

# CHAPTER V

## TRAIL MASTER PLAN

The following chapter synthesizes the resource analyses and alternatives into the master plan for the Black Diamond Trail. The plan will guide the construction, operation and management of the multi-use, multi-purpose trail.

### DESIGN CRITERIA

The construction and operation recommendations for the multi-use, multi-purpose trail presented in this chapter adhere to guidelines set forth by the following sources.

- ◆ American Association of State Highway and Transportation Officials (AASHTO)
- ◆ Architectural & Transportation Barriers Compliance Board (oversight group for implementing the American with Disabilities Act)
- ◆ New York State Department of Transportation
- ◆ Rails-to-Trails Conservancy

### TRAIL PLAN

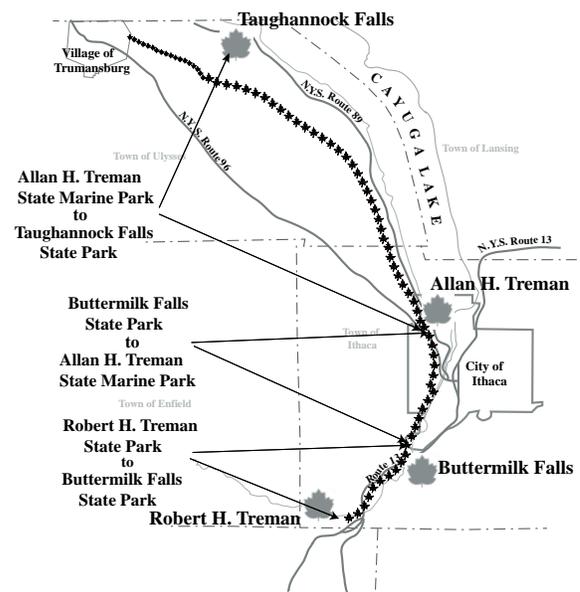
#### Standard Trail Construction Treatments

Many of the physical elements of the multi-use, multi-purpose trail will be standard across the entire system. Surface treatment; treadway construction; safety, orientation and interpretive signage; trail/road interfaces and screening will be consistent over the length of the trail.

Figures V-18 through V-24, on pages V-115 to V-119, at the end of this chapter present the plans for the standard construction treatments. Use of the elements along the corridor are defined/identified on the draft trail corridor plans that follow.

### Trail Corridor

Figures MP-1 through MP-6 present the master plan for the Black Diamond Trail, including the preferred alignment, spur trails, links to community facilities, corridor acquisition needs and other physical amenities that will enhance the function and enjoyment of the trail. The maps are accompanied by graphics and text that cover in more detail design elements for each trail segment selected to mitigate trail construction and operation impacts. The maps cover the trail following the trail segment breakdown introduced in Chapter IV and illustrated below.



*Black Diamond Trail corridor segments*

Robert H. Treman State Park to Buttermilk Falls State Park: Figure MP-1 & MP-2, pages V-61 and V-62

Buttermilk Falls State Park to Allan H. Treman State Marine Park/Cass Park: Figures MP-2 & MP-3, pages V-75 and V-76

Allan H. Treman State Marine Park/Cass Park to Taughannock Falls State Park: Figures MP-3 to MP-6, pages V-95 to V-98

The thick, black line on the maps represents the proposed centerline of the trail, stationed at increments of 1,000 linear feet. The stationing on the maps and referred to in the following text is an approximate measurement to provide points of reference.

Figures MP-1 & MP-2, SP 0+000 to 12+300  
Robert H. Treman State Park to  
Buttermilk Falls State Park

### *Location*

The portion of the trail outside of the two state parks, SP 1+600 to SP 9+750, will be located on the flats on the westerly side of the Cayuga Inlet stream as it heads north through the valley on its way to Cayuga Lake. As noted in Chapter IV, the exact location of the treadway will follow old farm lanes where possible to minimize the cutting of new corridors through regenerating stream bottomland vegetation. Through the floodplain forest, trail treadway location will be as identified by the consultant botanist. Within the state parks, the trail will be placed in lawn, utility and existing trail corridors to connect to day-use and camping areas.

