

Bluff Point to Preston Trail Committee Tri-Town Trail Master Plan

Prepared for Southeast Connecticut Council of Governments

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INTRODUCTION

PURPOSE & VISION

Trails, open space and recreational facilities are integral components to healthy, livable communities. Access to, and the quality of these resources significantly contributes to the quality of life for all residents and visitors. It is the vision of the Bluff Point to Preston Trail Committee to enhance the quality of life for the residents of southeastern Connecticut, by providing the area's first regional multi-use recreational trail. When complete, the trail will stretch from Bluff Point northward through the central areas of Groton and Ledyard, to Preston Community Park. This trail will connect multiple municipalities, economic centers, residential areas, and areas of significant natural resources to form a regional recreational facility as well as a truly functioning alternative transportation corridor.

The Committee has previously developed three conceptual trail alignments. The purpose of this Master Plan is to evaluate those proposed trail concepts based on constructability, feasibility, and cost, and determine the most desirable trail alignment. This Master Plan will establish a clear direction to guide the Committee, Town staff, elected officials and the Southeastern Connecticut Council of Governments (SCCG) in their efforts to enhance the community's recreational and transportation facilities.

PROJECT HISTORY

Like most public projects, the concept of this trail has been around in various forms for many years. In order to fully understand the current objectives, we will review previous initiatives.

The largest landowner in both the Town of Groton & Ledyard is the City of Groton. The City of Groton owns several large and contiguous parcels of land that bisect both Towns on a north south axis. These parcels of

land contain reservoirs and the water treatment operations. Groton Utilities is a municipal water company that is owned by the City of Groton, and the City of Groton itself is a political subdivision of the Town of Groton. The City was incorporated in 1903 as the Borough of Groton for the primary purpose of supplying consistent and reliable power to the Naval Submarine Base and Electric Boat Shipyard during the buildup to the First World War.

The political subdivision of power, money and control have at times stressed the relationship between the Town of Groton and the City. These governing issues are also expressed in the natural world, as both the Town of Ledyard and Groton benefit from the large tracts of City owned open space within their towns, although each has limited jurisdictional control. As development pressures increase, it will be advantageous that the governmental agencies and the City form a working partnership that educates the public, while seeking to preserve and protect the environmentally sensitive lands within their Towns.

Since the reservoir establishment, the City of Groton has controlled all activities and access to its properties in accordance with the guidelines established by the CT Department of Public Health (DPH). During the 1980's, and early 90's Groton Utilities issued recreational activity permits for a variety of uses including horseback riding and hiking. (See appendix A) In the mid 1990's, after issues with an abutting property owner's horses getting loose on the City's property, the permit system was terminated. Although there have been numerous requests, it has never been reinstated.

In 2001, the Town of Groton developed a plan to build a multi-use trail alongside Route 117 connecting the Poquonnock Plains & Poquonnock Bridge Neighborhoods near Bluff Point to the Copp Property in the Center Groton area (RT 1 to RT 184). In cooperation with Groton Utilities, a route was agreed upon

utilizing the Route 117 Right-of-Way, and City of Groton property. The plan was endorsed by 18 significant stakeholders and received a state grant for construction. However, approval for the matching funds needed by the Town failed in the RTM by 2 votes – and the project was never built. At the time Groton was in the beginning of a large school expansion project, and schools took priority over trails.

In 2003, the Town of Groton undertook a Town wide Bicycle, Trails & Pedestrian Master Plan. That plan, completed in 2004 by Brian Kent Associates (now Kent + Frost Landscape Architecture – author of this study), identified a north-south connection from Bluff Point to Ledyard as a significant need. Other trails identified as needs around the vicinity of Bluff Point are currently under design and construction, and could connect to this proposed trail.

In early 2008, the impetus for this current project came to be when David Holdridge, a Ledyard Town Councilor, approached the Utility Commission (governing body appointed by the Mayor of the City of Groton, to oversee Groton Utilities) to ask for permission to access reservoir properties for trail access. The Utilities' response was that it does not allow public access to its properties, but that approved, escorted group activities are encouraged.

In February 2008, Dave Holdridge, in association with Representative Tom Reynolds, held an informational meeting to gauge interest in developing a trail from Bluff Point to Preston. The meeting was well attended with significant representation from the Towns including Mayors, First Selectmen, Town Managers, Town staff, and Groton Utilities and City representatives.

After such strong support, an ad hoc committee was formed and began to meet monthly, bringing in speakers from the DEP and other reservoir systems for educational presentations.

In June of 2008, the committee was officially authorized when the Groton, Ledyard and Preston town governments all passed resolutions empowering and authorizing the Bluff Point to Preston Trail Committee. A steering committee was formed by all Towns designating three representatives. Additionally, Al Dion was chosen to represent Groton Utilities (Herb Cummings replaced Mr. Dion upon his retirement). It is important to note that the chief elected official from all governmental bodies was represented on the steering committee. The SCCG agreed to help administer the project and act as the fiduciary.

The Committee has met at least monthly since its establishment. During this time it has developed three conceptual route alignments, and has sought and received donations that have enabled this study.

INVENTORY & ANALYSIS

INVENTORY

In order to gain a complete understanding of the needs of the community, as well as the opportunities and constraints of the conceptual routes, site visits were conducted in numerous areas along the proposed routes during the spring of 2009. All areas, including those not accessible due to property ownership or physical barriers, were also thoroughly studied from all available GIS information. As the inventory was collected, conditional assessments were made using Best Management Practices, AASHTO standards, and State and regional guidelines:

- Trail corridors were assessed based on topography, hydrology, slope, property ownership and environmental sensitivity.
- On-road facilities were assessed based on width, traffic volumes and traffic speed (Figure 1)
- Road intersections and crossings were evaluated for safety using width, site distance and traffic speed
- Open space and wetlands were inventoried based on GIS information

