



MILONE & MACBROOM

# *Ethel Walker Woods Master Plan Report*

**Additional Subject Parcels:  
Stratton Brook Open Space  
Town Forest Park**



January 2015



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## 1.0 INTRODUCTION

Milone & MacBroom, Inc. (MMI) was retained by the Town of Simsbury to develop an Open Space Improvement Plan for the 424-acre Ethel Walker parcel located in Simsbury, Connecticut. Additional adjacent town-owned parcels including the 110-acre Stratton Brook Open Space and 60 acres of Town Forest Park property were also included in the study. These three parcels provide the town residents and visitors access to a multitude of outdoor activities including but not limited to swimming, picnicking, walking, hiking, snowshoeing, and cross country skiing. Because of the wealth of outdoor opportunities provided, the town wanted the subject parcels to be a model for open space access and management. MMI made it a priority to evaluate and make recommendations that provide access to the outdoors for every skill level and physical ability. Similarly, the management of the site was analyzed, and recommendations with associated budgetary costs were developed to guide the town in future improvements. The following tasks were completed as part of the improvement plan:

- Gathered and reviewed existing site data including mapping, reports, land agreements, and local land use regulations
- Completed site reconnaissance to evaluate existing trail conditions, identify special site features, and evaluate changes in wetland and upland habitat types at key locations on site
- Evaluated existing site access, security, and parking areas
- Reviewed the separately prepared Forest Management Plan for conflicts and/or issues with recreational uses
- Provided recommendations on trail closures, expansion, and maintenance
- Provided guidance on compliance with accessible trail guidelines, made recommendations for existing trails to be designated as accessible, and what modifications are needed to gain the accessible trail designation
- Compiled budgetary cost estimates based on the Master Plan recommendations to aid the town in immediate and future improvement plans



## 2.0 EXISTING CONDITIONS ANALYSIS

Over the past 10 years, MMI has worked extensively on the Ethel Walker parcel, having completed A-2 property boundary surveys, T-2 topographic surveys, inland wetland and watercourse delineations, vernal pool surveys, endangered species surveys, wetland and upland habitat surveys, and tree surveys. In addition to the open space study, the town retained Ferrucci & Walicki, LLC, a forestry management company, to develop a management plan for the Ethel Walker Open Space parcel. This plan focused on the parcel's existing forest health and provided a host of recommendations for maintaining and/or enhancing the forests of the Ethel Walker parcel. MMI took into consideration the management strategies identified when studying the subject parcels' recreational uses and proposed improvements.

Using the previously prepared mapping, MMI verified the mapping accuracy, expanded on areas of limited information, and augmented areas that had changed since the mapping was completed. Primary tools for these tasks were visual observations and the use of a handheld Global Positioning System (GPS) unit. The GPS unit allowed for greater accuracy when mapping the trails, habitat areas, and special features. MMI conducted multiple site reconnaissance visits to evaluate and document conditions related to:

- Safety
- Access
- Site Use
- Parking
- Trail Conditions
- Habitat Areas
- Invasive Species
- Points of Interests – Views, Unique Features

The related findings for each subject parcel are summarized in the following report sections and graphically depicted in the appended figures.

### 2.1 Data Collection

#### 2.1.1 Previous Site Studies

MMI has been studying portions of the Ethel Walker site for the past 10 years. In 2005, MMI was retained by the Ethel Walker School (EWS) to complete a feasibility study to assess the development potential of the current Ethel Walker Woods parcel. Our feasibility study was extensive and included the following tasks;

- A-2 boundary survey
- T-2 topographic survey
- Federal and state wetland delineations
- Wetland function and value assessments
- Vernal pool surveys
- Listed species surveys

- Tree survey
- Septic system monitoring wells
- Residential design layouts
- Local permitting

Several reports were generated by MMI, other consultants, and/or state agencies as part of the local permit submission including:

Soil Scientist Report  
Vernal Pool Survey Report  
Wetland Impact Analysis  
Engineering Design Report  
Environmental Review Team Report

Portions of these reports were used as part of the development for the Ethel Walker Woods Master Plan. Pertinent information was transferred into the base mapping and used during site reconnaissance to update habitat limits, significant tree locations, trail locations, and site structures.

Other advocate groups have also prepared studies focused on the Ethel Walker Woods site, particularly in regard to creating awareness of the site and to promote its purchase by the town. One particular website used for additional background information was Keep the Woods <http://www.keepthewoods.org/index.php>, which has information regarding economic considerations, educational value, photos, and history of the Ethel Walker Woods site.



## 3.0 SITE USE

### 3.1 Ethel Walker School

It is not readily apparent that the Ethel Walker Woods parcel sits at the center of almost 1,400 acres of contiguous open space or that under its canopy of trees and soil lies a primary recharge area for the public water supply aquifer, yielding more than 3 million gallons of water per day and supplying over 10,000 residents with drinking water. The Ethel Walker Woods property is an integral piece of the rural aesthetic of Simsbury and for many generations has provided not only clean water but a natural area for recreation and respite from the growing urban and suburban environment. Until recently, the 424-acre parcel was owned by EWS. For close to 100 years, the school used the area as an outdoor classroom and equestrian training ground. When the school began to look to potentially sell the property, advocates for the site garnered support and succeeded in having the town purchase the property in order to preserve it as open space available to the public for passive recreational use. Through a series of purchasing and easement agreements, the site will be guaranteed to remain a preserved natural resource for town residents and visitors.

#### 3.1.1 Ethel Walker School Easements

As mentioned above, prior to the acquisition of the property by the town, EWS had owned the property and used it for its equestrian program. In addition, there is a well on the property that serves as a water supply for the school. Under the Easement Agreement, EWS has retained some rights for both of these uses. The following is a summary of rights granted to EWS that are part of the Easement Agreements between the Town of Simsbury and EWS.

#### **Water Usage**

The Easement Agreement allows EWS to "... construct, maintain and replace an existing well or wells and associated infrastructure to draw water for the School's water needs..." The easement allows for the replacement and relocation of the utility pipes that convey the water from the westerly side of the property to the east. The water can be used only for EWS and cannot be used to supply another party commercially without approval from the town. The maintenance of the well and related infrastructure should not have an impact on the contemplated use of the property by the town since it is likely that the existing access route from the EWS campus to the well will be continued to be used.

#### **Equestrian Use**

EWS historically used the property for its equestrian program that has included the training of horses and riders including jumping over obstacles and fences; pleasure riding by students, instructors, and guests; and undertaking competitive horse shows and riding events. Under the terms of the Easement Agreement, EWS may continue to operate its equestrian program including the right "... to install maintain, repair and replace temporary jumps and fences ..." Permanent or semipermanent facilities may be installed only with the permission of the town. Any equestrian equipment installed with the permission of the town must be maintained and paid for by the school.

In addition, EWS may hold equestrian events, at which time the property may be closed to the public for a limited period of time. This can only occur after giving the town written notice 7 days prior to the event.

### **Premises Management**

Under the terms of the Easement Agreement, the town has the responsibility for the management of the property including existing and new trails. EWS has the right to perform trail repairs without prior permission from the town for its cross country equestrian use. Trail improvements beyond repair of existing trails shall not be made without the town's consent.

The town also has the obligation to manage the forest by preparing and implementing a Forest Management Plan giving EWS the opportunity to review and comment on the plan. The recommendations in the plan cannot interfere with EWS's education and equestrian programs.

#### **3.1.2 Recommended Actions**

The agreement to allow the continued use of the property for equestrian activities does conflict with the Town of Simsbury Code that prohibits the riding or walking of horses "... in areas set aside for other recreational purposes ..." The following are recommend actions and site improvements to allow for the continued safe use of the Ethel Walker Woods site for the town, public, and EWS.

1. Horseback riding shall be permitted exclusively for the school's use and is not a permitted use for the public. The school is only to use the blue blazed trail for horseback riding and equestrian events. Trailhead kiosks will post permitted and nonpermitted uses.
2. The school shall be responsible for posting signage for any closures of the parcel due to equestrian events. Signs shall be posted at all trailhead kiosks a minimum of 7 days prior to the closure.
3. The town will decide what areas will need to be closed and posted for closure in order to keep other trail users safe.
4. The school will be responsible for removal of all postings regarding any closures for equestrian events immediately after the event concludes.
5. The school shall remove all regulatory signage previously indicating the site was private property.
6. The town will post signage at the trailheads and trail intersections with the blue blazed trail indicating that the blue blazed trail is used by the school's equestrians, and other trail users may encounter horses. The signage will include rules to obey when an encounter between an equestrian and other trail users occurs. A sample of rules to apply are:

Equestrians:

- Keep your horse to the right or where safe when encountering other trail users.
- Communicate. Let other trail users know how to pass your horse safely.

Pedestrians:

- Keep to the right when approached by others.
- Always yield to equestrians.
- Look behind and to both sides before changing course.

Bicyclists:

- Bicycles always yield to pedestrians. Before passing, SLOW DOWN, and establish verbal contact.
- When approaching equestrians, call out and STOP, whether you are seen or not. Ask for instructions on how to pass safely.

7. If during winter months it is necessary to remove snow from the Blue Trail to access the school's utilities, the school shall notify the town of the area and type of snow removal operations needed. Any damage from snow removal including plowing operations shall be repaired by the school.
8. When the school performs trail repairs, the town shall be notified in order to document the repair and inspect and determine if the repair was performed satisfactorily and poses no risk to other trail users.

### **3.2 Subject Parcels' Permitted Uses**

The primary subject parcels include Ethel Walker Woods, Stratton Brook Open Space, and Town Forest Park (see Figure 1). There are also a number of other town- and state-owned lands in close proximity to the subject parcels. The areas' mixture of parks, sport fields, and open spaces provides multiple outdoor recreational opportunities. Town Forest Park has areas for swimming, sunbathing, picnicking, basketball, baseball, and walking trails. The Farmington River Trail is a multiuse greenway that runs between the Massacoe State Forest Stratton Brook parcel and Town Forest Field before becoming an on-road facility along Town Forest Road, running east toward Stratton Brook Road. The Farmington River Trail provides opportunities for walking, running, and cycling as well as an alternative transportation corridor for residents and visitors to access the subject parcels and beyond. Ethel Walker Woods and Stratton Brook Open Space both provide primitive trails of varying types and difficulties for a multitude of outdoor activities. The permitted activities on these parcels include:

- Walking
- Hiking
- Running
- Biking
- Bird watching
- Snowshoeing
- Cross-country skiing
- Fishing
- Camping (with prior permission of the town only)
- Education
- Horseback Riding (limited to EWS use only)

All of the above activities will remain permitted uses within the subject parcels. From on-site observations, the site appears to get the greatest use from hikers, walkers, and runners. There appears to be some limited bicycle use. School groups were also observed to be using the site for educational use. Winter activities were not observed but the trails lend themselves well to cross-country skiing and snowshoeing due the rolling terrain and wide trails.

The site's natural resources are managed by the town and will include forestry management as described in Ferrucci & Walicki, LLC's document titled "Management Plan for Ethel Walker Open Space Property - 2014-2023," prepared for the Town of Simsbury. Forestry management activities will be done with sensitivity to recreational uses but may in some cases close portions of the subject parcel off to trail users.



## 4.0 SAFETY AND TRAIL CONDITIONS

Prior to completing its field investigations, MMI developed a trail field evaluation form to help assess the safety, quality, and function of each of the trails located on the parcel. A sample of a completed evaluation form is appended to this report for reference. In addition to mapping the existing trail networks within the Ethel Walker parcel, MMI's team extended its trail mapping to the adjacent Stratton Brook Open Space and Town Forest Park. The trail networks are illustrated in Figure 2.

When entering a maintained public outdoor recreational facility, the user assumes a certain level of personal safety. This expectancy should not be equivalent to the use of a public sidewalk, paved multiuse trail, sports field, or other higher maintenance facility. When entering an outdoor area with unimproved trails, users should expect to encounter exposed roots, loose rocks, steep pitches, woody debris, wet areas, and other occurrences in nature. It is the responsibility of the trail user to exercise caution and know their level of ability. It is the town's responsibility to remove and repair conditions that can create dangerous or injurious situations.

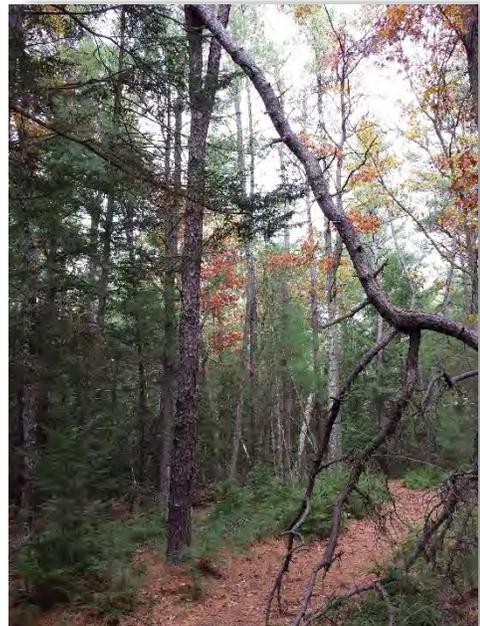


**Typical Trail Condition**

### 4.1 Damaged Trees

There were very few safety concerns identified within the subject parcels. Most notably, there are a number of damaged trees with overhanging branches that are commonly termed "widow makers" due to their potential to injure trail users by falling on them. These hazardous trees and/or tree limbs are noted on Figure 3. It should be a priority for the town to remove the identified trees. These locations include:

- Two on Orange Trail Segment B
- One on Blue Trail North just east of the Wegner Meadow Trail
- One on Yellow Trail near the intersection with Blue Trail South
- One on Blue Trail North near the Green Trail intersection



**Hazard Tree – Orange Trail**

Trees can become damaged for numerous reasons and, therefore, periodic site observations should be made to determine any damaged or damage-prone stands. Observations should be made specifically following any significant storm event.

#### **4.2 Trail System and Wayfinding**

The Ethel Walker site has seven main trail systems that have been color coded and marked by the town. These include Blue Trail, Yellow Trail, Green Trail, Orange Trail, Purple Trail, Red Trail, and White Trail. In addition to the main trails, the site has several unmarked spurs and loops, all of which were surveyed and added to the appended base map. The trails throughout the subject parcels are primarily compacted earth and can be categorized as multiuse due to the fact that there are no restrictions on permitted uses or direction of travel.

Overall, the parcel's main trails are in good condition but are inadequately blazed for consistent identification of trail route, intersections, and wayfinding. Proper wayfinding and trail blazing are a simple and effective way to keep users from getting disoriented and lost. Wayfinding features also help keep trail users from straying from the blazed trails and creating unauthorized paths.

#### **4.3 Trail Surface**

Erosion of a trail surface can be caused by many factors including poor soil structure, lack of vegetative cover, over use, improper use, vehicle traffic, and poor design or maintenance. In these and other cases, gullies, loose rocks, exposed roots, and other debris can begin to create trail hazards that can cause bodily injury due to tripping, stumbling, slipping, and falling. One of the largest contributors to potential erosion issues is when the trail traverses perpendicular to slopes that are greater than 5 percent. Specific areas of erosion are identified in the trail summaries and on Figure 3, Appendix B. Potential remedies to erosive issues are discussed in Section 11.0.