### *Land Acquisition*

Three parcels remain to be acquired to complete the corridor. Fee acquisition of sufficient acreage to allow for the trail to be located away from the Cayuga Inlet and rebuilt if the stream changes course over time is recommended. Acquisition will be accomplished through willing seller and buyer negotiations.

The corridor through the valley will have limited road frontage. A dedicated administrative access for maintenance and emergency services use should be acquired at or near the halfway point along this trail segment. A permanent grant of easement is the recommended option for the access.

Temporary construction easements may be required from adjacent property owners to facilitate the installation of the surface treatment.

### *Trail Uses*

Walking, bicycling, cross-country skiing and snowshoeing.

### *Surface and Width*

The location in or adjacent to the floodplain of the Cayuga Inlet and the setting through the floodplain forest habitat presents a challenge in selecting the most appropriate surface treatment. For the segment of trail between the two state parks, compacted limestone dust is recommended for the area. The advantages of this surface selection include:

- ◆ The surface is less susceptible to tree root damage,
- ◆ While compacted to provide a trail ADA-compliant surface, the stonedust still retains absorption properties to minimize rapid run-off of rain and snowmelt,
- ◆ Sections of the trail may flood periodically and replacement cost of limestone dust is more economical than asphalt or concrete.
- ◆ Aesthetically, the limestone dust surface is more in keeping with the natural setting of the trail, i.e. in close appearance to a farm lane.

Within the state parks, asphalt-surfaced trails are recommended. Asphalt trails within the parks can provide expanded, safer opportunities for rollerblading and skateboarding.

The width of the treadway is recommended to be 10 feet. This width provides adequate space for the

types of uses to be accommodated on this section of the trail and minimizes the volume of vegetation that will be removed from landscape.

### *Existing Conditions and Recommended Design Treatments*

#### ***SP 0+000 to 1+500: Robert H. Treman State Park***

Robert H. Treman State Park is the Black Diamond Trail's primary access point at its southern extent. The setting for the trailhead is in the eastern day-use area of the park. A trail kiosk will be built in the vicinity of the existing bathroom building. Bicycle parking facilities and seating will be added near the kiosk.

Trail development will be located on the fringe of the day-use area along the south and east sides through second-growth woods and meadow where a utility corridor exists along the north side of Enfield Creek. Treadway construction with compacted limestone dust will follow Section 1 illustrated on Figure V-18, page V-115.

A seasonal-flow stream located at the northeast extent of the trail within Robert H. Treman will require bridging. Several options are available. Further design study is required for this feature to integrate it with the existing bridge underpass constructed by NYSDOT in the mid-1980s. The treadway material for the short segment of trail under the highway is recommended to be built of concrete to withstand seasonal high-velocity flood events.

#### ***Spur Trail and Links to Other Facilities***

A spur trail from the trailhead area west to the swim area and gorge trail parking lot will be built along the edge of the lawn/meadow area following the paved surface, Section 3, Figure V-18, page V-115, design detail. Where the spur trail intersects with the park road, warning/identification signs and bollards will be installed.

The Finger Lakes Trail (FLT) passes through Robert H. Treman along its southern boundary. The FLT is a pedestrian-only trail. Signage will

be necessary at the trailhead and at the FLT access point alerting Black Diamond Trail patrons that the Finger Lakes Trail is for foot traffic only.

Figure V-5 on page V-63 shows the relationship of the trail within the state park day-use area and its connection to other patron use areas. Photos on page V-54 illustrate the existing conditions of the trailhead area and main trail and spur corridors within Robert H. Treman.

#### ***SP 1+500 to 9+700: Cayuga Inlet Valley***

This roughly 1.5-mile segment of the proposed trail requires establishing a trail corridor through property that is, for the most part, in a state of reversion to floodplain forest. Evidence of former farmfield access drives were found during field inspections for the trail corridor and will be used for the trail treadway, where practical, rather than cutting a new corridor through denser vegetation. Three parcels of land remain to be acquired for this segment.