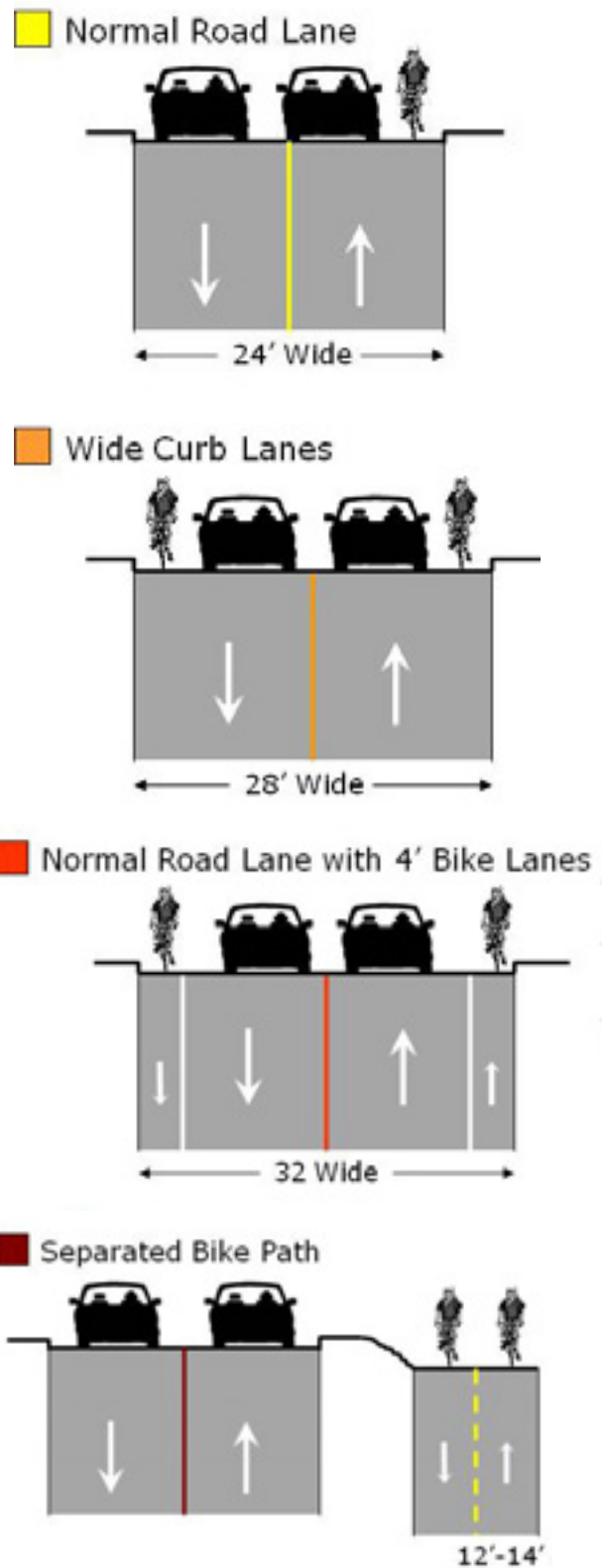
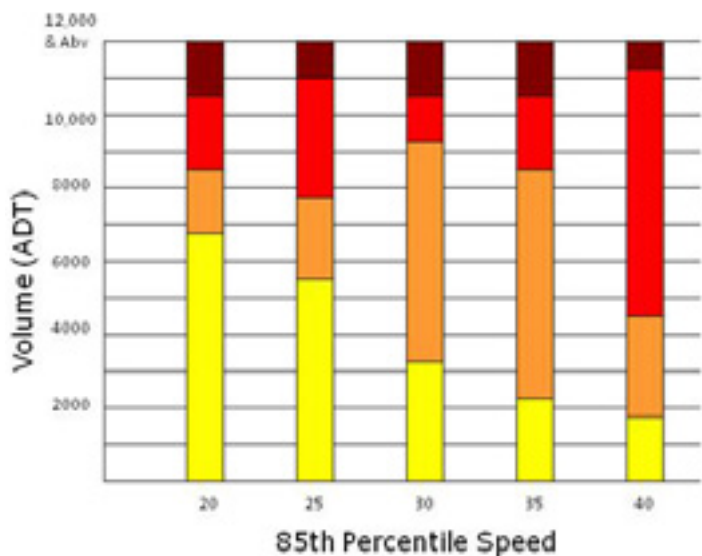


Figure 1 – On-road Bicycle Suitability

OPPORTUNITIES ANALYSIS

The most significant opportunity to the proposed corridor is presented by the geologic history and the formation of Connecticut's landscape due to the last glacial period. Most of Connecticut's topography is comprised of ridges and valleys running north and south. The proposed corridor of this trail takes advantage of this, by running up one of these valleys. Starting at sea level at Bluff Point, the trail would rise a few hundred feet to a high point in Ledyard and return almost to sea level by Preston Community Park. The utilization of this corridor is optimal for bicycle and pedestrian traffic, as there are limited areas of significant slope, which allows for the widest cross-section of users. In addition, many of the roads in this area also follow the landform topography, and therefore there are few roads running east and west. It is thus possible to complete this trail, 14 miles in length, with only six road crossings. This is an astonishing fact when integrating a new trail into a mature community.

Another opportunity of this corridor (also somewhat due to the geologic history) is the lack of development. The public, private and semi-private property has remained largely undeveloped. In a region that has seen recent unprecedented growth (including two of the worlds' largest casinos) this is truly an asset that deserves to be preserved and protected. This trail could serve as an educational tool to teach users about developmental pressures and the benefits of protecting open space.

Due to the lack of development, much of the natural environment still exists. State and local governments have recognized this and have been able to protect a high proportion as open space. This trail has the potential to directly connect 1,963 acres of State and local open space land.

Another significant opportunity is the City of Groton properties. Although privately held and controlled, the City owns almost 1/3 of the

proposed corridor. An existing gravel roadway system runs north-south that could fully function as the trail with minor improvements. Additionally, recreational access was allowed on much of this proposed route in the recent past. If an agreement can be negotiated to allow controlled access once again, a significant portion of the trail would already exist.

Although the preliminary concepts route the trail through undeveloped land, it is worth noting that the trail would come within ¼ of a mile to three economic centers, and numerous residential developments, making it an ideal means of safe, alternative travel.

CONSTRAINTS ANALYSIS

Although an opportunity, the City of Groton properties also serve as a constraint. Like other private properties this trail may cross, the access requirements must be negotiated with the property owner. Because Groton Utilities operates a full service water storage and treatment facility, the operations, quality and safety of the water supply cannot be impacted by this trail. The DPH oversees all public water supply companies, and would have to issue a Recreational Activity Permit (See Appendix B) to Groton Utilities on an annual basis for this trail to occur on their property. Although this trail would serve both the residents of the City of Groton, as well as the rate payers of the Utility, it would potentially serve the larger population as well. Due to this fact, it should be the goal of this trail to not impose any additional financial burden on the Utility as a result of the trail.

In all potential route alignments there are areas where private property will need to be crossed; some alignments necessitate more than others. When designing the trail, this should be studied very carefully. The trail should make every effort possible to cause the least amount of disruption to the site, and maintain the privacy of the individual private property owners. There is a long standing history of public trail

allowance on private property here in Connecticut (Blue Trail System); however, it should not be assumed that all private property owners will willfully allow public access. The Committee should design an educational brochure about the trail, legal rights, and possible tax savings, and individually approach each landowner to gain acceptance and access.

Although there are few road crossings for a trail of this length, four of the six crossings are State roads. In addition the trail will need to pass underneath Interstate 95. This will require substantial involvement with the DOT. Although none of this is new, the process to modify State roads (without DOT initiating the idea) can be cumbersome. The Committee, local governments and state legislators should encourage the DOT for “Complete Streets”, and

point to recent projects (like the pedestrian underpass under I95 along RT 12 in Groton) to help smooth the way for this project.

REGIONAL TRAIL ACCESSABILITY

As mentioned at the outset, access to recreational facilities is closely linked to quality of life. The southeastern region of Connecticut (SECT) is extremely lacking in a regional trail that connects other facilities. A very poignant example of this is exemplified in the current Statewide Bicycle and Pedestrian Plan (currently in draft form). When viewed from a State level, the region is largely blank (Figure 2). It is the largest gap in trail accessibility in the entire state. The only route currently shown in SECT is the proposed route of this trail. The only other trail planned in the region is along the Route 11