Similar to erosion, vehicular use on unpaved trails can create trail hazards that can cause bodily injury due to tripping, stumbling, slipping, and falling. Typically, ruts are formed when heavy vehicles or machinery traverse earthen trails. Daily vehicular use within the subject parcels is limited to the EWS's monitoring of its water wells and poses a low risk of trail damage. Access to the wells is provided via the Blue Trail, which has gradual grades and a fairly stable surface. However, there are low spots adjacent to wetlands and in low-lying areas that hold water and are more prone to damage and rutting from vehicle loads. The school does utilize a smaller 4x4 gator vehicle, which aids in reducing the risks of rutting from heavy loads but, even in inclement weather, vehicles are driven to access the wells and do add to the creation of ruts over time.

There are also periodic vehicles within the site during forestry management operations. These operations can create significant rutting due to the large vehicle loads bore on the earthen trails during logging operations. When ruts are developed, they should be repaired immediately with native material, if available, and allowed to settle overtime. Additional fill may be required once the material has settled. In perpetually wet areas, a free-draining material that can be compacted and still allow water to pass through should be used to bridge the ruts and trail surface. Limiting any vehicular use during wet weather and alternating access routes can greatly aid in reducing the development of ruts in the trail surface.

#### 4.4 Current Park Rules

The following is an excerpt from the current town code of prohibited activities within parks, playgrounds, and other town-owned property.

**CODE OF THE TOWN OF SIMSBURY, CONNECTICUT, v37 Updated 02-01-2014 / PART II GENERAL LEGISLATION / Chapter 115, OFFENSES ON PUBLIC PROPERTY / ARTICLE I, Parks, Playgrounds and Other Town Property [Adopted 4-1-1990EN] / § 115-1. Prohibited activities. [Amended 3-25-1996EN]**

**§ 115-1. Prohibited activities. [Amended 3-25-1996EN(23)]**

It shall be unlawful for any person to commit any of the following acts in any park or playground or upon property that is owned, leased or under license or control by the Town of Simsbury, but excluding town property devoted to school use:

- A. To deface, remove or destroy any sign, notice or protective device erected by the Town of Simsbury.
- B. To provide music or entertainment for any organized gathering for any purpose except by permission of the Board of Selectmen or its designated agent.
- C. To sell, offer or solicit for sale any goods or merchandise without permission of the Board of Selectmen or its designated agent.
- D. To give instructions to any person in driving an automobile or in learning to drive an automobile, to drive at a rate exceeding 15 miles per hour, to drive any automobile or other motorized vehicle except on provided roads or to park any car except in areas designated for public parking or to park overnight without permission of the Board of Selectmen or its designated agent.
- E. To ride a bicycle except on roads, park walkways, footpaths or bike paths unless otherwise posted.
- F. To post, plaster or affix any placard, notice or sign without permission of the Board of Selectmen or its designated agent.
- G. To damage, destroy or make improper or unauthorized use of any public property; or to engage in conduct which is contrary to any notices, rules or regulations posted by the Town; or to refuse to obey the orders of any person or persons in authority with respect to the use of or conduct on such property.
- H. To hunt, injure or harass animals, birds or fish on town property except when and where hunting and fishing are allowed by the Board of Selectmen or its designated agent.
- I. To throw, deposit or leave any litter, rubbish, leaves, brush or grass clippings, except in receptacles or locations provided for this purpose.
- J. To participate in any activity in a manner to create a nuisance.
- K. To skate on or wade or swim or fish in any brook, stream or pond in any park or playground under the control of the town, except on places where authorized by the Director of the Simsbury Department of Culture, Parks and Recreation or his designated agent.
- L. To make a fire in any place other than fireplaces provided by the Town of Simsbury unless authorized by the Director of the Culture, Parks and Recreation Department or his designated agent. All such fires shall be completely extinguished before the responsible person leaves the area.

- M. To enter or remain in any park or recreation area during the period from one hour after sunset to one hour before sunrise, unless authorized by the Director of the Culture, Parks and Recreation Department, Board of Selectmen or a designated agent.
- N. To have animals in all park areas not in reasonable control of the owner or the owner's agent or which disturb the normal operation of the park or facility or endanger the health or safety of the park patrons. Under no condition will such animals be permitted in the waters of any area established for swimming purposes under the control of the Culture, Parks and Recreation Commission.
- O. To ride or walk horses in areas set aside for other recreational purposes by the Simsbury Culture, Parks and Recreation Department.
- P. To operate any motor-powered vehicles such as snowmobiles, motorcycles and minibikes except when and where authorized by the Board of Selectmen or its designated agent.

These regulations will remain in place for the subject parcels. No conflicts of use have been identified between the subject parcels' current or future uses and the current town regulations for parks or other town properties. Refer to Section 10.2 for a summary of proposed regulations for inclusion with those already in place.

#### 4.5 Trail Summaries

The following report section is a summary of the trail assessment forms for the parcels' marked trail system.

### Orange Trail

**Total Orange Trail Length:** 1.2 miles

**Trail Connections:** Blue Trail and Green Trail

**Trail Difficulty:** Moderate; trail is generally rolling terrain with a few sections of steep grades over 5%. Sections of grades over 5% are sustained for approximately 300 to 400 linear feet.

**Existing Conditions:** Primarily an 8-foot-wide trail that is in good condition. Trail does have sections of narrower, varied segments as described below.

#### Segment A

Primary access into subject parcel, bridge crossing of Stratton Brook, narrower undulating and serpentine section with exposed roots, substantial woody debris on the edge of the trail adjacent to the brook, views of Stratton Brook, intersection with Green Trail

#### Segment B

Wider trail, highest trail elevation on site, traverses up and over ridge line with steep section connecting to Orange Segment C, steep section is approximately 400 linear feet with an average grade of 10%, section has erosion issue - gullies present

#### Segment C

Wider trail, traverses toe of slope near east property line, steep section connects to Blue Trail North, steep section is approximately 300 linear feet with an average grade of 13%, section has erosion developing

Trail passes through hardwood and mixwood forest. Segments B and C pass through impressive hemlock and pine stands.



<p>Common trees adjacent to trail include eastern white pine, hemlock, black birch, red oak, red maple, white oak, American beech, and sugar maple.</p> <p>At the primary site access, the trail should be considered for modifications to comply with universal trail accessibility guidelines – see Section 13.0.</p> <p><b>Special Features Along Trail:</b> Primary access to site, bridge crossing of Stratton Brook, view to Town Pond area, highest elevation trail section on site, varied topography</p>	
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<b>Green Trail</b>	
<p><b>Total Green Trail Length:</b> 0.5 miles</p> <p><b>Trail Connections:</b> Blue Trail and Orange Trail</p> <p><b>Trail Difficulty:</b> Low; trail is generally flat with a few short sections of grades at or above 5%</p> <p><b>Existing Conditions:</b> 8-foot-wide trail that is in good condition; fairly flat for majority of its length</p> <p>Trail passes through hardwood forest. Common trees adjacent to trail include black birch, red oak, red maple, white oak, American beech, and sugar maple.</p> <p>Trail should be considered for modifications to comply with trail accessibility guidelines.</p> <p><b>Special Features Along Trail:</b> Provides direct access to Stratton Brook and connection to Stratton Brook Open Space property</p>	

## Blue Trail North

**Total Blue Trail Length:** 2 miles

**Blue North Segment Length:** 0.9 miles

**Trail Difficulty:** Easy; trail is generally flat with a few sections of grades between 5-8%. Sections of grades over 5% are sustained for approximately 200 to 400 linear feet.

**Trail Connections:** Red Trail, Purple Trail, Orange Trail, Green Trail, White Trail

**Existing Conditions:** 15-foot-wide gravel and compact sand road. Primary access trail/road into property and to existing EWS wellfield. Trail is in good, stable condition with some vehicle ruts and wet low-lying areas.

Trail passes through hardwood forest, forested wetland, and mixwood forest. Common trees adjacent to the trail include black birch, red oak, red maple, white oak, pignut hickory, eastern hemlock, and eastern white pine. Invasive shrub species including multiflora rose and Japanese barberry are present near the forested wetland.

Trail should be considered for modifications to comply with universal trail accessibility guidelines – see Section 13.0.

**Special Features Along Trail:** Vernal Pool #7 and Wegner Meadow



## Blue Trail South

**Total Blue Trail Length:** 2 miles

**Blue South Segment Length:** 1.1 miles

**Trail Difficulty:** Moderate; trail is rolling terrain with a few sections of grades between 8-10%. Eastern section of trail has sustained lengths of trail equal to or greater than 5%.

**Trail Connections:** Purple Trail, Red Trail, Yellow Trail, White Trail

**Existing Conditions:** 15-foot-wide gravel and compact sand road. Primary access trail/road into property and to existing EWS wellfield. Trail is in good, stable condition.

Trail passes through hardwood forest and mixwood forest. Trail passes along Open Wetland system associated with Stratton Brook. Common trees adjacent to trail include black birch, red oak, red maple, white oak, pignut hickory, eastern hemlock, and eastern white pine.

Trail should be considered for modifications to comply with universal trail accessibility guidelines – see Section 13.0.

**Special Features Along Trail:** Access to/from small parking area near observatory at EWS property, view of surrounding hills from parking area



## Yellow Trail

**Total Yellow Trail Length:** 1.1 miles

**Trail Difficulty:** Moderate; trail is generally rolling terrain with a few steep sections of grades above 10%. Care should be taken on steep sections due to loose soil and rocks.

**Trail Connections:** Blue Trail, White Trail

**Existing Conditions:** 8-foot-wide trail that is in good condition. A number of unmarked trail spurs intersect the trail at various points.

Trail passes through hardwood forest. Common trees adjacent to trail include black birch, red oak, red maple, white oak, American beech, and sugar maple.

**Special Features Along Trail:** Connection to Woodhaven Drive, wolf tree – white pine near Woodhaven Drive entrance, intersecting trail spurs provide varied trail experience



## Purple Trail

**Total Purple Trail Length:** 0.3 miles

**Trail Connections:** Blue Trail North and South  
**Trail Difficulty:** Low; trail is generally flat with its southern section having grades between 5-7%. Ruts in southern portion of trail make secure footing difficult.

**Existing Conditions:** 8-foot-wide trail that is in fair condition. Southern section is uneven, rutted terrain apparently from vehicle use. Intermittent drainage crossing needs improvements.

Trail passes through hardwood forest. Common trees adjacent to trail include black birch, red oak, red maple, white oak, American beech, and sugar maple.

**Special Features Along Trail:**  
Well house, drainage crossing



## Red Trail

**Total Red Trail Length:** 0.3 miles

**Trail Connections:** Blue Trail

**Trail Difficulty:** Low; trail is generally flat with its southern section having grades between 5-7%.

**Existing Conditions:** 8-foot-wide trail that is in good condition. Trail narrows in places with dense undergrowth (white pine and black birch saplings) causing trail width reduction.

Trail passes through mixed hardwood forest. Common trees adjacent to trail include black birch, red oak, red maple, white oak, eastern hemlock, and eastern white pine. A small watercourse crossing is located within the forested wetland.

**Special Features Along Trail:** Great white oak specimen, conifer glen, fern glen, watercourse crossing



## White Trail

**Total White Trail Length:** 0.2 miles

**Trail Connections:** Blue Trail, Yellow Trail

**Trail Difficulty:** Difficult; trail is generally sloped above 5% with sections of grades at 20-25%.

**Existing Conditions:** 8-foot-wide trail that is in fair condition. Trail has steep sections on both east and west ends that have developed rills, gullies, and loose soil due to erosion.

Trail passes through mixwood forest and forested wetland. Common trees adjacent to trail include black birch, red oak, red maple, white oak, eastern hemlock, and eastern white pine.

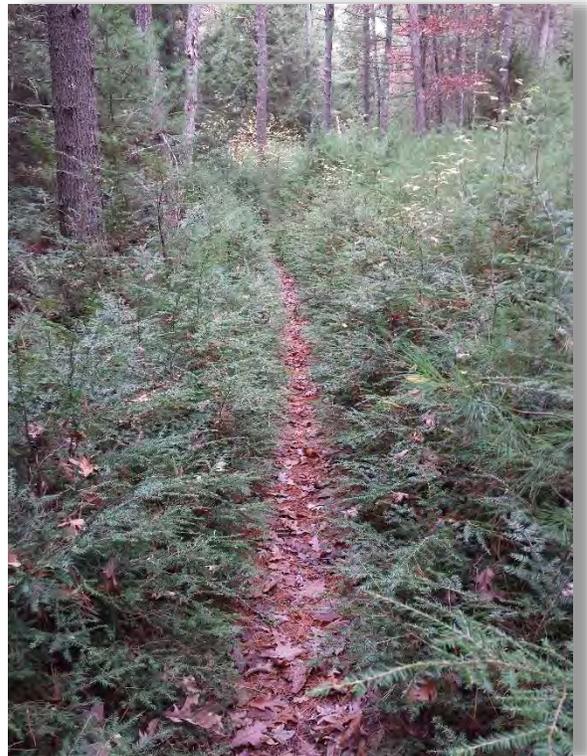
**Special Features Along Trail:** None were identified.





## 5.0 UNMARKED TRAILS – ETHEL WALKER WOODS PROPERTY

There are a number of unmarked trail spurs, primarily in the western half of the property, that provide connections between the main trails. Some of these spurs are clearly used more than others. The town should decide whether to blaze these trails and incorporate them into the trail system or close them off from any further use. Unmarked trails can lead to users becoming disoriented, off track, and lost. They can also lead users to believe it is permitted to wander off the marked trails creating new unauthorized trails. The trail spurs do however provide a different trail experience from the majority of the main trails as they are more of a single track with a narrower footprint and traverse a more diverse and, in most cases, challenging topography in a shorter distance than the main trails. As such, consideration should be given to incorporating some unmarked trails into the blazed trail system.



Unmarked Singletrack Trail



## 6.0 UNMARKED TRAILS – ADJACENT PARCELS

Town Forest Park includes a number of unmarked spurs that connect into the Ethel Walker Woods property. These spurs provide connections to the baseball field, parking areas, Farmington River Trail, and Massacoe State Forest and, as such, they should be preserved with some minor modifications.

The Stratton Brook Open Space parcel has a few unmarked trail spurs off the main Green Trail, which runs east-west connecting the intersection of Bushy Hill Road and Stratton Brook Road to the Ethel Walker Woods parcel. One feature accessed from the trail spurs is the open field area, which provides a unique area for bird watching. There is the potential to connect to the Farmington River Trail parking area at the corner of Stratton Brook Road and Town Forest Road. This would provide an off-road linkage to the adjacent Farmington River Trail. A bridge crossing would be necessary to complete this connection.



