontal clearance of 8'-10' wide.
- Type V:** Natural hard surface paths. These trail segments typify existing wooded paths through open space areas. These sections of trail utilize existing terrain and focus on minimizing impact to existing vegetation and land surfaces. Proposed and existing natural paths shall have a minimum width

of 4'-6' wide, a minimum vertical clearance of 8', and a minimum horizontal clearance of 8'-10' wide.

Pedestrian access easements shall be a minimum of 10' wide through privately owned lands in order to maintain minimum trail tolerances.

A detailed design plan for each proposed trail segment shall be prepared to evaluate the construction requirements for that particular location.

2. ACCESSIBILITY

New trails and existing trails that require maintenance/repair should be designed or modified to improve accessibility for persons with disabilities when possible. Proposed accessibility guidelines for trails have been developed by the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas.

Departures from specific technical provisions of the accessibility guidelines include areas where compliance would be detrimental to a significant natural feature, which may include a large rock, outcrop, tree, or a water feature which would block or interfere with trail construction or would be directly or indirectly altered or destroyed by construction of the trail to the extent that the trail could not, at that point, be made accessible. This includes areas protected under Federal or State laws, such as areas with threatened or endangered species or designated wetlands that could be threatened or destroyed by full compliance with the technical provisions. It also includes areas where compliance would directly or indirectly substantially harm natural habitat or vegetation. Compliance with the technical provisions, particularly running slope (16.2.7), may not be feasible in areas of steep terrain which may require extensive cuts or fills that would be difficult to construct and maintain, or cause drainage and erosion problems. Also, in order to construct a trail on some steep slopes, the trail may become significantly longer causing a much greater impact on the environment. Certain soils are highly susceptible to erosion. Other soils expand and contract along with water content. If compliance requires techniques that conflict with the natural drainage or existing soil, the trail would be difficult, if not impossible to maintain. This condition may also apply where construction methods for particularly difficult terrain or an obstacle would require the use of equipment other than that typically used throughout the length of the trail. One example is requiring the use of a bulldozer to remove a rock outcropping when hand tools are commonly used.

3. MAINTENANCE & ALTERATIONS

Maintenance of the various trail segments utilizing acceptable practices and methods suitable to restore the particular type of trail surface shall be performed by the Mendham Borough Department of Public Works. Maintenance activities include, but are not limited to, the restoration of surface treatments, clearing of brush to maintain trail height and width tolerances, signage maintenance, and the maintenance of bridges and structures.

Routine or periodic maintenance or repair of existing trails or trail segments is exempt from the technical and scoping provisions for accessible trails. Maintenance and repair is performed to return the trail or trail segment back to the standards or conditions to which it was originally designed and built. In outdoor environments, the ability to maintain the facility is generally more limited, occurring relatively infrequently, except in highly developed areas. This type of work is not an alteration; it does not change the original purpose, intent, or design of the trail. The act of maintenance and repair includes, but is not limited to: Removal of debris and vegetation such as downed trees or broken branches in the trailway, clearing trail of encroaching brush or grasses, removing rock slides, etc. Maintenance of trail tread such as filling of ruts and entrenchments; reshaping trail bed; repairing trail surface and washouts; installing rip rap (rock placed to retain cut and fill slopes); constructing retaining walls or cribbing to support trail tread, etc.; erosion control and drainage, replacing or installing necessary drainage structures such as drainage dips, water bars, or culverts; realigning sections of trail to deter erosion or avoid boggy/marshy areas, etc. Repair of trail and/or trailhead structures. This includes replacing deteriorated, damaged, or vandalized parts of structures such as sections of bridges, boardwalks, information kiosks, fencing, and railings; painting; removing graffiti, etc. Where practicable and feasible, the Borough shall maximize the opportunity to improve accessibility on trails through trail maintenance and repair activities.

IV. REFERENCES

- United States Department of the Interior National Park Service, *NPS Trails Management Handbook*, March 1983.
- American Association of State Highway and Transportation Officials. *Guide for the Development of Bicycle Facilities*. (AASHTO Guide), 1999.
- United States Access Board, *Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas Final Report*, September 30, 1999
- New Jersey Department of Transportation. *Bicycle Compatible Roadways and Bikeways: Planning and Design Guidelines*. Updated 1999.
- Rathke, D, and Baughman, M. for Minnesota Extension Service, University of Minnesota. *Recreational Trail Design and Construction*. 1997.
- U.S. Architectural and Transportation Barriers Compliance Board. *Recommendations for Accessibility Guidelines: Outdoor Developed Areas*. September 1999.
- U.S. Forest Service. *Trail Construction and Maintenance Notebook*. 2007.
- New Jersey Department of Environmental Protection Division of Parks and Forestry Office of Natural Lands Management, Recreational Trails Program, *Requirements for Projects Funded in New Jersey*, 2011.

V. APPENDIX A:

Master Plan Map