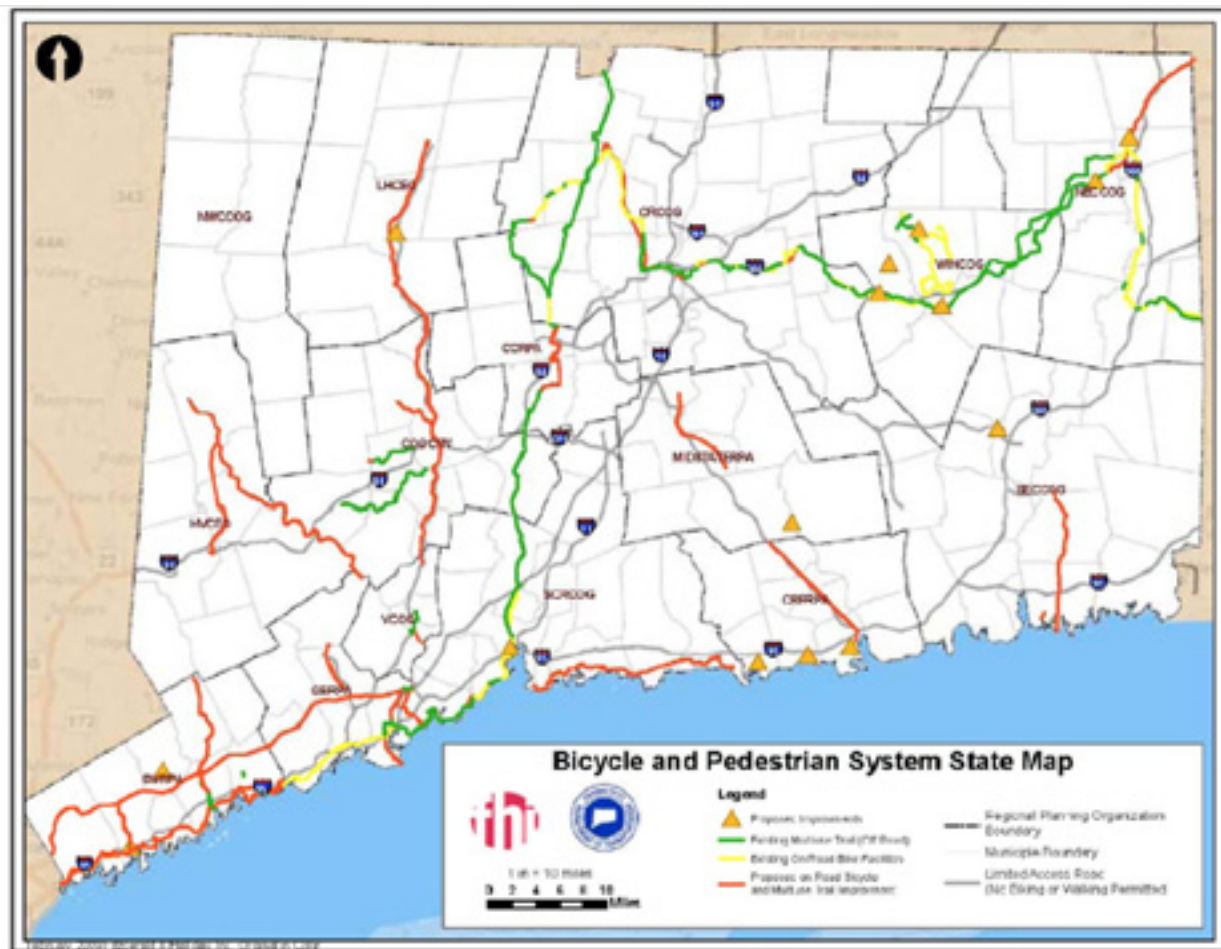


Figure 2 – Statewide Bicycle and Pedestrian Master Plan - draft

expansion. In an area dominated by narrow windy roads or fast state highways, there are no other options for transportation other than the automobile. In many parts of the country, alternative transportation by bicycle has been viable for decades. Connecticut, especially SECT, is clearly deficient in multi-modal transportation facilities and needs to provide viable alternatives to the automobile for kids and adults alike. In the recently completed Town of Groton Park and Recreation Master Plan, one of the top rated issues and needs was greater accessibility to trails.

PUBLIC INPUT

The original vision of the Bluff Point to Preston Trail Committee was to determine if there was enough public interest to support this endeavor. To that end, the Committee has made a great effort to include and inform the residents of the area of the progress of the community. All Committee meetings are open to the public, and are publicized through email, Town Hall and newspaper notices. In addition, meetings have been held at various times of the day and evening to allow for as much public participation as possible. For those who are still unable to attend the meetings, minutes of each meeting are taken and submitted electronically to each Town Hall to be part of the Public Record and available to all. The Committee has also issued several press releases and newspaper articles, as well as staffing booths at local events to disseminate information and to receive feedback from the public.

KEY FINDINGS

TRAIL CLASSIFICATIONS

To begin to evaluate suitability we must first determine the anticipated user groups, and the expected level of use. During the last year, the Committee has seen a large number of user groups come forward to express interest and support, including but not limited to: Equestrians, Bicyclists, Hikers, Rollerbladers, Walkers, Commuters and Nature Enthusiasts. The proximity of the trail to population and economic centers, as well as the resounding public support for the project, also indicates that this trail system will be widely used. Due to the diverse group of anticipated users (all non-motorized access), and the expected high level of use, it would be recommended that the trail be built to fulfill these requirements.

For the purposes of this plan, off-road trails will be evaluated based on three classifications of trails (See Figure 3).

Class I – Consists of a 12' wide asphalt paved path, with 2' stonedust shoulders and 2' clear zones on the outside of the shoulders. This type of trail system provides the greatest use to the largest diversity of user groups. A 12' wide paved trail allows for pedestrians and cyclists to co-exist with fewer conflicts than on narrower trails. Typically pedestrians walk two or more abreast when recreating. Cyclists overtaking them at a higher rate of speed need enough room to safely pass without being forced into the oncoming lane of traffic. In addition, a 12' trail allows for the swing of rollerbladers, without impacting other users. The 2' wide stonedust shoulder provides many necessary benefits as well. First, it is a smooth finished surface that can be used to avoid obstacles on the trail or regain control if leaving the trail accidentally. Second, it serves additional user groups. Many joggers and runners prefer to run on a "soft" surface. A stonedust surface can often provide more traction, while lessening the

impact on joints while recreating. Equestrians also need/prefer a soft yet smooth surface that has the required clear zones to ride their horses.

For the purposes of this study Class I trails will be evaluated at a rate of \$36 per lineal foot, which equates to \$190,080 per mile.

Class II – Consists of a 12' wide stonedust trail with 2' clear zones on either side. A stonedust surface limits the use of some user groups. Rollerbladers and narrow tire road bikes will be unable to use it. Wheelchair and stroller usability is reduced, but still possible. Although not considered the ideal surface for all users, there may be many instances due to environmental sensitivity or land ownership where this trail surface will need to be employed. Likewise, there are instances where it should not be used as it will erode on steep slopes.

Contrary to popular belief, stonedust trails are not significantly less expensive than asphalt paved trails. Although material costs are much lower, they are much more labor intensive to install. When maintenance and lifecycle costs are factored in, they are generally more expensive over the life of the facility. They do serve a designed purpose, and should be used appropriately (not to reduce cost). For the purposes of this study Class II trails will be evaluated at a rate of \$28 per lineal foot, which equates to \$152,064 per mile.

Class III – Consists of a 12' wide compacted aggregate stone trail with 2' clear zones on either side. A stone surface further limits the functionality of the trail to user groups that need smooth and consistent surface. This type of trail surface is very common in State Parks and natural preserves, as it is the least expensive surface option, but has greater durability than stonedust. The main paths at Bluff Point and the existing access roads in Groton Utilities properties would be considered Class III trails.

Trails Costs & Estimated Useful Life

Tri-Town Trail Design Development 2009

Trail Surface Materials						
Items	Material Description	Useful Life	Unit Price SF	Lineal Foot Price	\$/Mile	
Class I	12' Asphalt with 2' Stonedust Shoulders w/ Centerline	20 Years	\$3.00	\$36.00	\$190,080.00	
Class II	12' Stonedust	5 Years	\$2.40	\$28.80	\$152,064.00	
Class III	12' Compacted Aggregate	6 Years	\$2.00	\$24.00	\$126,720.00	
On Street Bike Lane	4' Clear Zone - Striped and Signed	10 Years	\$1.50	\$1.50	\$7,920.00	
Replacement Costs						
Asphalt Overlay	1" overlay of asphalt with centerline striping	10 Years	\$1.50	\$18.00	\$95,040.00	
Stonedust	Replacement of Stonedust	5 Years	\$1.00	\$12.00	\$63,360.00	
Compacted Aggregate	Crushed Stone Infill and compaction	6 Years	\$1.50	\$18.00	\$95,040.00	
Structures						
Items	Material Description	Useful Life	Unit Price			
Concrete Underpass	Concrete Retaining Walls to allow passage	50 Years	\$350.00			
Concrete Bridges	Precast Concrete Bridges	50 Years	\$400.00			
Steel Bridges	Steel Bridge Structures	30 Years	\$750.00			
Wood Bridges	Wooden Prefabricated Bridges	20 Years	\$500.00			
Boardwalk	Built in Place Wood Boardwalk	20 Years	\$400.00			
Site Amenities						
Items	Material Description	Useful Life	Unit Price			
Benches	Steel and Wood Benches	15 Years	\$1,300.00			
Barrier Posts	6" x 6" Pressure Treated Posts	15 Years	\$12.00			
Wooden Guardrail	44" Wooden Guardrail	15 Years	\$40.00			
Informational Signage	Steel structure with concrete base	15 Years	\$2,000.00			
Trash Receptacles	Metal container with concrete base	15 Years	\$750.00			
Chain Link Fencing	4' Black vinyl fencing	20 Years	\$35.00			

Figure 3 – Trail Classifications and Unit Costs

For the purposes of this study Class III trails will be evaluated at a rate of \$24 per lineal foot, which equates to \$126,720 per mile.