**Unmarked Trail – Stratton Brook Parcel**



## 7.0 SITE ACCESS AND PARKING AREAS

### Town Forest Park

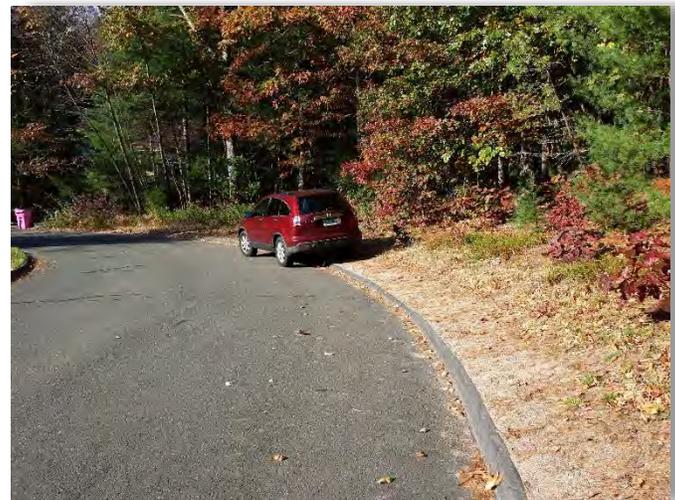
The Ethel Walker parcel is accessible from select locations. The primary site access is from the south side of Town Forest Road from the adjacent Town Forest Park. The south side of the park has a dirt parking area, picnic pavilions, open lawn area, a basketball court, and trailhead map for the Ethel Walker Woods parcel. Across the road to the north is the Town Forest Park swimming area and additional parking. There is additional pull-off parking to the west of the park off Town Forest Road near the Little League baseball field. None of the parking areas are paved or striped making identification of the total number of spaces difficult.



**Town Forest Park South Parking Lot**

### Woodhaven Drive

Secondary site access is located on the south side of the parcel on the cul-de-sac of Woodhaven Drive. Parking is provided by pulling over the curb along the radius of the cul-de-sac. Space is limited to approximately three vehicles. Currently, there is no wayfinding signage to direct users to this trailhead and parking option.



**Woodhaven Drive Parking**

### Town-owned Adjacent Parcels

The town does own a few abutting parcels from adjacent streets that could provide other means of access to the Ethel Walker Woods and Stratton Brook Open Space parcels. Three town-owned parcels are located off Long View Drive along the north side of the Ethel Walker Woods parcel. Two of these parcels are fairly narrow strips of land that are commonly referred to as "paper streets" because they were retained as potential side streets for future development. The two westernmost parcels would have to cross over wetlands to access the site. The third easternmost property would not have to cross wetlands, but it does have wetlands adjacent to it that also include vernal pool habitat. At this time, these parcels are not being considered for future site access under this Master Plan study. Impacts to the adjacent habitats should be evaluated if these parcels are considered for development.

The town also owns a developed parcel adjacent to the Stratton Brook Open Space that could provide future trail connections, parking options, and connectivity to other town and state amenities. This parcel is located at the corner of Stratton Brook Road and Town Forest Road. Currently, there is space for pull-off parking of approximately seven to eight cars. The parking area is currently used for access to the Farmington River Trail but, with trail expansion including a crossing of Stratton Brook, this parking lot could provide access to the Open Space parcel as well. This potential future connection would allow access to the Farmington River Trail, Stratton Brook Open Space, Ethel Walker Woods, Stratton Brook State Park, and Town Forest Park. The challenges to making this connection include crossing Stratton Brook, navigating wet areas along the brook within the Stratton Brook Open Space, and blazing a section for the trail across a state-owned parcel of land.



**Farmington River Trail Parking – Stratton Brook Road  
and Town Forest Road**

Stratton Brook Open Space also has an unimproved pull-off area off Bushy Hill Road, just south of the intersection with Stratton Brook Road, which was once an access point for forest management of the parcel. This area was used on occasion for public parking and access to the site; however, it is not considered a designated public parking area and, as such, is not maintained by the town.



## 8.0 SPECIAL SITE FEATURES

In addition to mapping and assessing trail conditions, MMI evaluated the site for special site features such as historic rock walls, specimen trees, and unique wetland and/or upland habitats. The following text provides a summary of key site elements and/or features.

### 8.1 Stratton Brook

#### Stratton Brook

The largest and most significant wetland system on site is Stratton Brook and its tributaries along the western boundary of the site. Stratton Brook has two distinct flow regimes. A portion of the brook is impounded by a former beaver dam. Flow is quiescent here with moderate-sized expanses of open water. The beaver dam has formed an impoundment upstream resulting in the formation of scrub-shrub and emergent marsh wetland habitats. The water is shallow and warm since there is little canopy to provide shade. Although there are no published fishery surveys for this reach of Stratton Brook, it is clearly a warm-water fishery supporting species such as sunfish, grass pickerel, white sucker, brown bullhead, perch, and bass.



**Vernal Pool - Stratton Brook Emergent Wetland System**

Some of the shrub species observed within the scrub-shrub wetland included highbush blueberry, maleberry, common winterberry, speckled alder, swamp azalea, swamp rose, willow, spicebush, and buttonbush. Species observed in the emergent marsh were common reed, broad leaved cattail, purple loosestrife, yellow loosestrife, bur-reed, fringed sedge, lurid sedge, tussock sedge, soft-stemmed bulrush, woolgrass, cinnamon fern, sensitive fern, marsh fern, forget-me-not, meadowsweet, boneset, skunk cabbage, and jewelweed, among many others. The upper reaches of the wetland are seasonally flooded and thickly forested with evergreen species dominant, especially eastern hemlock and mountain laurel. This is an uncommon wetland forest type. Common reed (*Phragmites australis*) has become a dominant invasive plant within both the scrub-shrub emergent marsh and evergreen forested wetlands along Stratton



**Former Beaver Dam Area with Scrub-Shrub Wetlands**

Brook. Its domination is beginning to lower biodiversity within the wetlands, and the colonies of this species are spreading rapidly through the Stratton Brook impoundment system.

With its diversity of vegetation, complex stratification of habitat, and variety of wetland types, the impounded area provides excellent wildlife habitat. A wide variety of birds, mammals, amphibians, and insects use this wetland. Typical marsh species such as swamp sparrow, common yellowthroat, yellow warbler, wood duck, tree swallow, belted kingfisher, and great blue heron have been observed within this wetland in the past.

Downstream of the beaver dam, the topography steepens, and the brook flows more rapidly. The riparian corridor is forested and heavily shaded resulting in cooler water temperatures. The substrate consists of coarse sand, gravel, cobbles, and stones, and the brook demonstrates a riffle-run-pool geomorphology. This combination of features typically results in conditions ideal for cold-water fish species such as brook trout. The forest is predominantly an eastern hemlock, red maple, and yellow birch community with a narrow floodplain. MMI also noted large quantities of coarse woody debris along portions of the brook. This provides important habitat for macroinvertebrates, foraging fish, and salamanders. Typical wildlife for this area includes Louisiana water thrush, black-throated green warbler, pine warbler, hermit thrush, eastern wood pewee, and wild turkey. The corridor would likely support species such as porcupine, red fox, raccoon, and weasels including mink.

## 8.2 Vernal Pools

The Ethel Walker site has several productive vernal pools, which were extensively surveyed and assessed by MMI in 2005. Vernal pools are typically considered to be a special wetland type for their ability to provide valuable habitat to obligate wetland fauna such as wood frogs, spotted salamanders, and marbled salamanders. MMI did not revisit each pool as part of our 2014 field survey; however, we focused on those pools that were accessible and/or immediately bordered the existing trails. Vernal Pool-7 (VP-7) was a pool that supported a diverse assemblage of wetland types and vernal pool fauna species that are within close proximity to a trail. This vernal pool was selected as a special site feature.

## 8.3 VP-7

VP-7 is located in the northern portion of the site and is located adjacent to Blue Trail North. The pool abuts the trail, which acts as a berm. This pool system has two distinct wetland communities associated with it. The northern part of the pool is a scrub-shrub/emergent marsh habitat while the southern part is a shrubby/hemlock forested habitat. Both of these habitats provide high quality amphibian breeding habitat. The scrub-shrub/emergent marsh pool habitat is dominated by shiny winterberry, common winterberry, silky dogwood, buttonbush, and speckled alder. The herbaceous



Vernal Pool 7

plants include jewelweed, lesser bur-reed, fringed sedge, water smartweed, and sensitive fern. The forested pool habitat is dominated by eastern hemlock with a moderate density of common winterberry growing within it. Typical species that have been observed within this pool include spotted salamanders, wood frogs, red-spotted newts, green frogs, spring peepers, and odonates.

#### **8.4 Wegner Meadow**

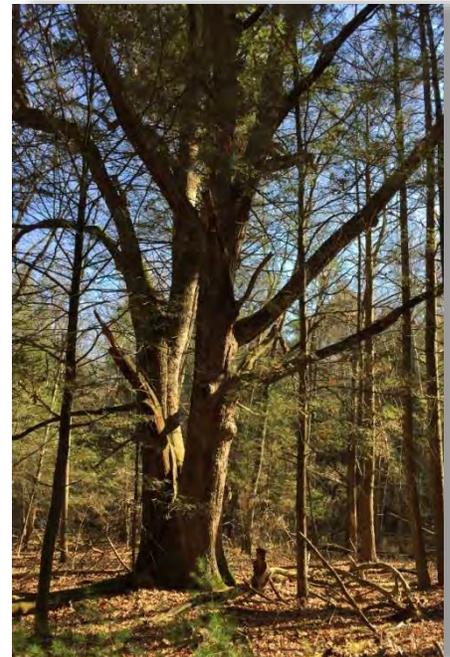
Wegner Meadow is an equestrian jumping area for the EWS that was designated a habitat preservation area and named after Patricia and Arthur Wegner. There are a number of jumping obstacles scattered throughout the meadow area.



**Wegner Meadow**

#### **8.5 Great White Oak**

A large-diameter white oak is located along Red Trail and in close proximity to VP-7. The white oak is in moderate health and is likely to be at least 100 years old. This tree is of special value to the site due to its size and age. Single trees of this size typically occur by surviving wide spread tree stand damage such as storms or fires, clearing for agricultural use, and logging operations. Once established as the largest tree in the area, the tree then dominates the canopy extracting more sunlight and nutrients from the soil making it difficult for younger vegetation to compete and survive.



**Great White Oak**

### 8.6 Fern Glens

Ferns are well established along several of the trails within the site. Fern glen areas are located primarily along Red Trail and Blue Trail. Fern species present include lady fern, Christmas fern, cinnamon fern, hay scented fern, sensitive fern, Bracken fern, and New York fern.



Fern Glen near Blue Trail

### 8.7 Conifer Forest Glen

Mixed hardwood forested areas are found throughout the Ethel Walker property. Several of the trails, especially Red Trail, Blue Trail, Orange Trail, and Green Trail, pass through some of these glens. Species including eastern white pine and eastern hemlock dominate these forested areas. The understory is typically open with some ferns being present such as Christmas fern.



Conifer Forest Glen

### 8.8 Beaver Baffle

Located just off the Blue Trail within Stratton Brook is a drainage structure installed to allow for continuous movement of water and deter beavers from trying to dam the river. Considered a Best Management Practice for beaver control, the installed device consists of a flexible drainage pipe surrounded in a wire cage. The pipe is installed through the existing beaver dam allowing water to pass through. The cage prevents beavers from being able to clog and dam the inlet and outlet of the pipe. The cage is typically staked to the pond floor with rebar. The continuous flowing water baffles the beaver and, after repeated unsuccessful attempts to stop the flow, the beaver will typically move out of the area.



Beaver Baffle Wire Cage at Inlet

### 8.9 Stratton Brook Parcel Open Space Meadow

The Stratton Brook open space meadow has not been mowed over the past 5 years as evidenced by the colonization of the meadow by old field plant species. This meadow is classified as an old field with early pioneer plant species dominating the plant community. Goldenrods, grasses, blackberry, common milkweed, Queen Anne's lace, and a variety of other native herbaceous plants are present. Autumn olive, a nonnative invasive shrub, is present in low numbers. The meadow provides a great viewshed for a variety of passerine bird species during both the summer and migratory seasons of the year. Insects are plentiful within this meadow. In order to maintain this meadow's natural character and habitat, an annual mowing management program will be required.



Open Space Meadow



## 9.0 INVASIVE VEGETATION

The Ethel Walker site has relatively low populations of invasive vegetation within the upland and wetland areas. There are some areas on site where invasive vegetation has begun to colonize. Many of these areas are located in areas that have been disturbed over the last 10 years and/or those areas that are no longer being managed. These areas include Wegner Meadow, Blue Trail near VP-7, forested wetland/upland areas near Yellow Trail, Stratton Brook emergent wetland and scrub-shrub wetland systems, and former logging roads.

### 9.1 Wegner Meadow

Wegner Meadow served as part of Ethel Walker's equestrian jumping area; however, it is evident by the lack of recent mowing and the colonization of woody vegetation within the meadow that this site is no longer being used for such activities. The meadow appears to have not been mowed for at least 5 years. Many sapling and pole-sized trees have grown up into islands within the meadow. Areas formerly having grass species are now being dominated by goldenrods, autumn olive, multiflora rose, Oriental bittersweet, eastern red cedar, white ash, and red maple. Autumn olive, multiflora rose, and Oriental bittersweet are considered nonnative invasive vegetation. These species typically outcompete native vegetation, lower biodiversity, and limit site accessibility and can become a vector for spreading seed (bird dispersal, animal dispersal, and/or wind dispersal) into other areas of the site.



**Multiflora Rose and Japanese Barberry Within VP-7 Wetland**

### 9.2 Forested Wetland Adjacent to Blue Trail

The forested wetland located near VP-7 is becoming colonized by multiflora rose and Japanese barberry. These species are growing adjacent to the trail and can become a safety hazard to trail users. These plants are also diminishing the aesthetic quality of the wetlands and lowering biodiversity.

### 9.3 Stratton Brook Wetland System

The Stratton Brook Wetland system is heavily infested with common reed. Common reed is an aggressive emergent wetland plant that can outcompete most herbaceous and woody vegetation. The plant forms a dense monoculture community. Common reed can reach heights in excess of 12 feet, which can cause shading that can suffocate the native wetland plants. The resulting dominance of these species typically results in depressing biodiversity (fauna and flora species) within a wetland, often impedes vistas of wetlands, and lowers aesthetic value.



Stratton Brook Wetland System

### 9.4 Mixwood and Hardwood Forest Systems

As stated previously, invasive vegetation occurs in relatively low densities on this property; however, there are some areas that have invasive species intermixed within the forested understory. Japanese barberry and multiflora rose are the dominant invasive species found within these forested understories. Japanese barberry is known to provide habitat for a variety of small mammals including field mice and has been known to harbor the carrier of Lyme disease, infected ticks. In fact, the Connecticut Agriculture and Experiment Station (CAES) estimates that eliminating stands of Japanese barberry from forested areas can reduce the number of Lyme disease-infected ticks on a given property by 80 percent. Preventing the further migration and/or spread of these invasive shrubs to other areas on site would decrease the potential for public health issues.



Japanese Barberry Infestation



## **10.0 MASTER PLAN PROPOSED IMPROVEMENTS AND RECOMMENDATIONS**

Upon completion of the existing conditions analysis, MMI developed recommendations and associated cost estimates to further guide the town's management of the parcels and aid in developing operating budgets for future improvements. The following text provides a narrative of the recommended improvements for the project area. Refer to Figures 4 and 5 for graphic representations of the proposed improvements.