The trail treadway will be compacted limestone dust following Section 1, Figure V-18, page V-115. Where feasible the trail should be built to match the existing grade to mitigate the impact of altering the natural ground surface from vegetation to stonedust. Where fill is required to raise the trail due to excessively wet conditions, underdrains and culverting will be installed to maintain the existing surface water flow across the land. Wetter conditions exist in the northern reach of the trail segment through the floodplain forest where small pockets of wetland exist. This area is also where small groves of green dragon exist and must be avoided. Final trail alignment will be as directed by the consultant botanist to minimize impact on the green dragon populations.

At the northern end of this trail segment, the trail encounters the active railroad line currently operated by Norfolk-Southern. The opportunity exists to have the trail pass under the rail line, avoiding an at-grade crossing. Development of this trail feature will require obtaining a grant of easement from the railroad company and working closely with railroad engineers to design

**ROBERT H. TREMAN STATE PARK  
EXISTING CONDITIONS  
SP 0+000 to 1+500 and Spur Trail**



*SP 0+000: View northeast of day-use area. The southern-most trailhead for the Black Diamond Trail is located in Robert H. Treman State Park. In 1999, an enclosed pavilion, restrooms and large parking area were constructed at the east end of the park. A trail orientation/information kiosk, bicycle parking and seating will be constructed near the building complex.*



*SP 0+000: View east where trail will pass south of the pavilion through the existing electric line utility corridor.*



*SP 1+000: View north to Victorian-style building. Trail to be constructed between playing field and young evergreen screen plantings.*



*SP 1+500: The trail will cross the intermittent creek on a new trail bridge, then pass under N. Y. S. Route 13 on north side of creek. Trail surface will be concrete under the bridge.*



*Spur Trail: Trail spur will follow south (right) edge of meadow and end at the swimming-area parking lot. Cyclists can use internal park road system to access camping areas south of Enfield Creek.*

**CAYUGA INLET VALLEY  
EXISTING CONDITIONS  
SP 1+500 to 9+700±**



*SP 1+600: View east from N. Y. S. Route 13 bridge of meadow between intermittent creek and terrace at adjacent property. Stonedust trail to be along the north edge of the parcel.*



*SP 3+000: View north of meadow between terrace bank to west (left) and woodland on east. Proposed trail is to be located in the middle of the space.*



*SP 3+600: Proposed trail to be located on gravel/dirt farm road that links small meadow (south) and long meadow (north.) This existing road provides a stable and cost effective base for stonedust trail surfacing.*



*SP 5+200: The meander in the Cayuga Inlet is an area of heavy beaver activity causing the log jams. Log jams have caused the Inlet to overflow into adjacent fields.*



*SP 6+500: The proposed trail passes through a triangular shaped forest bounded by the railroad on the east and N. Y. S. Route 13 on the west. One intermittent creek crossing is required.*



*SP 8+800: View south of forest from Norfolk Southern Railroad. Proposed trail route that minimizes tree removal and avoids wetland areas has been marked with orange tape.*



*SP 9+000: The trail is proposed to cross the active railroad line under the east (right) bay of this bridge structure. The trail will have to be protected from above with metal or concrete box culvert.*



*SP 9+500: View south of area between active railroad line and Cayuga Inlet. An earthen trail ramp will be constructed to the top of the rip-rap mound adjacent to concrete bridge abutments.*



*SP 9+700: Concrete bridge abutments were constructed for the Black Diamond Trail by NYSDOT when N. Y. S. Route 13, to the west (left) was reconstructed.*

the underpass structure to Norfolk-Southern's standards.

To enhance the experience of trail patrons, low-profile interpretive signs are recommended for installation along this stretch of trail. The best opportunities to present information on the value of wetlands and floodplain forests are provided along this trail segment. The area also provides the setting to explain stream dynamics, the impacts of altering the landscape from a soft to hard surface and erosion impacts.

Photos on page V-55 illustrate the existing conditions of the trail corridor and interpretive opportunities through the Cayuga Inlet stream valley.