On-Street Bike Lane – Consists of a minimum 4’ wide lane that is clear of obstacles (storm drains) and is signed and striped. All roads that were considered for on-street bikes paths were evaluated based on road width, vehicular speed and volume. In some cases where speed and volume are low enough (neighborhood roads); striping may not actually be necessary; however it would be recommended that all roadways be consistently striped and signed to provide continuity for the entire system.

The color of the striping and the logo/imagery of the signage will need further study. ConnDOT currently recommends a 4-6” white strip consistent with other roadway markings. However, the most recent research and implementation strategies from across the country are suggesting color striping that is unique to bike lanes for better visibility and understanding. The two most currently recommended colors are blue and green. The Committee & SCCOG should act as a regional lead on this issue, and try to form a consensus among the local towns so a common striping language can be applied regionally.

For the purposes of this study On-Street Bike Lanes will be evaluated at a rate of \$1.50 per lineal foot, which equates to \$7,920 per mile.

COST ESTIMATES

Each of the conceptual alignments was analyzed for suitability and constructability to determine the segment’s cost. If a proposed route or feature of a route was deemed unsuitable, the alignment was re-routed or avoided. Once a component was deemed suitable, it was then assigned a classification (I, II, III, BL). Each trail component was then evaluated for

constructability, (level of difficulty above or below a typical installation) and assigned a constructability factor.

All three complete route alignments were broken into three distinct sections. These section breaks were kept equal between all concept alignments, and in addition, all components of each section were evaluated at the same classification, so that each could be as comparable as possible.

For a complete breakdown of costs see Appendix ‘C’. The following summarizes the estimated costs of each alignment (totals include sub-section totals plus site amenity allowance, contingency & Engineering and Design Fees:

Most Desirable Route:

Southern Section	= \$384,122
Central Section	= \$646,058
Northern Section	= \$594,698
Total	= \$2,245,221

Alternate Route #2:

Southern Section	= \$384,122
Central Section	= \$1,249,196
Northern Section	= \$594,698
Total	= \$3,008,192

Alternate Route #3:

Southern Section	= \$410,515
Central Section	= \$365,286
Northern Section	= \$594,698
Total	= \$1,947,260

GROTON UTILITIES

The potential routing of a recreational trail through the lands of a municipal water supply company requires extra study to ensure that the safety and quality of the supply, as well as the safety of the users, is protected.

Water Quality – The first and foremost responsibility of the Water Division of Groton Utilities is to deliver safe drinkable water that meets all of the criteria set forth by the DPH. The goal of the Committee and this study is to design a trail system that in no way detrimentally affects the quality of the water supply. Ninety percent of the proposed trail shown within City of Groton properties would use the existing gravel service roads. The use of these roadways by hikers, bikers and even the occasional equestrian would cause far less disruption leading to sediment runoff, than the daily vehicular traffic to patrol the property. Because these roadways already exist and are used by vehicles on a daily basis, the addition of recreational users would not cause any additional disruption resulting in lesser water quality. The few sections of potentially new trail are on flat, level lawn areas. Although sediment and erosion control measures would be implemented during construction, the resulting runoff of this one-time activity would still be less than the ongoing logging and dredging operations within the reservoir.

In order for Groton Utilities to allow recreational access within the reservoir property, they must first submit and receive a Recreational Access Permit from the DPH (Appendix 'B'). This permit procedure is in place to ensure that the quality of the water supply is not diminished. The requirements set forth when permits are granted vary with every permit. The next advisable course of action would be to submit an application for this permit using this plan to see what requirements and controls would be necessary.

Security & Safety – Security and safety must also play a key role in the design of a trail through a reservoir property. The Utility has infrastructure, equipment and assets that must be protected. In addition, there are many areas within the properties that are simply unsafe for public access. All of these areas must be secured to an adequate and appropriate level.

Existing security around the reservoir varies. In the south, close to the treatment facilities, operations center and terminal reservoir security is very visible.



One exception to this is the Copp property. This property is a Town of Groton owned open space parcel that currently contains a developed trail network as well as a highly used dog park. The Copp property directly abuts City property, the terminal reservoir and its supply stream. There are many trails that lead along and directly to the water's edge.



It would be expected that if there were to be conflicts between the reservoir and recreational access, that they would have become apparent in this relationship. After discussions with Town, City and Utility staff, more than a decade of use has not produced any significant issues.

In the northern sections of the reservoir the primary means of security is signage. There are gates that restrict vehicles, and fencing in certain visible areas, but for the most part the boundaries are fairly porous. The security of the system relies on the public following the posted rules.



Similarly, it should be expected that recreational users would heed the posted rules and stay within the trails and designated areas.

Reservoir Case Studies – Throughout Connecticut there are numerous reservoir systems that allow recreational access. One such system that the Committee studied was Lake Saltonstall (Appendix 'D'). Located in East Haven, the reservoir system is managed by the Regional Water Authority (RWA). Similar to the Groton Utilities reservoirs, Lake Saltonstall is a terminal reservoir bisected by Interstate 95. The RWA allows access through a permit system for recreational activities like bicycling, hiking, boat rental, shoreline and lake fishing. Facilities have been developed to safely accommodate these uses including a wheelchair accessible fishing dock, multi-use trails and interpretive signage. The RWA rents small motorized fishing boats to permit-holding users at a floating dock on the reservoir.

It is important to note that the Lake Saltonstall reservoir is a managed recreational area. Public access to the reservoir and surrounding land is controlled by the RWA. There are defined trails

and rules that the users must obey. Due to safety and environmental concerns, certain areas are off-limits to users. Most of the wider biking and hiking trails utilize existing reservoir service roads. A similar opportunity exists within the City of Groton reservoir properties where service roads generally run north-south and are better constructed than those of Lake Saltonstall.

The RWA does have its own security staff (as does GU) that regularly patrols all of their reservoir property. According to the RWA, 90% of reported incidents are reported by users of the system who typically call security staff using cell phones. This pattern is a testament to 'the more eyes and ears equal less unauthorized activity' theory. The trails and recreational systems that the RWA provide have become so popular that surrounding towns have expressed interest in building their own trail systems that connect to the RWA's system. The recreational manager for the RWA is excited at this possibility, and is currently looking at ways to change or phase out the permit process to allow easier interconnection.