### **10.1 Master Plan Goals**

As described earlier, the Ethel Walker Woods parcel lies immediately adjacent to and in close proximity to a number of town- and state-owned parks, recreation facilities, and open spaces. Its location coupled with its large acreage provides the Town of Simsbury the opportunity to create a premier open space that provides a wide range of outdoor recreational activities. Specific goals of the Master Plan are to:

- Promote outdoor recreation and healthy lifestyle choices
- Provide accessible trails and associated amenities to allow users of all abilities equal opportunities to access the natural resources of the subject parcels
- Provide connections between adjacent and nearby parcels
- Improve parking and site identity
- Improve trail mapping and signage to facilitate safe navigation of trails
- Enhance the safety, condition, and use of trails and open space through repairs and maintenance

### **10.2 Additional Park Regulations and User Guidelines**

The following are suggested additional open space and park regulations for consideration for adoption to the current Town of Simsbury's code.

It shall be unlawful, unless otherwise approved in writing by the Town of Simsbury, for any person:

- To excavate, dig, or disturb the ground, including but not limited to any rock, soil, sediment, or vegetable matter
- To collect firewood
- To operate any motorized vehicle, except on designated roadways and parking lots that are open to public use. Emergency, maintenance, and patrol vehicles are specifically excluded from this prohibition.
- Except during lighted sporting events, or with written permission from the town, to park or leave unattended any vehicle at any time between 1 hour after sunset to 1 hour before sunrise
- Any person who brings a dog into a park or open space land shall pick up, carry out, and dispose of that dog's excrement.

- To walk, run, jog, hike, bicycle, or ride a horse off-trail, on any park or open space that contains any trail.

The following trail etiquette suggestions may also be considered for posting on the town's website or at particular sites if issues are arising. It should be noted that too much information posted at trailheads can confuse park users or create sign pollution that is ignored and unaesthetic. See Section 11.0 for a discussion on signage.

#### Trail Etiquette:

- Please be courteous to other trail users.
- Always yield to equestrians. Allow other trail users to pass. When in a group, avoid blocking the trail.
- Stay alert. Keep at least one ear open.
- Horses may be encountered.
- Slower moving individuals may be startled by faster moving trail users.
- Pass with care. Announce yourself when approaching another visitor, especially from behind.
- Move to the side of trail when stopped.
- Prevent injury to yourself and damage to natural resources by staying on designated trails.
- Dress for the environment.
- Drinking water is not provided within the parcel.
- Bicyclists must wear helmets.
- Be aware that cellular phone service is sporadic in the area.
- Maintain control of your bicycle, pet, and yourself.
- Leave no trace.





## 11.0 RECOMMENDED SITE IMPROVEMENTS

The majority of the trails within the Ethel Walker Woods property are in good, stable condition; however, there are some maintenance activities that are required to help enhance the safety, condition, and use of the trails.

### 11.1 Trail Closures/Rerouting

Most of the seven existing blazed trails in the Ethel Walker Woods property will remain unchanged in location and color designations. However, there are some areas of steep slopes with established and developing erosion issues. These areas can be restored but will continue to be a maintenance issue. Problematic sections should be considered for closure, rerouting, or redesign to alleviate perpetual maintenance and safety issues. Refer to Figure 4 in association with the following text.

A segment of the White Trail should be closed due to steep grades and existing erosion issues. The section to close begins at the intersection with the Blue Trail South and extends to the intersection of the east-west crossing unmarked trail.

The Orange Trail has two potential locations for closure and rerouting due to steep slopes over 5% and the associated erosion issues. These locations are on the east end of Orange Trail Segment B and the south end of Orange Trail Segment C as shown on Figure 2.

There is a short section of the Green Trail in the Stratton Brook Open Space property that terminates at Bushy Hill Road that should be closed in conjunction with the construction of the proposed parking area on Stratton Brook Road.

There are a number of unmarked trails within the Ethel Walker Woods property that are recommended to be closed due to lack of use, necessity, and/or poor condition. These unmarked segments include a section between the Yellow Trail and White Trail near the Blue Trail South, the section between the Yellow Trail segments near Woodhaven Drive, a segment of the unmarked trail running north from the Blue Trail North that is on steep slopes and eroding, and the section crossing the wetland near the southwest corner of the Ethel Walker Woods property.

Trail closures should be done by placing brush, branches, logs, and boulders perpendicularly across the trail. Boulders, if used, should be buried by half their height to keep them in place. The soil surface of the closed trail should also be scarified to encourage seedling germination and pioneer plants to become established. If immediate vegetative cover of the closed trail is necessary, a professional should be consulted for appropriate species and implementation strategies.



**Trail Closure with Vegetative Debris**

## 11.2 Trail Expansion

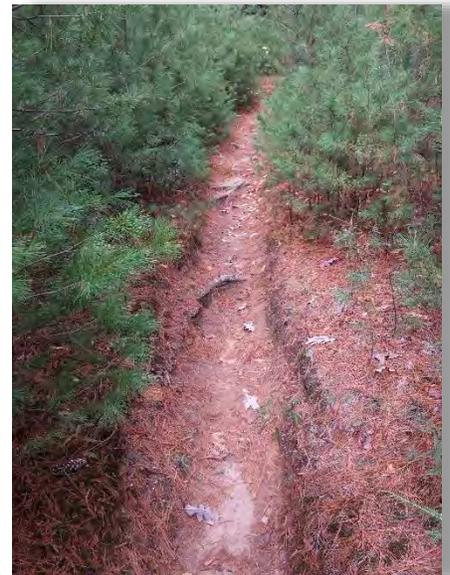
While limited new trail construction is necessary within the subject parcels, it is recommended that a number of trails be blazed differently and expanded by including unmarked trails into the blazed trail system. New or expanded trails include:

- Orange Trail – Incorporate the unmarked trail that traverses the main parking lot south to along the western bank of Stratton Brook and then turns west to connect to the Farmington River Trail. This would add approximately 0.5 mile to the Orange Trail.
- White Trail – Coupled with the closures and rerouting described above, incorporate multiple unmarked trails to expand the White Trail to become a north-south traversing connector trail that intersects with the Orange, Blue, and Yellow Trails. This would create a 0.9-mile White Trail.
- Green with White Dot – Blaze the existing northern section of the Green Trail within the Stratton Brook Open Space as green with a white dot in the center of the blaze. This trail should be expanded by cutting new trail running northeast connecting to the Farmington River Trail and existing parking lot at the corner of Stratton Brook Road and Town Forest Road. This would create a 0.8-mile green with white dot trail.
- Yellow with White Dot – Blaze the unmarked trail spur traversing west off the Yellow Trail in the southwest corner of the Ethel Walker Woods property as yellow with a white dot in the center of the blaze. Expand the trail as a loop back to the Yellow Trail. This would create a 0.3-mile yellow with white dot trail.

These proposed changes will reduce the number of unmarked trails resulting in easier navigation of the parcels and allow for a comprehensive blazed trail system with minimal new trail construction. See Figure 6 for proposed trail system map.

## 11.3 Trail Design

With any system of trails comprised of compacted soil, there is an inherent risk of damage and erosion occurring over time. This risk is increased tremendously if the trails also traverse slopes above 5% in grade. The subject parcels have earthen trails, grades over 5%, fairly heavy use and, in many areas, a sandy soil that can be eroded easily. Due to these factors, established trail building and maintenance strategies should be used to mitigate the risk of damage, trail closures, and increased maintenance.



Example of Trail Erosion

### 11.3.1 Slopes

Whenever possible, trails should traverse parallel to slopes. If this is not possible for sections over 100 feet in length, the use of water bars should be considered. Water bars are typically constructed of logs or large rocks. If rocks are used, they must be large enough for three-quarters of their mass to be buried so they do not overturn from use or runoff. The use of water bars is a common practice to slow the movement of runoff and direct it off trails. Water bars can also help users traverse steep trail sections by acting as steps and providing a flat landing. It should be noted that water bars can impede some trail activities such as cross-country skiing and require periodic maintenance to remove built-up debris on the upslope side of the bar.



Example of Boulder Water Bar

### 11.3.2 Bridges and Boardwalks

There are a number of trail crossings requiring bridges, boardwalks, or culverts in order to traverse across watercourses, wetland sections, and low-lying areas while maintaining water and drainage flow. These include:

- Replacement of two bridges at the main parking area at Town Forest Park – one over Stratton Brook at the beginning of the Orange Trail and one at the outflow drainage from the swimming pond to Stratton Brook
- One new bridge to cross Stratton Brook at the existing concrete weir structure located at the west side of the Ethel Walker Woods property between the Blue and Orange Trails
- One new bridge to cross Stratton Brook to connect Stratton Brook Open Space to the Farmington River Trail and parking at the corner of Stratton Brook Road and Town Forest Road
- Two boardwalks or culverts on the Green Trail
- One boardwalk or culvert on the Red Trail
- One boardwalk or culvert on the Purple Trail

Bridge structures are for more significant crossings and require handrails and safety rails compliant with local building codes. These structures should also comply with accessibility codes and provide flush or ramped transitions between trail and structure. To provide for off-road cyclists, the bridge's safety rails must extend 54 inches in height from the deck surface.

Boardwalk structures should be used in areas where bridges are not appropriate. Boardwalk structures can be simpler than bridges due to shorter distances being spanned and less severe drop-offs. Boardwalks are particularly useful in areas of wetlands where disturbance and fill should be minimized. Construction of boardwalks on designated universally accessible trails should keep gaps in deck boards or logs to no more than 1 inch and ramped transitions between trail and structure surface with no greater than a 2-inch difference in grade between the surfaces.



Example of Log Boardwalk Crossing

Culverts can be used in areas not in close proximity to wetlands where fill can be placed over appropriately sized and installed pipes to convey water under the trail. Culverts should be sized and installed under the guidance of a professional engineer. Construction of culverts should provide accessibility to all trail users by providing flush or ramped trail transitions over the culverts.

### 11.3.3 Wayfinding Signage

Wayfinding signs improve site navigation by providing directional and trail identification at key intersections. Typically, trail blazing can be used to indicate a single trail crossing or change in direction; however, at multiple trail crossings or key intersections, wayfinding signage can better direct trail users to parking areas, educational features, and specific trails. Wayfinding signs should be simple, durable, and visible but not overwhelming in size or numbers. Wayfinding signs need to be used sparingly and only when necessary so as to not take away from the enjoyment of the natural surroundings.



Wayfinding signs should typically be a single wood post with engraved colored lettering or small posted directional signage and trail identification.

### 11.3.4 Standpipes

There are numerous plastic standpipes scattered throughout the Ethel Walker Woods site left over from former site development studies. These standpipes should be collected and removed from the site as they are aesthetically unpleasant and detract from the natural environment.



Examples of Wayfinding Signage



## 12.0 SITE IMPROVEMENTS

### 12.1 Site Parking

Parking areas that provide trailheads are a critical component to park and open space areas. The parking area and trailhead should act as the gateway to identify the facility and welcome park users. Appropriately situated parking facilities are important for site accessibility as well as maintenance and emergency services.

The Ethel Walker and Stratton Brook Open Space parcels are currently served by two parking areas including the Town Forest Park parking lot to the northwest and the cul-de-sac at the terminus of Woodhaven Road. To a lesser extent, the Stratton Brook Open Space is served by a pull-off area off Bushy Hill Road that was once an access point for forest management and is not considered a designated public parking site.

Six areas have been identified on the Master Plan for enhancements and future development as the designated public parking areas and primary trailheads. The areas include and are prioritized as the Town Forest Park parking lot, Woodhaven Drive parking, the proposed parking lot off Stratton Brook Road near Bushy Hill Road, the parking area at the corner of Town Forest Road and Stratton Brook Road, and a parking area at the southeast corner of the Ethel Walker woods parcel off Bushy Hill Road.

Providing approximately 25 parking spaces and immediate access to multiple town amenities the Town Forest Park south parking area will be promoted as the primary public parking facility. Improvements to the lot will include a compacted gravel surface with asphalt paved accessible parking spaces, portable toilet facilities, updates to the existing trailhead kiosk, accessible compacted gravel path connection to the Orange Trail, and pedestrian connections to the north side of the park adjacent to the swimming pond. The lot will provide a universally accessible trail access point with appropriate signage.

Woodhaven Drive parking will be improved with a compacted gravel surface for the pull-off spaces and new trailhead kiosk to orient and welcome trail users.

It was decided that instead of improving the past forest management access off Bushy Hill Road that the Master Plan would create a new parking area off Stratton Brook Road. While no traffic studies were conducted for this plan, it was felt that access into and out of a small lot would be better served off Stratton Brook Road. Final siting of the parking lot should be done with the involvement of a licensed traffic engineer. The proposed parking area will provide approximately 10 spaces and immediate access to the Stratton Brook Open Space parcel whereas today there is none. The lot will be a compacted gravel surface with asphalt paved accessible parking spaces. The lot will have a trailhead kiosk and provide a universally accessible trail access point with appropriate signage.

The parking area at the corner of Town Forest Road and Stratton Brook Road will be improved with a compacted gravel surface for the pull-off spaces and new trailhead kiosk to orient and welcome trail users. Until the trail connection across Stratton Brook is made, the trailhead kiosk can identify nearby recreational resources for visitors that may not be aware of the multiple outdoor recreation sites in the area.

The town does own land that would allow them to create an access drive off Bushy Hill Road just south of the EWS access road. The Master Plan provides for future development of this access with a parking area at its terminus. The proposed parking area will include a compacted gravel surface with asphalt paved accessible spaces, trailhead kiosk, and accessible connection to the Blue Trail South. The lot will provide a universally accessible trail access point with appropriate signage.

## **12.2 Restrooms**

Restrooms are an important site amenity for any park and/or open space area. It has been shown that restrooms help increase site usage across various age groups. Currently, the Ethel Walker Woods and Town Forest Park recreational areas do not provide any restroom facilities. To help enhance the site experience, it is recommended that the town consider the installation of a restroom facility at the Town Forest Park parking lot. There are several methods for providing a restroom facility including use of a portable toilet, installation of a prefabricated restroom building, or installation of a composting toilet facility. Each of these facilities offers varying comfort, installation costs, and maintenance costs. The following is a brief summary of the options weighed in selecting a restroom facility.

### **12.2.1 Portable Toilet**

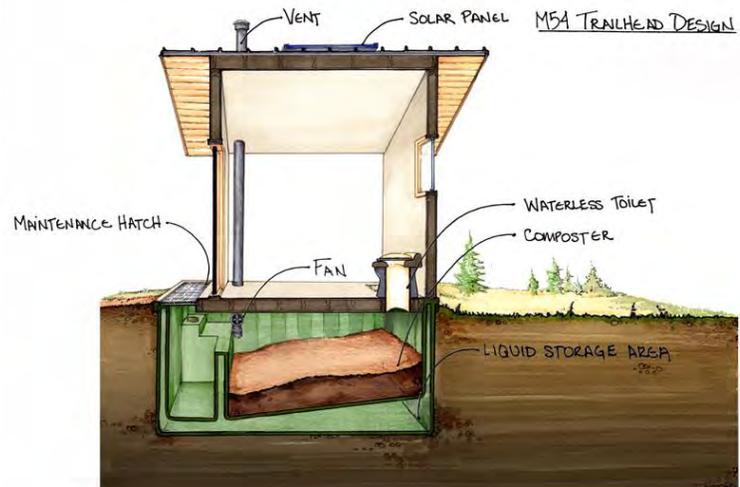
If the town elected to utilize a portable toilet, it would be advantageous to install a pad site that would allow the toilet to be properly installed, leveled, and anchored to the ground. Using a concrete pad with anchors can provide a greater deterrent to vandals trying to knock the facility over. If periodic vandalism became an issue, the use of a portable toilet facility allows for it to be replaced as necessary. In addition, the town could elect to rent the facility, with its maintenance being done by the rental company. This would reduce the need for town staff to have to provide weekly maintenance services. The costs associated with the installation and maintenance of this facility would be low to moderate. The comfort and aesthetics of this facility would be considered low. Use of a portable toilet as a long-term solution is not recommended.