### ***SP 9+700 to 11+700: Buttermilk Falls State Park***

On the northeast side of the Cayuga Inlet, the trail enters Buttermilk Falls State Park. The main line of the trail will pass between the northwest side of N. Y. S. Route 13 and the Cayuga Inlet for approximately .5 of a mile before leaving the park and heading north through the city of Ithaca to Allan H. Treman State Marine Park and Cass Park.

Spur trails will enter the park from the north and south. The southern spur trail to the lower day-use area of Buttermilk Falls will be constructed on an existing path system in the Larch Meadow Nature Trail area of the park, located on the southeast side of N. Y. S. Route 13. From the north, a spur trail will be constructed on the abandoned railroad corridor using the pedestrian bridge over N. Y. S. Route 13 built by the City of Ithaca. This spur trail will become part of the Gateway Trail that is scheduled to be built by the City and Town of Ithaca.

The trail crossing of the Cayuga Inlet will be facilitated by bridge abutments installed by the New York State Department of Transportation (NYSDOT) during a major reconstruction of N. Y. S. Route 13 in the mid-1990s, illustrated in photo SP 9+700. In the early 1990s, OPRHP staff conducted a field examination of the Inlet Valley to assess the conditions of the stream banks along

the length of the Inlet between Robert H. Treman and Buttermilk Falls for a bridge crossing. Staff determined that crossing the Cayuga Inlet Creek near Buttermilk Falls provided the best stream bank conditions. The opportunity to piggyback trail abutment construction with the NYSDOT project afforded an excellent option for ensuring that appropriate stream-bank protection for the trail bridge was integrated into the major highway overpass abutment protection. With the bridge abutments in place, the purchase of a pre-fab bridge unit will complete this structure for the trail.

After crossing the Cayuga Inlet, the main line of the trail will follow the NYSDOT constructed asphalt trail under the highway bridge to the existing highway pull-off parking area, constructed for fishing access to the Inlet. The trail will skirt the parking area to the west then shift southeast between the highway and the man-made wetland. The wetland was created by NYSDOT as mitigation for the highway widening and provides an interpretive opportunity for the Black Diamond Trail.

North of the wetland, a trail corridor will be created through second-growth floodplain forest, an area formerly used by Buttermilk Falls State Park staff for short-term storage of compost materials and a former farm field now in reversion to shrub and floodplain forest.

Along this segment, the trail will cross Buttermilk Creek and West Buttermilk Falls Road. The crossing of Buttermilk Creek will require construction of a new bridge structure. The location will need to be evaluated with respect to stream bank stability.

The crossing of West Buttermilk Falls Road will not require any special treatment as this is a dead-end road and gated by OPRHP. The trail will cross the road west of the gate. A sign will be placed west of the gate to direct all trail users to access Buttermilk Falls State Park on the Gateway Trail to facilitate safe crossing of N.Y.S. Route 13.

North of West Buttermilk Falls Road to SP 12+300, the trail will pass through a former agricultural field

in succession. The parcel was acquired for the trail. Placement of the trail through the former farm field should again consider the stream dynamics of the Inlet and be located a significant distance to the east to allow for changes in the stream course.

In keeping with the trail work already done by NYSDOT, the trail segments through Buttermilk Falls will be paved following Section 4, Figure V-18, page V-115.

Photos on page V-59 illustrate the existing conditions of the trail corridor through the western portion of Buttermilk Falls State Park.

#### *Spur Trails and Links to Other Facilities*

Two spur trails will connect the main line of the Black Diamond Trail to the primary day-use area of Buttermilk Falls State Park. Trail users traveling south from the city of Ithaca will enter the park on a spur trail to be developed on the abandoned railroad corridor, purchased by OPRHP in the 1980s. Trail users traveling north from points south of Buttermilk will access the park from a spur trail developed on the existing westerly leg of the Larch Meadow Trail.