Recreational Access to Reservoirs in Connecticut – When considering recommending reinstating recreational access into a reservoir, the Committee felt it was necessary to examine how many other systems in the state currently allow recreational access. The DPH regulates 24 different companies that have Surface Storage Systems (reservoirs) and provide water service to the public. Kent + Frost phone interviewed each of the 24 companies to determine if and what kind of recreational access they allow. The results (Figure 4) demonstrate that:

- 38% of Companies allow recreational access to some of their properties
- 8% allow recreational access to inactive reservoirs
- 54% currently do not allow access

Recreational Access in Reservoirs in Connecticut

Bluff Point to Preston Trail Committee Tri-Town Trail

SYSTEM NAME	POPULATION SERVED	RECREATIONAL ACCESS	ACTIVITIES ALLOWED
AQUARION WATER CO	501,703	YES	Hiking, fishing, birding, snowshoeing, x-country skiing
REGIONAL WATER AUTHORITY	418,900	YES	Hiking, Biking, Jogging, fishing, boating, swimming, hunting, cross country skiing, snowmobiling
METROPOLITAN DISTRICT COMMISSION	388,700	YES	Fishing and Hiking Program @ 1 of 6 facilities covering 1/2 the population served
CTWC - NORTHERN REG-WESTERN SYSTEM	143,521	YES	Allowed on in-active reservoirs
WATERBURY WATER DEPARTMENT	107,271	Some	Blue Trails
NEW BRITAIN WATER DEPARTMENT	73,164	YES	
DANBURY WATER DEPT	62,000	No	
MERIDEN WATER DIVISION	58,441	YES	Trails - permit for fishing
BRISTOL WATER DEPARTMENT	52,079	No	
MANCHESTER WATER DEPARTMENT	51,066	YES	Hiking and biking need permit
SECOND TAXING DISTRICT CITY OF NORWALK	42,000	No	
MIDDLETOWN WATER DEPARTMENT	41,019	No	
SOUTHINGTON WATER DEPARTMENT	40,408	No	
NORWALK FIRST TAXING DISTRICT	40,256	No	
WALLINGFORD WATER DEPARTMENT	37,267	No	fishing from road
NORMICH PUBLIC UTILITIES	36,067	Some	Allowed on in-active reservoirs
TORRINGTON WATER COMPANY	35,136	No	
GROTON UTILITIES	30,200	No	
NEW LONDON DEPT. OF PUBLIC UTILITIES	26,273	No	
WINDHAM WATER WORKS	20,193	No	
BETHEL WATER DEPT	9,507	YES	Fishing - some trails
WINSTED WATER WORKS	7,784	No	
PUTNAM WATER POLLUTION CONTROL AUTHORITY	7,300	YES	
JEWETT CITY WATER COMPANY	6,840	No	

36% of Water companies allow Recreational Access to some of their facilities
 8% of Water companies allow Recreational Access in-active reservoirs
 54% of Water Companies do not allow Recreational Access to some of their facilities

There appears to be a correlation between size of the utility and recreation access. This has not been studied, but could be due to several factors including, cost, marketing strategies, manpower, natural resources and desire.

Figure 4 – Recreational Access in Reservoirs

Although the Committee was aware of a few reservoir systems that allowed and promoted recreational access, it was presumed that the vast majority of systems in the State would not allow access. It was encouraging to find that 46% of companies allow some amount of recreational access, and only 54% do not, as this clearly points to the fact that recreational uses can occur within reservoir systems without compromising water quality. It is also very important to note, that although 38% of companies allow recreation access in active reservoirs, they do not universally allow access to all of their properties. Access needs to be carefully studied to protect the safety of both the public and water quality.

Another statistic that becomes apparent when the recreational access to reservoirs data is sorted by size of the utility is that there appears to be a correlation between size of the utility and allowing recreational access. This has not been studied, but possible reasons are cost, human resources, availability of lands, desire, and lack of requests. All of these issues will need to be more fully evaluated as planning for this project progresses.

Public Outreach and Education – Regionally, the reservoir and the public’s personal responsibility to protect it, is not well understood. The general public has very little understanding of the reservoir system and how their actions can affect it. The public’s only physical interaction with the reservoir is when they are driving their cars on roads that bisect it. Although it is highly unlikely that a reservoir and road system could be built like that today, it causes great public misunderstanding. People have a very hard time understanding how I-95 can go right through the middle of the terminal reservoir without harm, yet they themselves could harm the system by putting too much fertilizer on their yard.

A project such as this, when combined with interpretive informational signage and demonstration areas could go a long way to

improving public understanding and encourage greater protection of water resources. As development pressures continue to mount, it will become increasingly more important to protect the watershed. Demonstration areas could illustrate a multitude of construction and management techniques including; stormwater management techniques, permanent erosion control measures, and native and drought tolerant plantings. By allowing controlled access that educates people about the system and how individual actions can affect it, the public will be more apt to support and protect what it understands. With greater understanding comes a sense of ownership and responsibility. Residents that truly understand the interconnectedness of the watershed would be more likely to change their behavior on their own property, and be more willing to accept and become champions of protection districts and regulations.

Final Preferred Trail Alignment

It is the conclusion of this study that the most desirable route alignment would utilize the corridor which includes the City of Groton properties. This determination was reached after thorough examination of all concepts, and with the confidence that water quality will not be affected.

Additionally, the preferred route alignment best achieves the desired objective of creating a multi-use, recreational trail. This alignment allows for the greatest diversity of users while balancing the cost of implementation.

All conceptual alignments involve crossing some amount of private property. The preferred alignment involves the fewest number of private property owners to negotiate with. Although the City will likely have the most restrictions on its property, negotiating with one owner rather than dozens is more desirable, and has a greater likelihood of success.

Water quality and public safety are an utmost concern. If there was any question that this proposal would jeopardize either, the route would not be considered. However, due to the favorable experiences of comparable reservoir systems that allow access, and the fact that the existing service roads would be used as trails, we find that there would be no additional risk to the water supply. There are security and environmental improvements that should be done to accommodate recreational access. The exact improvements should be decided upon and designed in conjunction with Groton Utilities and DPH. Current land use planning strategies recognize that increasing access to open space actually improves the security of an area.

Historically, recreational access including equestrians was allowed within the reservoir on

a permit based system. The re-instatement of recreational access within the reservoir property, combined with the southern and northern sections of the trail would link over 4000 acres of protected lands. This significant greenbelt would provide exceptional educational benefits while bringing awareness and responsibility to the public.

Achievable with negotiations – The preferred trail alignment cannot be implemented without the support and approval of Groton Utilities. GU has many real concerns that cannot be overlooked. However, GU has acted in good faith as an active participant throughout this planning process. The Committee needs to begin active negotiations with GU to formulate an approach that satisfies the requirements of recreational access. Several items that should be considered are:

- The trail should not add any additional cost to Groton Utilities or its rate payers. Because this trail will serve a greater population, the committee and/or the overlying municipality should be responsible for all costs.
- The trail will have to meet security and environmental needs of both GU and the DPH.
- Access Control – GU will need to have the ability to control access, and know who is on their property. This could take many forms, from log books at all entrances, to minor permits where trail maps are considered the permit, to full permits issued by the Utility. However, it is important to carefully evaluate the access control system for the Utility in respect to the connectivity of the larger trail.
- Consider trial access period(s) to establish anticipated participation, and to evaluate compatibility.
- The Committee should take responsibility for litter control and maintenance of trail amenities. Litter is one of Groton Utilities top concerns. The Committee should provide and

maintain trash receptacles at all parking areas, as well as providing regular patrols to pick up any litter left behind. All trails should be signed to carry out what you carry in.

- Access to City of Groton properties will be granted, but not guaranteed in perpetuity. If issues arise that cannot be resolved, GU should have the right to revoke or re-route the trail. In addition, it is recommended that the trail will be actively managed. The reservoir lands are part of an operating business. There will be times when the operations of the reservoir (construction, maintenance, logging, etc.) require adjusting access accordingly. This would be consistent with how many State Parks are managed.

IMPLEMENTATION STRATEGIES

Regional trail facilities are eligible for a wide variety of State and Federal funds. The current political climate has put a great deal of emphasis on trail and multi-modal development projects. This project, with its regional scope, and the lack of comparable projects in the Southeast CT area would present very favorably for receiving funds. However, these funds often come with many restrictions / requirement that should be carefully evaluated based on the segments and components of the trail.