### **12.2.2 Prefabricated Facility**

There are numerous manufacturers of prefabricated restroom buildings that can fit most sites and uses. Typically, the building is sized based on budget, available utilities, and projected amount of use. This type of facility would provide a freestanding building with running water, electricity, and sewer services. The facility would need to be connected via gravity to the existing sanitary sewer system located within Town Forest Road. The existing sanitary sewer is approximately 1,500 linear feet away and is located in front of the Simsbury Department of Public Works garage. Design and installation of this type of facility should be done by professional architects, landscape architects, and engineers. The weekly maintenance of this type of facility would need to be completed by town staff. Nightly locking of the facility would be recommended to limit access and potential vandalism. The costs associated with the installation and maintenance of this facility would be moderate to high. Comfort for this facility would be considered high. Aesthetics can typically be customized from low to high.

### 12.2.3 Composting Restroom

Composting restroom facilities offer a third alternative to providing conventional restrooms. Composting facilities have become a green way of providing restroom amenities. The composting units typically require the installation of a belowgrade composting chamber and an abovegrade toilet and building unit with an air venting system. Access to the belowgrade composting chamber is essential. Having a sloping topography from front to back of the facility is usually beneficial because it allows for personal access to the toilet on the upper level and access to the composting chamber at the lower level without it being buried. These facilities can be considered waterless and do not necessarily have to provide sinks. Maintenance is required including periodic removal of the compost and weekly cleaning of the facility. Maintenance of the composting chamber can be done by the manufacturer or an outside company. The costs associated with the installation and maintenance of this facility would be moderate to high. Comfort for this facility would be considered moderate. Aesthetics can typically be customized from low to high.



Example of Composting Toilet Design

### 12.2.4 Town Restroom Decision

Due to a lack of existing utilities including sanitary sewer within the vicinity of Town Forest Park, the town has decided at this time to plan for a portable toilet facility. The site will have concrete pads for two portable toilets. The pads will have anchors to attach the toilet facilities. The pads will allow for better accessibility, reduce surface wear and erosion in the toilets' vicinity, and to better thwart vandalism attempts. The facilities will also be screened on three sides with a solid board wood screen fence to improve aesthetics of the area.

## 12.3 Miscellaneous Site Improvements

### 12.3.1 Trailhead Kiosks

"Trailhead kiosks serve a variety of functions. They formalize the setting of a Trailhead, and serve as the first and last impression. Trailheads indicate arrival, welcome visitors, and provide them with information that may be essential to their safety and enjoyment on the Trail. It offers the opportunity to educate and communicate a variety of information..." (Excerpt from Appalachian Trail Conservancy's bulletin – *Planning a Trailhead Kiosk* 2012).



Example of Existing Kiosk

The text above demonstrates the importance of presenting information to arriving trail users so that they know they are at the right location, can orient themselves, and inform themselves of the trail conditions and uses. The kiosk should be located in a highly visible area, and parcel signage should be consolidated as much as possible within one sign structure. Trailhead kiosks for the subject parcels should be consistent in their construction and information they present. The kiosks should clearly present the following information:

- Parcel Name
- Parcel Rules – including town numbers to call if there is an issue to report
- Trail Map – including surrounding parcels and property lines

An area for changing events should also be provided to allow for postings that are temporary. Clutter or "sign pollution" needs to be avoided to not confuse users. Use of consistent materials and messages throughout all trailhead kiosks will better inform users they are in the same subject parcel limits and should follow the same rules. Kiosks should be of simple but durable construction. Use of wood structures similar to the existing kiosk at Town Forest Park is recommended. Most importantly, the kiosks should say, through the information presented, "Come on in! This land is here for you, and here's what you need to know to enjoy it and protect it"!



## 13.0 UNIVERSAL ACCESSIBILITY

Outdoor recreation activities increase healthy lifestyles and should be able to be enjoyed by everyone. The Town of Simsbury has made it a top priority to make specific site improvements to the subject parcels in order to expand access to the trail systems for users of all abilities. Improvements include providing paved designated parking spaces, accessible routes to trailheads, and designated accessible trails.

Accessible trails differ in their requirements from public sidewalks and private developments. Below is a summary of some of the requirements for a trail to be termed "accessible." Note that these are not all the requirements or the full description of the requirements. Also note that many of the requirements have exceptions to address multiple situations. For a full description of accessible trail guidelines, refer to the references below.

### 13.1 Accessible Trail Guidelines

Clear Width - minimum 36 inches

Slope and Resting Intervals - Resting intervals shall be provided only when trail slope exceeds 5 percent.

#### Trail Running Slope (Grade) and Resting Intervals

Running Slope of Trail Segment		Maximum Length of Segment Between Resting Intervals
Steeper Than	But Not Steeper Than	
1:20 (5 percent)	1:12 (8.33 percent)	200 feet (61 m)
1:12 (8.33 percent)	1:10 (10 percent)	30 feet (9 m)
1:10 (10 percent)	1:8 (12 percent)	10 feet (3,050 mm)

Credit: Forest Service Trail Accessibility Guidelines

Passing Spaces - Trails with a clear tread width less than 60 inches shall provide passing spaces at intervals of 1,000 feet maximum. A passing space must also be provided at the end of any segment of trail that meets the accessibility requirements.

Tread Obstacles - shall not exceed 2 inches in height

Openings in Trail Tread Surfaces - shall not allow the passage of a ½-inch sphere

#### Suggested Trail Accessibility References:

U.S. Forest Service

<http://www.fs.fed.us/recreation/programs/accessibility/>

United States Access Board

<http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas/background/committee-report/trails>

American Trails

<http://www.americantrails.org/resources/accessible/>

### 13.2 Recommended Accessible Trails

The general character of the subject parcels creates an area with excellent potential for accessible trails. Many of the trails within Ethel Walker Woods and Stratton Brook Open Space are generally flat or gently rolling in nature and already comply with many of the accessible trail guidelines such as clear width, slope, and passing space. Improvements to parking areas and connections to trailheads will be necessary to provide designated accessible trails. Conceptual improvements to parking areas are shown on Figure 5. Trails suggested to be improved and designated as accessible are:

- Orange Trail Segment A  
Improvements Needed:
  - Parking and accessible route from the Town Forest parking lot
  - Replace pedestrian bridge crossing of Stratton Brook
  - Trail rerouting and vegetation clearing to maintain minimum clear width
  - Grading of trail surface and vegetation clearing to meet tread obstacle due to exposed root masses of existing trees
  - Passing space provided
  
- Green Trail – Both Ethel Walker Woods and Stratton Brook Open Space  
Improvements Needed:
  - Limited areas of grading of trail surface and vegetation clearing to meet tread obstacle due to exposed root masses of existing trees and exposed rocks
  - Boardwalk or culvert at Stratton Brook tributary in Stratton Brook Open Space
  - Parking and accessible route from the proposed Stratton Brook parking area
  
- Blue Trail – North and South  
Improvements Needed:
  - Limited areas of grading of trail surface and vegetation clearing to meet tread obstacle due to exposed root masses of existing trees and exposed rocks
  - Filling of ruts
  - Provisions for resting intervals
  
- Proposed Green with White Dot Trail – Stratton Brook Parcel  
Improvements Needed:
  - Trail expansion to the corner of Stratton Brook Road and Town Forest Road
  - Pedestrian bridge crossing Stratton Brook
  - Limited areas of grading of trail surface and vegetation clearing to meet tread obstacle due to exposed root masses of existing trees and exposed rocks
  - Reblazing of existing Green Trail spur

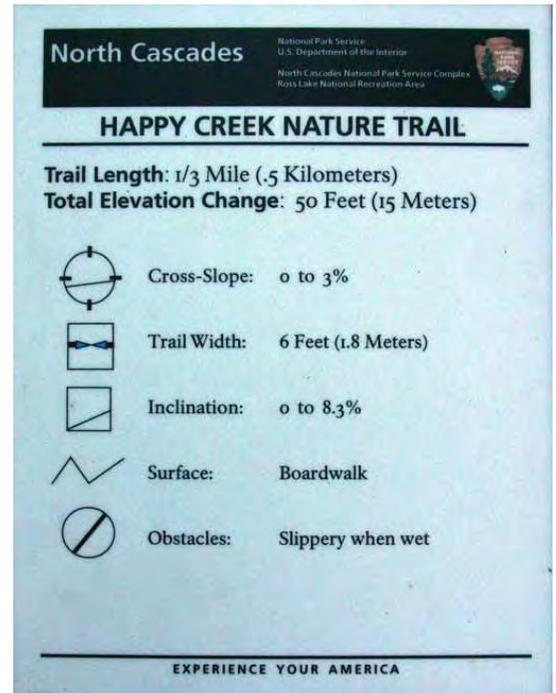
The above trails were selected because of their existing conditions that already meet accessible trail guidelines or can meet the guidelines with minimal trail alterations. See Figure 6 for proposed trail system map.

### 13.3 Signage

An essential component to providing accessible trails is the ability of a potential user to determine the route and difficulty of the trail he or she wishes to use. Therefore, it is of the utmost importance that detailed trail signs be provided at all trailheads and key intersections. The signs should include at a minimum the following information:

- Length of the trail or trail segment
- Surface type
- Typical and minimum tread width
- Typical and maximum running slope
- Typical and maximum cross slope
- A statement that the posted information reflects the condition of the trail when it was constructed or assessed, including the date of the construction or assessment

Where more extensive trail information is provided (e.g., an aerial map of the trail and related facilities), the location of specific trail features and obstacles that do not comply with the technical provisions of the accessibility guidelines should be identified, and a profile of the trail grade should be included.



Example of Accessible Trail Signage



## 14.0 EDUCATIONAL OPPORTUNITIES

Many outdoor enthusiasts enjoy learning about the environment and site-specific elements of the area in which they are currently recreating. The subject parcels have a number of unique and interesting areas, habitats, vegetation, and natural resources that can be highlighted in a simple and informative manner to educate and enhance the site users' experiences. Simple graphic sign panels with limited informational text can make users aware of the site features, provide essential information, and allow the viewer to further investigate the features on their own. Sensitive site features such as vernal pools or vegetation that should not be touched or treaded on should state that fact clearly. Suggested site features to highlight on site are:

- Vernal Pool #7
- Great Oak Tree
- Wegner Meadow
- Fern Glen
- White Pine and Eastern Hemlock Forest
- Stratton Brook and Associated Wetland Corridor
- Beaver Baffle
- Invasive Species Management Areas
- Forest Management Areas
- Ethel Walker School Well



Example of Informational Signage



## 15.0 INVASIVE SPECIES MANAGEMENT

### 15.1 Invasive Species Management Area #1 (Wegner Meadow)

Wegner Meadow, located along the northeastern portion of the Ethel Walker Woods site, formerly served as a meadow and horse jumping area for the EWS. Over the past 10 to 15 years, the meadow has begun to transition into an early successional forested environment with shrubs and tree saplings becoming more dominant. In addition, the lack of maintenance has allowed invasive plant species such as autumn olive, multiflora rose, Japanese barberry, and Oriental bittersweet to become prevalent within the meadow. Early successional native trees and shrubs found within the meadow include white pine, white ash, red maple, black cherry, quaking aspen, grey stemmed dogwood, and silky dogwood. Herbaceous plants are predominantly grasses with goldenrods becoming more dominant.



Existing Conditions Wegner Meadow

Maintenance within the meadow should include the removal and management of the invasive plant species listed above. The following maintenance of this management area shall include:

- Year 1: Herbicide treatment of autumn olive, multiflora rose, Oriental bittersweet, and Japanese barberry. If completed during the summer months (May through September), use a foliar application of Habitat and/or Polaris. If completed during the fall/winter months (October through March), use a bark application of Garlon 4 mixed with vegetable oil. Any herbicide use should be completed by a licensed pesticide applicator.
- Year 2: Inspect invasive species kill rate and determine whether additional herbicide treatment is required. Begin an active once-a-year mowing plan for the meadow. Mowing should be completed during September of each year. The mowing will help decrease the propensity for invasive vegetation to resprout and will help maintain a healthy meadow habitat for birds, insects, and other wildlife species.
- Year 3: The town may want to begin removing early successional native vegetation islands from within the meadow. Removal of these islands would increase the available meadow

habitat and provide better growing conditions for the meadow (i.e., more sunlight). Healthy meadows are typically found in full sun conditions.

### **15.2 Invasive Species Management Area #2 (Vernal Pool #7 and Forested Wetland)**

The second management area is located adjacent to Blue Trail and Vernal Pool #7. Invasive understory vegetation including multiflora rose and Japanese barberry has become prevalent along the trail and within the forested wetland. These areas have experienced a variety of anthropogenic disturbances over the past 30 to 40 years. As a result, the invasive species listed above have colonized this corridor. Maintenance within the forested wetland and along this section of Blue Trail should include the removal and management of invasive plant species listed above. The following maintenance of this management area shall include:

- Year 1: Herbicide treatment of multiflora rose and Japanese barberry and/or mechanical removal (using small rubber-tracked skid steer with excavator arm and thumb) to remove invasive shrubs and roots from the area. If herbicide application methods are completed during the summer months (May through September), use a foliar application of Habitat and/or Polaris. If completed during the fall/winter months (October through March), use a bark application of Garlon 4 mixed with vegetable oil. Any herbicide use should be completed by a licensed pesticide applicator.
- Year 2: Install supplemental understory plantings within the forested wetland area following removal of invasive vegetation. Desirable shrub species include common winterberry, spicebush, and northern arrowwood. Quantities of shrub plantings will need to be determined following management of the invasive vegetation.

### **15.3 Invasive Species Management Area #3 (Forested Wetland/Mixwood Forest)**

Invasive species management area #3 is located near Yellow Trail along the southern portion of the site. Japanese barberry and multiflora rose are beginning to colonize the understory of the wetlands and uplands within this section of the site. Dense colonies of Japanese barberry may be managed through a variety of control methods including mechanical removal, controlled burning, and/or herbicide. The method is often dictated by the time of year in which the management is being implemented and may include a combination of the methods mentioned above.

If winter management is desired, the town may elect to implement a control burn on the Japanese barberry. Prior to any burning, the town should consult with the local Fire Department and determine whether a burn permit is required. In addition, it is advantageous to mow and/or cut the Japanese barberry shrubs down to the crown. Following cutting, a backpack propane heat torch can be used to burn the crown of the plant. In spring, if resprouting is observed, then the use of a foliar herbicide such as Garlon 4 and/or Habitat can be implemented to finalize the control of the barberry.