The northern spur trail will be developed jointly by the OPRHP, City of Ithaca and Town of Ithaca as the Gateway Trail. The trail will utilize the Gateway Bridge installed by the City of Ithaca in 2000 and the OPRHP's land purchased in 1984. The Gateway Trail is intended to link the developing trail network in the City of Ithaca to the Town of Ithaca's trails south and east of the city. For much of its course, the Gateway Trail will use the abandoned railroad corridor that traverses the south hill. The trail will also link the City's south and east neighborhoods to Buttermilk Falls State Park, the Black Diamond Trail and the City of Ithaca's developing Southwest Area, including the future Southwest Natural Area Park.

The southern spur trail will require upgrading the Larch Meadow Trail to accommodate multiple uses. As the trail leaves the Larch Meadow area, a new path will be developed through the ballfield area of Buttermilk. The trail will skirt the south side

of the ballfield parking lot for approximately 200 feet, cross the parking lot, then cross Sandbank Road. At both the parking lot and road crossing, the prescribed intersection treatment of gates and bollards will be installed.

After crossing Sandbank Road, the trail enters the park's picnic area, crossing on its westerly side then along the south side of Buttermilk Creek. The trail will cross the creek on an existing bridge that is a remnant from Sandbank Road's former alignment. Figures V-6, page V-64 and V-7, page V-65 illustrate the spur trail routes and construction details.

Coupled with the main line of the Black Diamond Trail, the two spur trails will provide a loop-trail segment for day-use patrons and campers at Buttermilk Falls, expanding park-based trail opportunities. A paved trail, following Section 4, Figure V-18, page V-115, is recommended for the spur trails to expand rollerblading and skateboarding opportunities at the park.

Photos on page V-60 show existing park conditions.

**BUTTERMILK FALLS STATE PARK  
EXISTING CONDITIONS  
SP 9+700 to 12+300**



*SP 9+800: View northeast of existing asphalt trail under N. Y. S. Route 13 between the Cayuga Inlet and the bridge abutment. Section of trail built by NYSDOT as part of highway reconstruction.*



*SP 10+000: View northeast of existing trail constructed by NYSDOT to provide linkage from fishing access parking area to the Cayuga Inlet and future Black Diamond Trail.*



*SP 10+200: View northeast along parking area. A state historic marker is located here commemorating the Coreogonal Indian village destroyed by the Sullivan Campaign in 1778.*



*SP 10+800: Northeast of the fishing access parking area the trail will follow the shoulder of N. Y. S. Route 13 for a few hundred feet, then turn to the north through the woodland.*



*SP 11+400: The trail will cross Buttermilk Creek approximately 500 feet northwest of N. Y. S. Route 13. The bridge will be approximately 80 feet in length.*



*SP 11+800: North of Buttermilk Creek the proposed trail passes through a successional meadow/old field. Numerous invasive Russian olives should be removed in this area as the trail is developed.*

**BUTTERMILK FALLS STATE PARK  
EXISTING CONDITIONS  
SPUR TRAILS**



*Spur Trail North: City of Ithaca installed the Gateway Bridge on abutments reconstructed by NYSDOT during the widening and reconstruction of N. Y. S. Route 13. The bridge will provide the linkage between the state park, the City's Southwest area and the Town of Ithaca's south and east trail systems.*



*Spur Trail South: View northeast on existing asphalt trail constructed by NYSDOT as part of the N. Y. S. Route 13 project. This trail links the future bridge over the Cayuga Inlet to the Larch Meadow Trail.*



*Spur Trail South: The westerly leg of the Larch Meadow Trail will be extended to the ballfield parking lot area, providing an additional access point for the Black Diamond Trail. Trail to be located south of the boulders.*



*Spur Trail South: Proposed trail through the picnic area, following an existing service lane.*



*Spur Trail South: The trail will cross Buttermilk Creek on an existing bridge. The bridge is currently used by pedestrians and occasionally by park maintenance vehicles.*



*Spur Trails: Trail users will have access to bathroom, swimming, picnicking and gorge-trail hiking upon entering the park. Adequate bicycle parking facilities will need to be added.*