Traditional Federal, State and local funding sources include:

- SAFETEA-LU
- Surface Transportation Program
- Earmarks
- Transportation, Community and System Preservation fund
- Congestion mitigation and air quality fund
- Highway safety improvement program (intersections)
- Stimulus funding (State & Federal)

Non-traditional implementation strategies

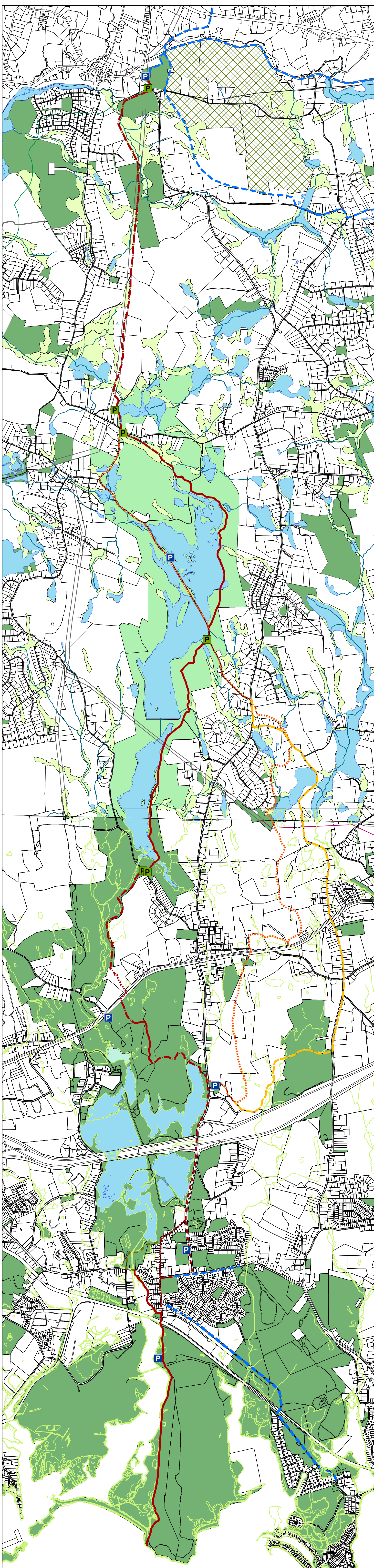
Due to the current economic hardship there is a lower probability of receiving single source funding for the entire project. There are a variety of non-traditional implementation strategies that not only work they may be more appropriate for certain sections of the trail.

- Grassroots campaign – Follow the Connecticut Forest and Park Association (Blue Blaze trail) example. Negotiate access with individual land owners and utilize volunteer labor to clear and rough-in the trail. This would gain access and usability while showing continued interest and support until traditional funding becomes available.
- Partner with Town Public Works departments – Most town Public Works departments have the capability to perform at least some, if not all, of the necessary work. In addition to providing needed work, the time and cost incurred by Public Works can be assessed as a portion of the local match required for traditional funding programs.
- Adopt-a-Trail – Groups or individuals make donations for naming rights of trail sections
- Adopt-a-Trailhead - Solicit local contractors to adopt, build and maintain small parking lot/trailheads in exchange for advertisement space on signs/kiosks
- Fundraising – Both traditional and online sources
- Partner with health organizations and businesses that serve the anticipated user groups

NEXT STEPS

The following represents the most important foreseeable next steps for the Committee to fulfill. An action plan should be established with deadlines and target goals based on the following:

- Negotiations with Groton Utilities – Establish a small committee to meet with GU bi-weekly to determine needs and access. This committee should be comprised of municipal leaders of all Towns involved.
- In association with GU, submit the Recreational Activity Permit Application to the Department of Public Health
- Present the Master Plan to local government bodies
- Garner support for the plan from local stakeholders, organizations, government and elected officials
- Create and present an educational brochure for property owners along the alignment
- Meet with each individual private property owner along the route alignment
- Create an identifiable name and logo for the project
- Seek all available grant opportunities
- Develop fundraising and marketing strategies
- Identify system priorities



Legend

- Proposed Parking - Small
- Existing Parking
- Most Desirable Route**
- Existing Trail Suitable
- New Multi-use Paved
- On Street Bike Lane
- New Trail
- Connection Trails
- Alternate Routes**
- Alternate Route #1
- Alternate Route #2
- Alternate Route #3
- Stream
- reservoir
- Open Space
- Wetlands



0 450 900 1,800 2,700 3,600
 Feet
 1:24,000

June 30, 2009

LANDSCAPE
KENT +
FROST
ARCHITECTURE
 1 HIGH STREET
 MYSTIC, CT 06355
 860.572.0784
 f860.572.7047

Tri-Town Trail Master Plan
Bluff Point to Preston Trail Committee

Appendix 'A'

Groton Utilities Recreational Access Permit

RESERVOIR PROPERTY ACTIVITY PERMIT

CITY OF GROTON, DEPARTMENT OF UTILITIES

WATERSHED PROPERTY

Permit Issued To:

Permit Valid to:

August 31, 1991

Phone: Home _____

Work _____

This permit entitles _____ to enter onto the City of
Groton Reservoir property for the sole purpose of: _____
(Signature)

**** Horseback Riding ****

The following persons may accompany the permit holder under the above sanctioned activity:

	<u>Name</u>	<u>Relationship</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	Occasional Friend	_____

Permission is granted to you with the understanding that you assume for yourself and those who may accompany you all liability of every kind for personal injury and equipment and that you agree to hold the City of Groton and its agents harmless from all causes while on City-owned property.

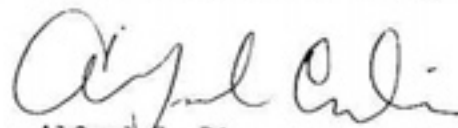
Please observe the rigid sanitary regulations that are in force for public supply watersheds.

It is requested that you notify us by calling 445-8571, Extension 296, during the hours 8 AM to 4:30 PM, Monday through Friday, and 445-8571 at all other times before entering the property. We wish to know where you will be, when you plan to enter the property, and how long you expect to be there. We would also ask that you cooperate with our Reservoir Patrolmen at all times.

In order that we may maintain control of permits which are granted, it will be necessary to limit the period covered by this permit to one (1) year. All permits must be renewed during the month of August of each year.

While you are on City property, you must carry a copy of this permit with you for identification.

See the special requirements set forth on the reverse side of this permit.



Alfred C. Dion
Superintendent of Operations
Water and Water Pollution Control

SPECIAL REQUIREMENTS

1. Sanitation of Watersheds - Permittees entering the City of Groton reservoir property must observe the State of Connecticut Public Health Code, Section 19-13-B32, entitled "Sanitation of Watersheds", which is incorporated in the General Statutes of the State of Connecticut. A copy of these regulations is attached to and made a part of this permit.
2. No swimming, bathing, or wading in any reservoir, adjacent ponds, or tributary streams is permitted.
3. Fishing, boating, or any other similar form of water recreational use is not permitted in any reservoir, adjacent ponds, or tributary streams.
4. The discarding of cans, bottles, papers, garbage, or any other rubbish on City-owned reservoir property is forbidden.
5. Horseback Riding - You are asked to confine your riding to the well-defined roads and trails which presently exist on the City reservoir system. Horses are not permitted on the shore line or in the water of any tributary stream or reservoir and must stay off grass areas and the tops of the dams.
6. Do not obstruct access driveways with personal motor vehicles or other equipment.
7. Permittee is expected to immediately report evidence of improper conduct by other permittees/trespassers.
8. Permittee shall immediately report discovery of any uncontrolled fire to the Fire Department having jurisdiction and terminate the permitted activity.
9. The Department of Utilities reserves the right to temporarily curtail all permitted activities due to inclement weather or when the burning index is high.

cc: ABC (2)
ACD
EAH
Reservoir Patrolmen
File

Appendix 'B'

**Connecticut Department of Public Health
Recreational Activity Permit**



RECREATIONAL ACTIVITY PERMIT APPLICATION

This application is to be supplied by a water company requesting a permit to authorize recreational activities pursuant to Connecticut General Statute (CGS) Section 25-43c. Complete one form for each activity. However, a request to group activities within watersheds under one permit is allowed. All requests must be submitted a minimum of six months prior to anticipated activity for processing. The following information is to be supplied by the water company with the submission of a General Application Form (available on the web at www.dph.state.ct.us/brs/water/dwd.htm under "forms"). The water company is encouraged to provide any source protection information they feel will lead to a full understanding of the proposed activity and the source water area affected. Review shall not begin until complete applications are received. The water company (wc) will be notified if additional information is required.