**Invasive Species Management Area #3**

Summer management would include the use of a foliar herbicide to be applied to the actively growing portions of the shrub. The foliar herbicide must be applied after periods of heavy sap flow, typically between the months of June and August to be most effective. Repeat treatments may be required.

The multiflora rose can be managed through herbicide application during the growing season. The following maintenance of this management area shall include:

- Year 1: Herbicide treatment of multiflora rose and Japanese barberry and/or mechanical removal (using small rubber-tracked skid steer with excavator arm and thumb) to remove invasive shrubs and roots from the area. If herbicide application methods are completed during the summer months (May through September), use a foliar application of Habitat and/or Polaris. If completed during the fall/winter months (October through March), use a bark application of Garlon 4 mixed with vegetable oil. Any herbicide use should be completed by a licensed pesticide applicator.
- Year 2: Monitor management area and retreat actively growing crowns.

#### 15.4 Invasive Species Management Area #4 (Mixwood Forest)

The fourth management area is located within a mixwood forested system and is centrally located on the site. This area is located within a trough/valley setting with large white pine, eastern hemlock, and red pine trees present. The understory consists of ferns that are intermixed within Japanese barberry shrubs. Given the density of ferns, the preferred control method for these areas would be to apply a bark herbicide to the barberry during the winter months followed by an early summer foliar spray to retreat sprouts. This treatment method will reduce the nonselective killing of the ferns that are intermixed amongst the barberry. The following maintenance of this management area shall include:



**Invasive Species Management Area #4**

- Year 1: Herbicide treatment of Japanese barberry during winter months. Use a bark application of Garlon 4 mixed with vegetable oil. Any herbicide use should be completed by a licensed pesticide applicator. Revisit the site during late spring and treat any resprouting with Habitat and/or Polaris.
- Year 2: Monitor management area and retreat actively growing crowns.

### 15.5 Invasive Species Management Area #5 (Stratton Brook Open Space Meadow)

The Stratton Brook open space meadow has not been mowed over the past 5 years as evidenced by the colonization of the meadow by goldenrods and autumn olive. This meadow can be restored to provide valuable grassland bird habitat as well as hay. The recommended management approach includes the mechanical removal of the autumn olive shrubs (branches and roots) using a small excavator. The remaining meadow should be tilled under and then reseeded with a meadow seed mix/hayfield seed mix. The town should query local farmers to determine whether a hay lease can be established to allow the field to be under an active mowing plan. Any mowing (i.e., haying) must be completed after mid August when meadow bird species no longer have any ongoing breeding within the meadow. The following maintenance of this management area shall include:



**Stratton Brook Open Space Meadow**

- Year 1: Removal of autumn olive and other shrubs by small excavator. This shall include the removal of all branches, crowns, and roots. Following removal of shrubs, till under existing herbaceous vegetation and prepare the site for reseeding using a meadow mix/hayfield seed mix. This seeding should be completed during the spring months (April/May). Mow field during September.
- Year 2: Monitor for invasive shrubs and herbaceous vegetation. Complete annual mowing after mid August and continue this mowing schedule on an annual basis.

### 15.6 Invasive Species Management Area #6 (Stratton Brook Wetland System)

The Stratton Brook wetland system is an important resource within the Ethel Walker Woods site; however, over the past 10 to 15 years, common reed (*Phragmites australis*) has aggressively colonized a majority of the wetland system. The common reed has intermixed with the forested wetland, scrub-shrub wetlands, and emergent wetlands along this corridor. Its spread and colonization continues to reduce the biodiversity of this important wetland system. Managing the vast colonization of this specie within the Stratton Brook wetland system may be a difficult task. *Phragmites* is most effectively managed using herbicides, specifically Habitat and/or Polaris.



Wall of *Phragmites* Along Blue Trail

However, these herbicides are nonselective and will kill other native vegetation that may be in close proximity to the *Phragmites*' rhizome system. Therefore, the management of the *Phragmites* must be carefully planned and requires specialized equipment and expertise to complete the management of these plants. A Marshmaster-type apparatus will be required to treat and manage this species. MMI recommends that the town implement management of this species on a small scale. The goal for managing the *Phragmites* is to provide some primary viewing locations of the Stratton Brook wetland system and help increase biodiversity. If the small-scale management area is successful, the town may wish to expand its management to a broader scale within the corridor. The following management of the Stratton Brook wetland system shall include:

- Year 1: Herbicide application to be completed during August/September when *Phragmites* has formed its tassels. Apply herbicide Habitat and/or Polaris to actively growing vegetation. Herbicide will need to be applied using a Marshmaster unit. After the first hard frost, the treated *Phragmites* should be cut and the cut stems left in place to decompose.
- Year 2: During May and June, retreat actively growing *Phragmites* with herbicide.
- Year 3: Continue to retreat actively growing *Phragmites*. Additional treatments may be required, and expansion of the managed area must be evaluated.



## 16.0 MASTER PLAN PHASED IMPROVEMENTS

It is recognized that towns have finite yearly budgets that are examined each year and allocated to numerous amenities. The Town of Simsbury is no different and, as such, the Master Plan improvements have been prioritized and phased to allow greater flexibility in resource allocation. The following is a summary of the primary improvements identified per year over the next 5 years. Refer to the estimate in Appendix C for more information.

### Year 2016 Improvements

- Hazard Tree removals
- Town Forest parking lot
  1. Gravel surface with paved accessible spaces
  2. Timber guiderail
  3. Two concrete pads with anchors for portable toilets
  4. Three-side wood screen fence for portable toilets
  5. Update existing trail kiosk with new trail map
  6. Install crosswalk, stonedust path, and signage to connect park parcels on each side of Town Forest Road
- Stonedust walk to Orange Trail for accessible route
- Pedestrian bridge to Orange Trail
- Orange Trail work to provide accessible trail – tree clearing, grading, rerouting, etc.
- Boardwalk or culvert at Green Trail low spot heading toward Blue Trail
- Wayfinding signage – all identified locations
- Trailhead kiosk at Woodhaven Drive parking
- Informational signage – four locations
- Trail Maintenance
  1. Erosion Areas – Orange Trail Segment C, White Trail near Blue Trail, Yellow Trail near Woodhaven Drive, Yellow Trail near White Trail
  2. Rutted Areas – Blue Trail North, Purple Trail near Blue Trail South
  3. Repair gravel swale at Red and Blue Trails North
- Trail building/rerouting
  1. Blaze Orange Trail Segment D
  2. Blaze and build Yellow with White Dot Trail

3. Blaze existing Green Trail spur to Green with White Dot
- Invasive species management – all identified areas

### **Year 2017 Improvements**

- Stratton Brook Road parking lot
  1. Gravel surface with paved accessible spaces
  2. Timber guiderail
  3. Trailhead kiosk
  4. Park sign
- Trail building/rerouting
  1. Green Trail connection to Stratton Brook Road parking lot
  2. White Trail closures and rerouting
  3. Blaze unmarked trail as White
  4. Unmarked trail closures and rerouting
- Boardwalk or culvert improvements
  1. Yellow Trail near Woodhaven Drive
  2. Purple Trail at wetland crossing
  3. Green Trail in Stratton Brook Open Space
- Invasive species management – all identified areas

### **Year 2018 Improvements**

- Pedestrian bridge at weir between Blue Trail South and Orange Trail Segment D
- Boardwalk or culvert improvements
  - Red Trail at wetland crossing
- Trail building/rerouting
  1. Green Trail connection toward parking at Stratton Brook Road and Town Forest Road parking lot. Create turnaround prior to future Stratton Brook crossing.
- Town Forest Park
  1. Install timber steps – two sets
  2. Renovate pavilion
- Trail kiosk at Woodhaven Road parking
- Invasive species management – all identified areas

### **Year 2019 Improvements**

- Create picnic area at Town Forest Park south of pond – grade pads for tables, install tables, grills, trash receptacles, create pull-off parking or parallel spaces
- Formalize parking at Woodhaven Drive

### **Year 2020 Improvements**

- Pedestrian bridge at Green Trail with White Dot to parking at Stratton Brook Road and Town Forest Road
- Pedestrian bridge at Town Forest Park crossing outlet from pond to Stratton Brook

### **Year 2021 and Beyond**

The following Master Plan improvements were not included in the 5-year fiscal budget but should be reviewed and included as funds become available in future budgetary years.

- Parking and access through easement area off Bushy Hill Road
- Improve pull-off parking near Town Forest Field
- Meadow management – Stratton Brook Parcel
- Meadow management – Wegner Meadow
- Invasive species management – in particular, continued *phragmites* control

#### **16.1 Volunteer Support**

There are a number of items included in the estimates that are identified as potential volunteer opportunities to offset the cost of the improvement. Integrating the public in the proposed improvements can create a greater sense of ownership, stewardship, and pride in the parcels.



## 17.0 OPERATIONS AND MAINTENANCE PLAN

Operations and maintenance (O&M) planning allows for an organized method of planning and record keeping to ensure the proper tasks are being performed to maintain a safe and sustainable recreation space.

Below are some O&M items that may be helpful to include in the O&M Plan:

- List of people who have keys to locked access points
- List of access points that are locked and how they are locked
- Plans for quickly dealing with unexpected events such as storm damage
- Daytime and nighttime contact information for trail managers
- Dates for local hunting seasons, particularly if hunting properties are near the trail corridor
- List of any regular events and contact information for event organizers
- Contact information for any local or state agency that may need to be reached with questions or violation information

For any town-owned and operated park and/or open space, the development of a long-term maintenance schedule is critical for the success of the amenity for future generations.

Maintenance plans should include the following:

- Contact information for trail managers, organizations, and/or volunteers responsible for maintaining the trail or path
- Written inspection and maintenance policies that include tasks, time frames, and responsible parties
- Inspection forms that document date, time, person/group, condition of trail, hazards, and other pertinent information
- Trail maintenance schedule that identifies time frames for regularly scheduled maintenance activities such as pruning, trash pickup, and pothole filling
- List of constructed features such as bridges, culverts, and fences that require regular inspection and maintenance

The following table summarizes the suggested long-term maintenance plan and schedule for Ethel Walker Woods and surrounding parcels.

### Maintenance Activity Schedule

Required Activity	Schedule	Objectives	Personnel Requirements
Storm Disaster Recovery Visit	Immediately following a significant storm event (i.e., nor'easter, heavy snow storm, ice storms, tornado, hurricane, tropical storm, severe wind/thunderstorm)	Walk trails to determine whether trees have fallen across trail. During periods of flooding, visit pedestrian bridges to determine flooding extent.	Town staff

		<p>Identify safety hazards such as widow makers, trail erosion, flooding, and/or other hazards.</p> <p>Close trails if necessary.</p> <p>Dispatch parks and recreation staff to clear trees and repair trails as necessary.</p>	
Spring Maintenance	Complete after final spring snowmelt (March through early May)	<p>Reblaze trail markers.</p> <p>Cut overhanging branches including tree saplings/shrubs.</p> <p>Spray any existing significant tripping hazards (i.e., exposed roots) along trails with green spray paint that cannot be removed or repaired.</p> <p>Monitor invasive species management areas.</p> <p>Repair tire ruts and/or erosion features as needed.</p> <p>Inspect parking lots and pedestrian bridge/boardwalk crossings to remove debris.</p> <p>Weekly trash removal from trash receptacles located at trailheads</p> <p>Install portable restrooms at Town Forest parking area.</p>	Town staff and volunteers
Summer Maintenance	May through September	<p>Monitor invasive species management areas. Complete follow-up invasive species management as required.</p> <p>Mow Wegner Meadow and Stratton Brook Open Space meadow (late summer).</p> <p>Weekly trash removal from trash receptacles located at trailheads</p> <p>Weekly inspection of restrooms at Town Forest parking area</p>	Town staff, professional herbicide applicator, and volunteers
Fall Maintenance	October through November	<p>Routine inspections</p> <p>Weekly trash removal from trash</p>	Town staff and volunteers

		receptacles located at trailheads Weekly inspection of restrooms at Town Forest parking area	
Winter Maintenance	December through February	Snowplowing of parking lot areas Weekly trash removal from trash receptacles located at trailheads Remove portable restrooms at Town Forest parking area.	Town staff

**17.1 O&M Budget**

Operations and maintenance costs will vary for town-owned parcels annually, depending upon the facility to be maintained, level of use, location, and standard of maintenance. Operations and maintenance budgets should take into account routine and remedial maintenance over the life cycle of the improvements and ongoing administrative costs for the operations and maintenance program.

Based on the condition and use of the trails observed for this study, we have estimated the annual maintenance cost of the marked trails and proposed surrounding facilities to be between \$500 to \$1,000 per mile/year. With the proposed trail closures and expansions included in this document, the total mileage of trails for the subject parcels is 8 miles, resulting in an estimated annual cost of maintenance of \$4,000 to \$8,000. This cost could be in whole or part offset by volunteer activities. Records should be kept for all expenditures so the town can accurately define the scope and funds needed for annual maintenance in the future.

1613-11-3-a1615-rpt



## APPENDIX A

### TRAIL FORMS

**Trail and Open Space Assessment Form**

Project Name & Location: Ethel Walker Woods – Simsbury, CT

Date: October 22, 2014

Evaluator Name: Michael Doherty, Landscape Architect

Trail Name: Orange

Trail Surface: Compacted Earth

Trail Use: Multi-use, maybe limited in some sections due to steep grades i.e. cross country skiing

Average Trail Grade/Slope: Typically flat to gently rolling, Some steep sections over 5%

Average Trail Cross Slope: 1-3%

Average Trail Width: Varies but generally 6 feet wide

Trail Length: 1 mile (broken into three segments)

Trail Difficulty Rating: (based on avg. grade, terrain, length) Moderate difficulty due to exposed roots, rolling terrain and steep sections

Summary: Orange Trail is the primary site access from Town Forest Park south parking lot. Trail crosses Stratton Brook over functional but dilapidated bridge. Beginning trail segment from parking lot should be considered for accessible trail improvements. Trail traverses highest elevation of site. Trail markings needs to be reblazed for consistency. Potential for expansion by incorporating unmarked spurs. \*\*\*Two dangerous overhanging tree limbs need to be removed.