◆ Water Company _____ PWSID# _____
Address _____
WC Contact Person and Title _____
Phone # _____ Fax # _____ Email _____
Identify reservoir & watershed or well(s) & aquifer protection area (apa).

Provide Class I acreage _____ Class II Acreage _____ of permitted activity area.
Proposed starting date _____ Proposed ending date _____ Is this a renewal? _____
Expected number of people: Average day _____ Peak day _____ Any special events over peak day? _____
Will fueled engines (cars, boats, snowmobiles, ATVs, etc. be allowed in apa or watershed
If so, describe _____
Identify any potential adverse impacts (erosion, vandalism, human waste, litter, importing organisms).

- ◆ Attachments:
- Provide list of imposed restrictions/rules for permitted participants.
- Provide copy of educational materials to be provided to participants.
- Provide sample voided copy of any permit, tag, or pass issued to permit participants that must be evident on person or in vehicle for crowd monitoring.
- Provide detailed description of proposed patrolling, supervision, monitoring, ground maintenance and methods of enforcing restrictions to protect the purity and adequacy of the drinking water sources. Include extent, duration and type required. If a water company contracts with another party for patrolling, maintenance, enforcement, monitoring, or sampling, provide copy of proposed final contract with third party outlining criteria for management.
- Provide criteria to limit maximum daily use.
- Provide description of any wc owned equipment to be used by participants.
- Attach scaled, colored GIS or engineered map identifying wc property lines, topography, watershed or apa boundaries, tributaries, access points to activity, open & closed areas to participants, parking areas, sanitary and trash receptacle locations, sensitive areas of potential impact such as steep slopes > 15% or wetlands.

◆ Signature
I, the undersigned, as owner or principal representing the Water Company, certify that materials contained within this application are truthful, and that the proposed activity change will not have a significant adverse impact upon the present and future purity and adequacy of the public drinking water supply per CGS Sec. 25-32(b) and RCSA Sec. 25-37d-2(c).

(Signature)

Date

(Print Name and Title)

STATE OF CONNECTICUT DEPARTMENT OF PUBLIC HEALTH
DRINKING WATER SECTION

PUBLIC WATER SYSTEM GENERAL APPLICATION FOR APPROVAL OR PERMIT

Instructions

Any regulated public water system (PWS) seeking an approval or permit (refer to list in Section C on following page) must submit this general application to the Department in addition to the applicable specific applications noted in Section C in order for the Department to initiate a review. This general application must be completed by either the administrative official or certified operator for the PWS. Sections A through E must be completed. Incomplete applications will be rejected. This general application form along with the applicable specific applications noted in Section C may be obtained from the DPH Drinking Water Section's web page by going to the DPH webpage at <http://www.ct.gov/dph> and clicking on the Drinking Water Section Link. Each phase of a multi-phase project requires a completed general application form.

Section A. Public Water System and Applicant Information

PWS Name: _____

For new PWS indicate proposed name of PWS. A PWSID# will be assigned by the Department for a new PWS

Project Name: _____

Project Address: _____

PWSID Number: CT _____

PWS Type (select one): Community NTNC TNC

Town: _____

DPH Project Number (if known): _____

Print Name of PWS Administrative Official or Certified Operator: _____

Title: _____

Address: _____

Phone Number: _____

Fax Number: _____

E-mail Address: _____

Signature of PWS Administrative Official or Certified Operator: _____

DATE _____

Section B. Basis for Requesting Approval or Permit (select all that apply)

- Formal Enforcement Action (Administrative Order, Consent Order, Notice of Violation (Civil Penalty))
- Violation Identified in Sanitary Survey Report
- Water Quality Exceedance (select all that apply): MCL, Pb/Cu AL, Secondary MCL, Other: _____
- Project Identified in Approved Water Supply Plan
- Federal or State Grants or Loans DWSRF STEAP Funds STAG Funds
- Certificate of Public Convenience and Necessity (CPCN)
- Proactive (system improvements or enhancements)
- Other: _____

Appendix 'C'

Conceptual Plan Cost Estimates

Tri-Town Trail - Bluff Point to Preston Trail Committee

Cost Estimates for Trail Improvements

Segment	Mileage	Trail Class	Cost per Mile	Cost per Foot	Constructability Factor	Sub-Total
Most Desirable Route						
Southern Section						
Bluff Point Trail - existing	1.5	II	\$0.00	\$0.00	N/A	\$0.00
Bluff Point Road - existing	0.35	II	\$0.00	\$0.00	N/A	\$0.00
On road Bike Lane (leaving BP)	0.59	BL	\$7,920.00	\$1.50	1	\$4,672.80
On road - neighborhood to 117	0.25	BL	\$7,920.00	\$1.50	1	\$1,980.00
Multi-use paved path	1.17	I	\$191,000.00		1	\$223,470.00
I-95 Underpass			440	\$350.00	1	\$154,000.00
Total Miles	3.86					Southern Section Sub-Total \$384,122.80
Central Section						
New Trail - leaving 117 into GU & Copp	0.58	I	\$191,000.00		1.1	\$121,858.00
Existing Trail in Copp	0.34	I	\$191,000.00		0.5	\$32,470.00
New Trail - leaving Copp	0.23	I	\$191,000.00		1	\$43,930.00
On road - (184 & neighborhood)	0.25	BL	\$7,920.00	\$1.50	1	\$1,980.00
184 Intersection						\$15,000.00
New Trail in GU - to Gales Ferry Road	1.05	I	\$191,000.00		1	\$200,550.00
Small Gravel Parking Lot				20 Car Gravel Lot		\$20,000.00
Existing Trail in Groton Utilities	3.91	II				\$0.00
Allowance for Security and Environmental Improvements for access within Reservoir area						\$100,000.00
Small Gravel Parking Lot				20 Car Gravel Lot		\$20,000.00
New Trail along Drainage Canal	0.59	II	\$153,000.00		1	\$90,270.00
Total Miles	6.95					Central Section Sub-Total \$646,058.00

Northern Section

214 Intersection - Significant realignment needed									
New Trail along GU	0.19		\$153,000.00		0.9		\$75,000.00		
Existing Trail (driveway)	0.05		\$153,000.00		0.2		\$26,163.00		
Small Gravel Parking Lot				20 Car Gravel Lot			\$1,530.00		
New - Connection to Power lines	0.56		\$153,000.00		0.9		\$20,000.00		
CL&P power lines to Ledyard open space	0.94		\$153,000.00		1.15		\$77,112.00		
CL&P - in Ledyard Open Space	0.48		\$153,000.00		1.2		\$165,393.00		
CL&P - private property	0.38		\$153,000.00		1.3		\$88,128.00		
New Trail to Preston Park	0.43		\$153,000.00		1		\$75,582.00		
Total Miles	3.03						\$65,790.00		
									Northern Section Sub-Total \$594,698.00