	<b>Suggested Codes: if others used please note what they stand for in comments section of evaluation form</b>
Code	Description
B	Bridges, puncheon, bog bridges, turnpikes. <i>Note construction material, length/width (feet) and condition of bridge.</i>
UC	Unimproved Crossing (stream crossing). <i>Note if wading or rock steps and any maintenance required (unstable stepping stones). Note the width of the stream at the crossing point.</i>
C	Culvert – open or closed drain across the trail. <i>Note condition of culvert, length/diameter and if sufficient size for situation.</i>
E	Erosion - look for exposed roots, rocks, or gullies on trail. <i>Describe situation (exposed roots, gullies on tread, located on fall line (going straight down a hill regardless of grade) and length of eroded section (if greater than 25 ft, approximate distance). If excessive grade (&gt;15% slope) in conjunction with erosion: measure steep slopes with clinometer (if numerous steep rocky slopes, no need to measure each one – note that trail has numerous steep rocky sections)</i>
EC	Erosion Control Devices – check dams, water bars. <i>Note type and condition of structure.</i>
WO	Washout - section of trail has been mostly/completely washed away. <i>Note length/width/depth and any hazards associated with washout. Take photo.</i>
WA	Wet Area/standing water (larger than 3ft diameter). <i>Note length/width. Note any adjacent water feature.</i>
OB	Obstacle – fallen tree or other obstacle blocking treadway (include broken branches or trees leaning above/across the trail (“widow makers”). <i>Note diameter of fallen tree.</i>
IB	Insufficient Blazing/Marking – if can’t see next blaze/marker as you are moving past a blaze/marker or hard to locate next blaze/marker. <i>Note if blazes/markers missing or worn off.</i>
SI	Signage – <i>Identify if Trailhead, Directional or Interpretive and if in need of repair. Note type of repair.</i>
AC	Additional Comment – specific locations that warrant noting such as a scenic vista, unique feature (caves, mines, rock wall) and locations of invasive species. <i>Note type of feature and associated details (such as name of invasive species and amount of plants (number, area)).</i>

Continued....

Date: 10/22/14

Trail Name: Orange

(PN) Photo Number	(C) Culvert	(WO) Washout	(IB) Insufficient Blazing
(B) Bridge	(E) Erosion	(WA) Wet Area/Standing Water	(SI) Signage (Trailhead, Directional, Interpretive) and repair needed
(UC) Unimproved Crossing	(EC) Erosion Control Devices	(OB) Obstacle – fallen tree	(AC) Add. Comments (vista/unique feature, invasive species)
Measure: Bridges, Culverts, Eroded sections (excessive grade), Washouts, Wet Areas, and diameter of fallen trees			

Way Point #	Lat	Long	PN	Code	Measure in feet or grade (% slope)	Description/ Details/ Comments (as appropriate)
1			5			Town Forest Park parking lot south, dirt lot, trail head kiosk, picnic shelters, open lawn, b-ball court
2			7	B	Approx. 3.5'x20' bridge	Wood Bridge on concrete abutments Crossing Stratton Brook – condition fair/poor, not accessible
3			6			Concrete weir structure at bridge, debris cluttering weir
4			8	V		View from bridge to west into area referred to as Town Pond
5			13	IB, SI		Intersection with green trail- needs blazing, trail to this point was narrow 2-4', winding, exposed roots, trail appears to share same route as green trail - double trail markings is confusing
6			14			Segment B - Trail bears to the east up slope
7			18			Intersection with unmarked trail, 2- overhanging tree limbs
8			22	E	Avg. +/- 10%	Steep slope down to east- approx. 400 l.f., gullying present, very sandy soil, exposed rocks, needs water bars or rerouting
9			21	SI		Segment C- Trail forks left and right, signage needed
10						2 trail spurs to adjacent private residences, 1 blocked with debris, 1 that is not obstructed has wood bridge structure in poor condition
11			30	E	Avg. +/- 13%	Steep section connecting to Blue Trail – approx. 300 l.f., needs water bars or rerouting
12			34			Intersection with green trail near Stratton Brook, trail blazing needed

**Continued....**

Date: 10/22/14

Trail Name: Orange

Additional Comments:

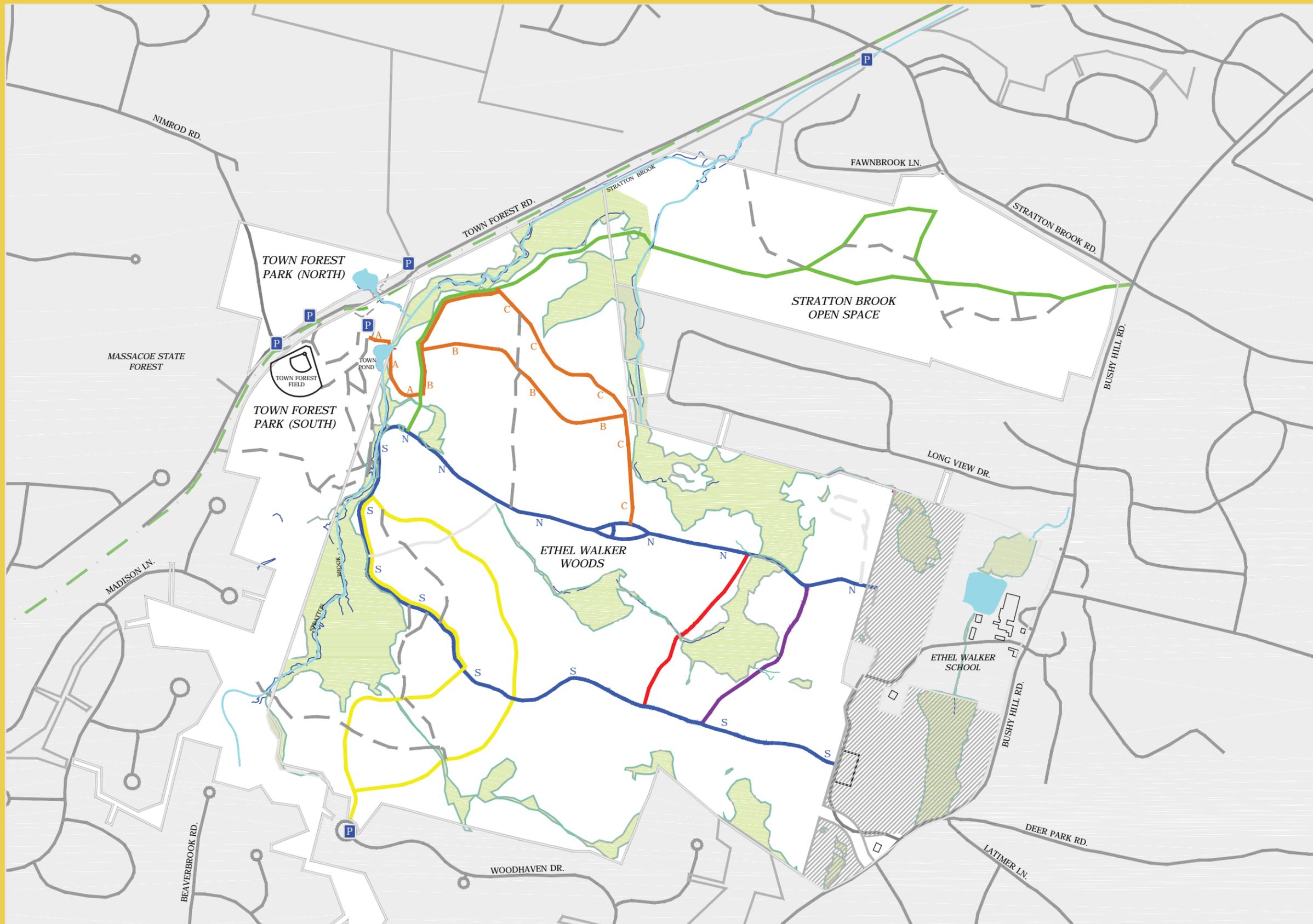
Trail passes through areas of hemlock and pine regeneration in presumably recent forestry management areas. Double blazed orange/green trail is confusing and should be reevaluated.



## APPENDIX B

### FIGURES





**LEGEND**

**MAIN TRAILS**

BLUE TRAIL	2.0 MILES	
NORTH SEGMENT	1.00 MILES	
SOUTH SEGMENT	1.00 MILES	
ORANGE TRAIL	1.2 MILE	
SEGMENT - A	0.20 MILES	
SEGMENT - B	0.50 MILES	
SEGMENT - C	0.50 MILES	
YELLOW TRAIL	1.10 MILES	
EAST SEGMENT		
WEST SEGMENT		
GREEN TRAIL	0.50 MILES	
WHITE TRAIL	0.20 MILES	
RED TRAIL	0.30 MILES	
PURPLE TRAIL	0.30 MILES	
WEGNER MEADOW TRAIL	0.25 MILES	

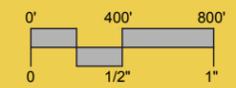
**UNMARKED TRAILS**

FARMINGTON RIVER TRAIL

WETLAND

PARKING AREA

CONSERVATION EASEMENT



MILONE & MACBROOM

*ethel walker woods*

Existing Trail Map

Figure 2



**LEGEND**

- MAIN TRAILS
    - 
    - 
    - 
    - 
    - 
    - 
    -
  - WEGNER MEADOW
  - UNMARKED TRAIL
  - FARMINGTON RIVER TRAIL
  - MAPPED WETLAND LIMITS
  - PARKING AREA P
- SITE ANALYSIS**
- ⚠ BRIDGE NEEDS IMPROVEMENT/REPAIR
  - ⚡ WET SECTION - NEED BRIDGE/CROSSING
  - ⚠ EROSION PRONE / EXISTING ISSUE
  - ⚠ DANGEROUS OVERHANGING TREE LIMB
  - ✂ INVASIVE SPECIES PRESENT
  - 👁 VIEW
  - i POINT OF INTEREST / EDUCATIONAL OPPORTUNITY
  - VP# VERNAL POOL
  - 🌳 SIGNIFICANT TREE
  - STEEP SLOPE - 5% OR GREATER
  - CONSERVATION EASEMENT AREA IN FAVOR OF SIMSBURY LAND TRUST



**ethel walker woods**



MILONE & MACBROOM

Site Analysis

Figure 3

**LEGEND**

TRAIL HEAD INFORMATION SIGN / KIOSK



WAYFINDING SIGNAGE



DETAILED ENLARGEMENT AREA



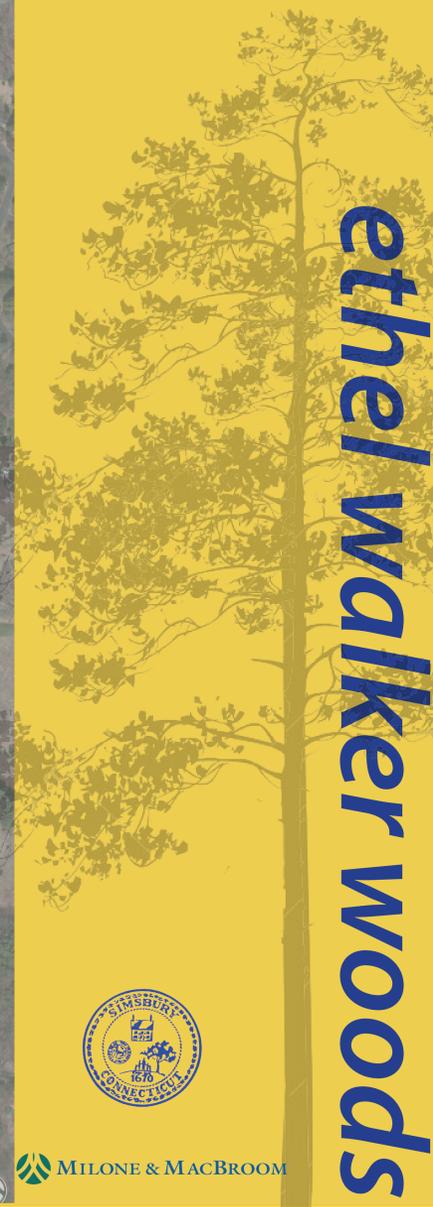
CLOSED TRAIL



INVASIVE SPECIES MANAGEMENT AREA



FUTURE INVASIVE SPECIES MANAGEMENT AREA



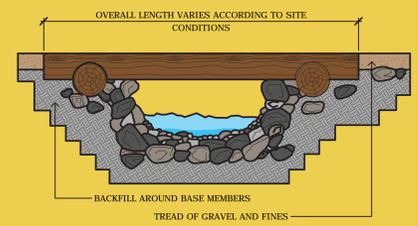
MILONE & MACBROOM



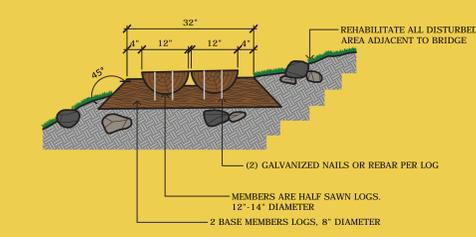
TOWN FOREST PARK - PROPOSED IMPROVEMENTS



STRATTON BROOK OPEN SPACE PARKING LOT

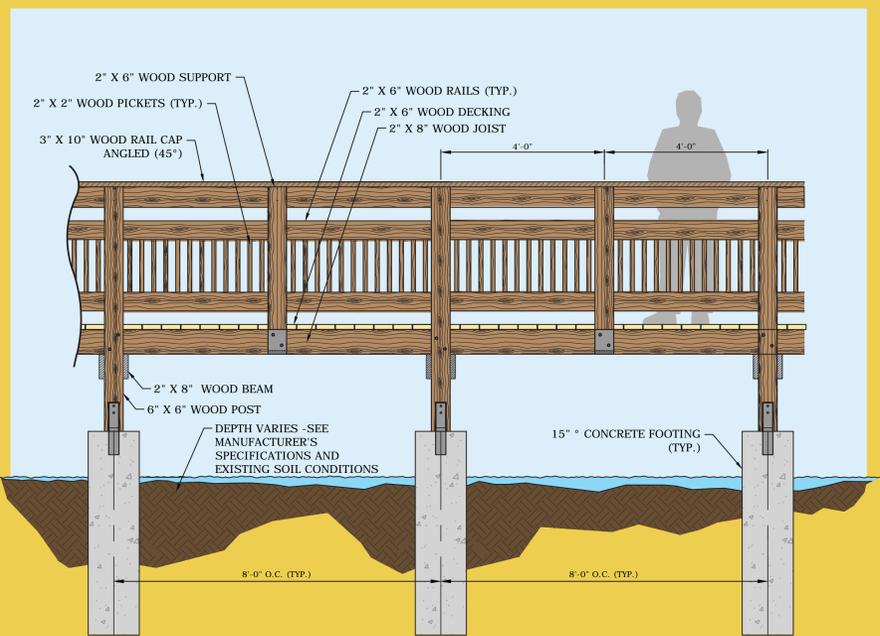


SECTION N.T.S.

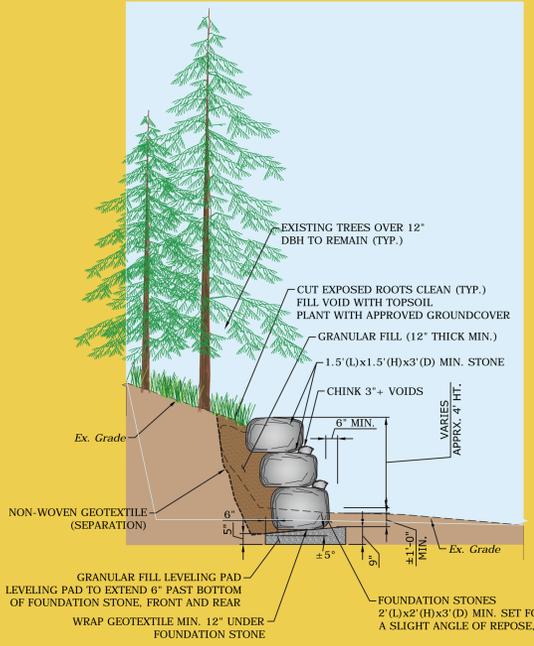


ELEVATION N.T.S.

TYPICAL BOARDWALK DETAIL N.T.S.



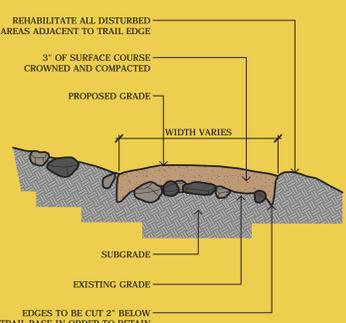
PEDESTRIAN BRIDGE ELEVATION



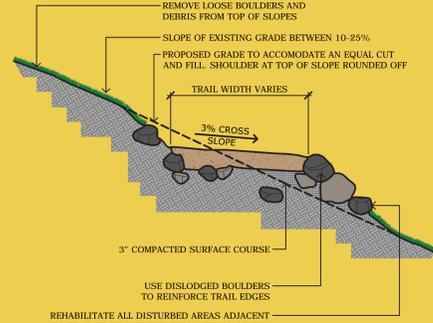
NOTES:

- BOULDERS SHALL BE NATIVE ANGULAR FIELDSTONE.
- EMBED STONE A MINIMUM OF 12" INCHES TO KEY BOULDERS INTO THE SLOPE.

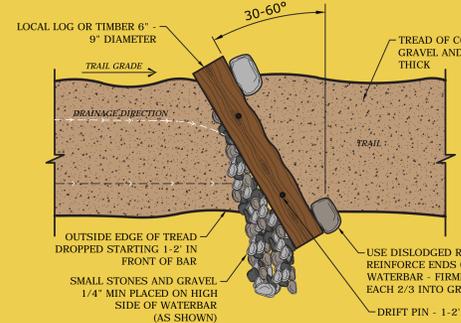
BOULDER WALL N.T.S.



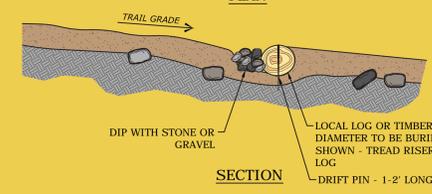
TYPICAL CROWNED TRAIL SECTION N.T.S.



TRAIL ON SLOPE N.T.S.



PLAN



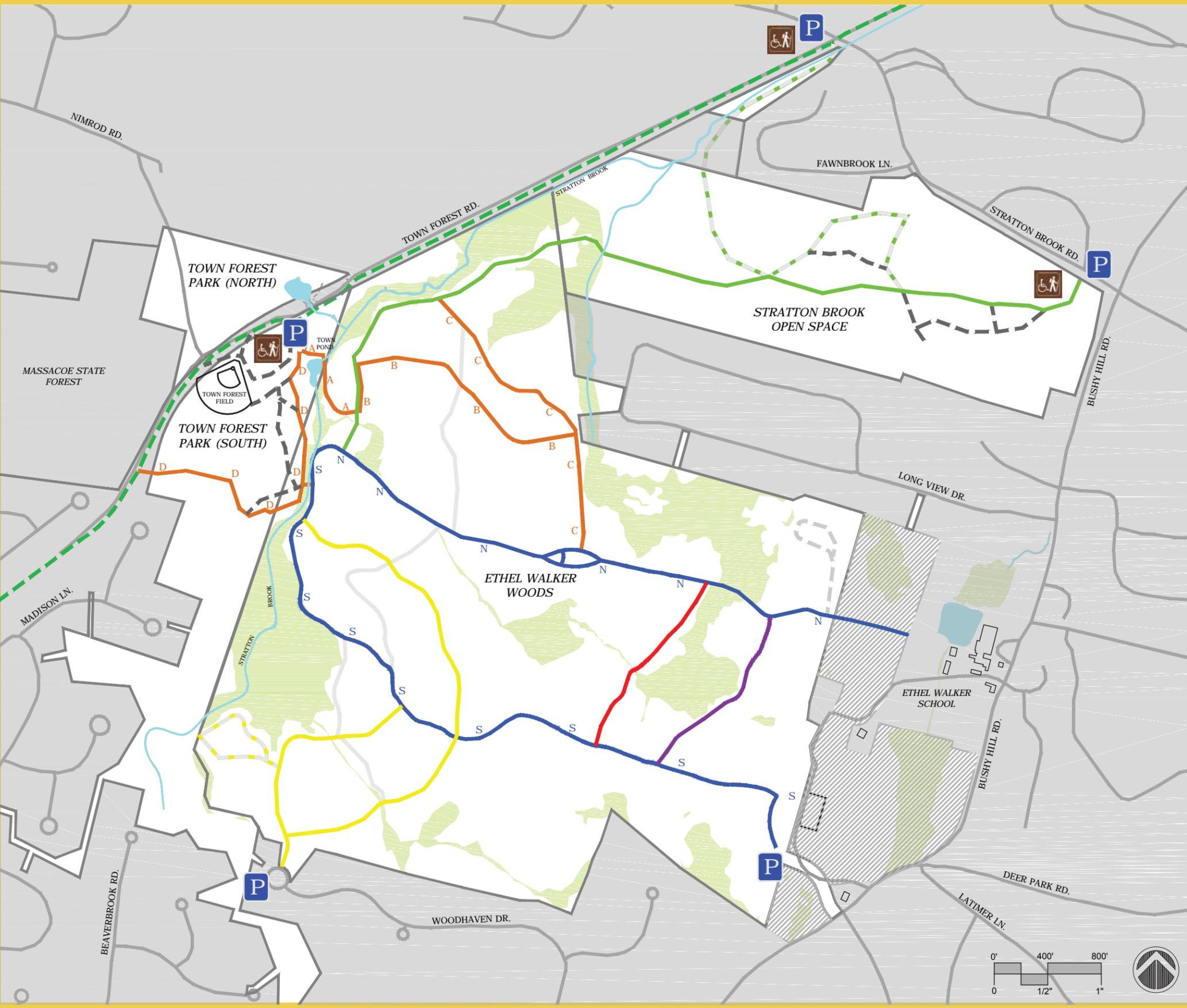
SECTION

LOG WATERBAR N.T.S.

CONTINUE STRAIGHT	START OF TRAIL	RIGHT TURN
SPUR LEADING TO A DIFFERENT TRAIL	END OF TRAIL	LEFT TURN

TYPICAL TRAIL BLAZING SYMBOLS N.T.S.





### LEGEND

#### MAIN TRAILS

BLUE TRAIL 2.00 MILES  
 NORTH SEGMENT 1.0 MILES  
 SOUTH SEGMENT 1.0 MILES

ORANGE TRAIL 1.70 MILES  
 SEGMENT - A 0.20 MILES  
 SEGMENT - B 0.50 MILES  
 SEGMENT - C 0.50 MILES  
 SEGMENT - D 0.50 MILES

YELLOW TRAIL 1.10 MILES

GREEN TRAIL 1.30 MILES

WHITE TRAIL 1.00 MILES

RED TRAIL 0.30 MILES

PURPLE TRAIL 0.30 MILES

WEGNER MEADOW TRAIL 0.25 MILES

GREEN W/ WHITE DOT 0.80 MILES

YELLOW W/ WHITE DOT 0.30 MILES

UNMARKED TRAILS

FARMINGTON RIVER TRAIL

PARKING AREA

CONSERVATION EASEMENT

DESIGNATED ACCESSIBLE TRAIL HEAD / TRAIL

WATERCOURSE

WATER BODY

WETLAND (ONLY FLAGGED WITHIN ETHEL WALKER WOODS PARCEL)



MILONE & MACBROOM

ethel walker woods

Proposed Trail Map

Figure 6



## APPENDIX C

### PRELIMINARY PROBABLE CONSTRUCTION COSTS



**PRELIMINARY OPINION OF PROBABLE CONSTRUCTION COSTS**  
 April 13, 2015

See Cost Notes	ITEM/DESCRIPTION	UNIT	QTY	UNIT PRICE	AMOUNT
<b>Fiscal Year 2016</b>					
	Site Preparation and Removals	LS	1	10% of Const. Total	\$ 15,000.00
	Wood Pedestrian Bridge (approx. 8'W x 25'L)	Ea.	1	\$ 12,000.00	\$ 12,000.00
	Hazard Tree Removals	LS	1	\$ 8,500.00	\$ 8,500.00
V	Boardwalk / Culvert	Ea.	1	\$ 5,000.00	\$ 5,000.00
V	General Trail Maintenance (incl. water bars, erosion control, closures, blazing, debris clean-up, etc)	LS	1	\$ 10,000.00	\$ 7,500.00
V	Trail Wayfinding Signage	Ea.	12	\$ 500.00	\$ 6,000.00
	Informational Signage (Single Post and Panel)	Ea.	4	\$ 3,000.00	\$ 12,000.00
	Site Amenities (Trash, Bike Racks, Picnic Tables, Regulatory Signage)	LS	1	\$ 10,000.00	\$ 10,000.00
V	Trail Building / Rerouting	LF	700	\$ 3.00	\$ 3,000.00
V	Trailhead Kiosk- Woodhaven Drive	Ea.	1	\$ 5,000.00	\$ 5,000.00
<b>Town Forest Park - Improvements</b>					
	Gravel Parking Surface	CY	270	\$ 45.00	\$ 12,150.00
	Bituminous Concrete Pavement	SY	150	\$ 65.00	\$ 9,750.00
	(2) Concrete Pad with Anchors for Portable Toilets	LS	1	\$ 2,500.00	\$ 2,500.00
	Timber Guiderail	LF	80	\$ 65.00	\$ 5,200.00
	Gravel Walk	SY	670	\$ 10.00	\$ 6,700.00
	Park Sign	Ea.	1	\$ 5,000.00	\$ 5,000.00
	Invasive Management Year 1 (All Areas 1-6)	LS	1	\$ 20,000.00	\$ 20,000.00
	<b>2016 Subtotal (rounded)</b>				<b>\$ 145,300.00</b>
	<b>2016 Design Fees</b>				<b>\$ 30,000.00</b>
	<b>2016 Total</b>				<b>\$ 175,300.00</b>
<b>Fiscal Year 2017</b>					
V	Trail Building / Rerouting	LF	700	\$ 3.00	\$ 3,000.00
V	Boardwalk / Culvert	Ea.	3	\$ 5,000.00	\$ 15,000.00
	Invasive Management Year 2 (All Areas 1-6)	LS	1	\$ 16,000.00	\$ 16,000.00
<b>Parking Improvements - Stratton Brook Open Space</b>					
	Gravel Parking Surface	CY	140	\$ 45.00	\$ 6,300.00
	Bituminous Concrete Pavement	SY	40	\$ 65.00	\$ 2,600.00

V	Trailhead Kiosk	Ea.	1	\$ 5,000.00	\$ 5,000.00
	Park Sign	Ea.	1	\$ 5,000.00	\$ 5,000.00
	<b>2017 Subtotal (rounded)</b>				<b>\$ 52,900.00</b>
	<b>2017 Design Fees</b>				<b>\$ 10,000.00</b>
	<b>2017 Total</b>				<b>\$ 62,900.00</b>
	<b>Fiscal Year 2018</b>				
	Wood Pedestrian Bridge (approx. 8'W x 25'L)	Ea.	1	\$ 12,000.00	\$ 12,000.00
V	Trail Building / Rerouting	LF	700	\$ 3.00	\$ 3,000.00
V	Boardwalk / Culvert	Ea.	3	\$ 5,000.00	\$ 15,000.00
V	Timber Stairs at Town Forest Park	LS	2	\$ 5,000.00	\$ 10,000.00
V	Renovate Pavilion at Town Forest Park	Ea.	1	\$ 12,000.00	\$ 12,000.00
V	Trailhead Kiosk	Ea.	1	\$ 5,000.00	\$ 5,000.00
	Invasive Management Year 3 (All Areas 1-6)	LS	1	\$ 8,000.00	\$ 8,000.00
	<b>2018 Subtotal (rounded)</b>				<b>\$ 65,000.00</b>
	<b>2018 Design Fees</b>				<b>\$ 20,000.00</b>
	<b>2018 Total</b>				<b>\$ 85,000.00</b>
	<b>Fiscal Year 2019</b>				
	Gravel Parking Surface - Woodhaven Dr.	CY	32	\$ 45.00	\$ 1,440.00
V	Site Amenities - Town Forest Park Picnic Area	LS	1	\$ 10,000.00	\$ 10,000.00
V	Trail Building / Rerouting	LF	700	\$ 3.00	\$ 3,000.00
	<b>2019 Subtotal (rounded)</b>				<b>\$ 14,500.00</b>
	<b>2019 Design Fees</b>				<b>\$ 5,000.00</b>
	<b>2019 Total</b>				<b>\$ 19,500.00</b>
	<b>Fiscal Year 2020</b>				
	Wood Pedestrian Bridge (approx. 8'W x 25'L)	Ea.	2	\$ 12,000.00	\$ 24,000.00
	Boulder Wall (Blue Trail)	LS	1	\$ 25,000.00	\$ 25,000.00
V	Trail Building / Rerouting	LF	700	\$ 3.00	\$ 3,000.00
	<b>2020 Subtotal (rounded)</b>				<b>\$ 52,000.00</b>
	<b>2020 Design Fees</b>				<b>\$ 5,000.00</b>
	<b>2020 Total</b>				<b>\$ 57,000.00</b>
	<b>TOTAL 5 YEAR CONSTRUCTION COST</b>				<b>\$ 330,000.00</b>
	<b>Contingency (25% rounded)</b>				<b>\$ 83,000.00</b>
	<b>TOTAL 5 YEAR DESIGN COST</b>				<b>\$ 70,000.00</b>
	<b>TOTAL 5 YEAR COST (rounded)</b>				<b>\$ 483,000.00</b>

**Cost Notes:**

V = Potential opportunity for volunteer work to offset cost

**General Notes:**

1. This estimate does not include survey, material testing, geotechnical exploration, or construction inspection costs.

2. The above quantities are assumed, and are based upon a conceptual master plan.

3. Estimated costs are based on projected 2015 pricing. Improvements budgeted for following years should be adjusted appropriately.

<b>Fiscal Year 2021 and Beyond</b>					
	Gravel Surface Parking - Bushy Hill Road	SY	150	\$ 45.00	\$ 7,000.00
	Gravel Surface Parking - Town Forest Field Pulloff	SY	175	\$ 45.00	\$ 8,000.00
	Gravel Surface Parking - Corner of Town Forest & Stratton Brook Rd.	SY	100	\$ 45.00	\$ 5,000.00
	Gravel Surface Access Drive - Bushy Hill Road	SY	430	\$ 45.00	\$ 20,000.00
	Meadow Management - Wegner Meadow	LS	1	\$ 5,000.00	\$ 5,000.00
	Meadow Management - Stratton Brook	LS	1	\$ 10,000.00	\$ 10,000.00
	Invasive Vegetation Control	LS	1	\$ 10,000.00	\$ 10,000.00
	<b>Subtotal</b>				<b>\$ 65,000.00</b>
	<b>Design Fees</b>				<b>\$ 5,000.00</b>
	<b>Total</b>				<b>\$ 70,000.00</b>