Most Desirable Route Sub-Total \$1,624,878.80
 Site Amenities **\$150,000.00**
 Contingency 15% **\$266,231.82**
 Survey, Engineering & Design 10% **\$204,111.06**
Total Miles 13.84 **Most Desirable Route Grand Total \$2,245,221.68**

Alternate Trail Route #2

On Road Bike Lane	0.3	BL	\$7,920.00	\$1.50	1		\$2,376.00		
New Trail - up to 184 - significant Topo	1.3	I	\$191,000.00		1.5		\$372,450.00		
New Trail - 184 - to Town Line	1.6	I	\$191,000.00		1.35		\$412,560.00		
New Trail - Town Line to 117	1.31	I	\$191,000.00		1.35		\$337,783.50		
On Road Bike Lane - Sandy Hollow to parking lot	0.63	BL	\$7,920.00	\$1.50	6		\$29,937.60		
On Road Bike Lane - Sandy Hollow & Whalehead	1.98	BL	\$7,920.00	\$1.50	6		\$94,089.60		
Total Miles	7.12								

Alternate Trail Route #2 Sub-Total \$1,249,196.70
 Southern Section Sub-Total **\$384,122.80**
 Northern Section Sub-Total **\$594,698.00**
\$2,228,017.50
 Site Amenities **\$150,000.00**
 Contingency 15% **\$356,702.63**
 Survey, Engineering & Design 10% **\$273,472.01**
Alternate Trail Route #2 Grand Total \$3,008,192.14

Alternate Trail Route #3

New Trail to Transfer station	0.75	I	\$191,000.00	1.2	\$171,900.00
Transfer Station Roadway	0.72	I	\$191,000.00	0.6	\$82,512.00
On Road Bike Lane - Flanders Road	1.09	BL	\$7,920.00	1	\$8,632.80
On Road - Lambtown Road - Town Line	0.91	BL	\$7,920.00	1	\$7,207.20
On Road - Town Line to 117	1.13	BL	\$7,920.00	1	\$8,949.60
On Road Bike Lane - 117	0.23	BL	\$7,920.00	4	\$7,286.40
On Road Bike Lane - Sandy Hollow to parking lot	0.63	BL	\$7,920.00	6	\$29,937.60
On Road Bike Lane - Sandy Hollow & Whalehead	1.98	BL	\$7,920.00	6	\$94,089.60
Total Miles	7.44		Alternate Trail Route #3 Sub-Total		\$410,515.20
			Southern Section Sub-Total		\$384,122.80
			Northern Section Sub-Total		\$594,698.00
					\$1,389,336.00
			Site Amenities		\$150,000.00
			Contingency 15%		\$230,900.40
			Survey, Engineering & Design 10%		\$177,023.64
			Alternate Trail Route #3 Grand Total		\$1,947,260.04

Groton Connections to Existing MU

Town Hall connection	0.1	I	\$191,000.00	1	\$19,100.00
Library Connection	0.42	I	\$191,000.00	1	\$80,220.00
Total Miles	0.52		Town of Groton Connections		\$99,320.00

Appendix 'D'

Lake Saltonstall Recreational Access Map

Lake Saltonstall



Regional
Water
Authority
Recreation

Scenic Lake Trail
Interpretive Nature Trail
Wheelchair Accessible Fishing Dock
Shoreline and Lake Fishing
Boat Rental
Bicycling

East Haven

Branford

Lake Saltonstall
Shore
Fishing Zone
Boat Dock

Hiking Parking Lot

Gated Entrance

Parking Lot

Gated Entrance

Parking Lot

Hosley Ave.

Brushy Plain Rd.

Cedar St.

Exit 54

Exit 53

I-95

Route 1

Lake Saltonstall Trails

- Nature Trail
- Lake Saltonstall Trail
- Glen Grove Trail
- Ridge Trail
- Vista Trail
- Hiking Lot Access Trail
- Fish Dock Road

Other Symbols/Features

- Road
- Restricted area
- Lake

Blaze Colors:
G=Green, O=Orange, R=Red,
W=White, Y=Yellow



500 0 500 1000 1500 Feet

Appendix 'E'

Private Liability for Recreational Easements

Sec. 52-557g. Liability of owner of land available to public for recreation; exceptions. (a) Except as provided in section 52-557h, an owner of land who makes all or any part of the land available to the public without charge, rent, fee or other commercial service for recreational purposes owes no duty of care to keep the land, or the part thereof so made available, safe for entry or use by others for recreational purposes, or to give any warning of a dangerous condition, use, structure or activity on the land to persons entering for recreational purposes.

(b) Except as provided in section 52-557h, an owner of land who, either directly or indirectly, invites or permits without charge, rent, fee or other commercial service any person to use the land, or part thereof, for recreational purposes does not thereby: (1) Make any representation that the premises are safe for any purpose; (2) confer upon the person who enters or uses the land for recreational purposes the legal status of an invitee or licensee to whom a duty of care is owed; or (3) assume responsibility for or incur liability for any injury to person or property caused by an act or omission of the owner.

(c) Unless otherwise agreed in writing, the provisions of subsections (a) and (b) of this section shall be deemed applicable to the duties and liability of an owner of land leased to the state or any subdivision thereof for recreational purposes.

Sec. 52-557h. Owner liable, when. Nothing in sections 52-557f to 52-557i, inclusive, limits in any way the liability of any owner of land which otherwise exists: (1) For wilful or malicious failure to guard or warn against a dangerous condition, use, structure or activity; (2) for injury suffered in any case where the owner of land charges the person or persons who enter or go on the land for the recreational use thereof, except that, in the case of land leased to the state or a subdivision thereof, any consideration received by the owner for the lease shall not be deemed a charge within the meaning of this section.

CONNECTICUT STATUTES GOVERNING BICYCLISTS & PEDESTRIANS

- Sec. 13a-57b Areas for bicycle and pedestrians.
- Sec. 13-91a Sidewalks on Bridges.
- Sec. 13a-141 Bridle Paths, pedestrian walks, and bicycle paths.
- Sec. 13a-141a State-wide footpath and bicycle trail plan.
- Sec. 13a-153 State liability for bridle paths, pedestrian walks and bicycle paths and injuries thereon.
- Sec. 14-286 Use of bicycles and bicycles with helper motors.
- Sec. 14-286a Rights, duties and regulation of cyclists.
- Sec. 14-286b Operation of bicycles; attaching to moving vehicle prohibited; carrying of passengers, packages, bundles and other articles restricted; at least on hand to be kept on handle bars.
- Sec. 14-286c Left and right turns.
- Sec. 14-286d Bicycle helmets.
- Sec. 14-286e Police officers on bicycles.
- Sec. 14-287 Carrying person other than operator on bicycle.
- Sec. 14-288 Lights, reflectors and brakes on bicycles.
- Sec. 14-289 Regulation of use of bicycles by municipality.
- Sec. 14-300 Crosswalks. Pedestrian control signals. Regulation of pedestrians and motor vehicles at crosswalks.
- Sec. 14-300a Pedestrian street markings near housing projects for elderly persons.
- Sec. 14-300b Pedestrian use of crosswalks and roadways.
- Sec 14-300c Pedestrian use of roads and sidewalks. Required to yield to emergency vehicle.
- Sec. 14-300d Operator of a vehicle is required to exercise due care to avoid pedestrian.
- Sec. 14-300e Application of pedestrian rights to solicitation of rides.
- Sec. 14-300f Vehicles to stop for school crossing guard.

Complete text of each Statute can be accessed through the following link:

<http://www.dot.state.ct.us/bureau/pp/docs/bike/statutes/>

Appendix 'F'

**Federal Tax Credits for Recreational
Easements**

U.S. Code collection

TITLE 26 > Subtitle A > CHAPTER 1 > Subchapter B > PART VI > § 170

§ 170. Charitable, etc., contributions and gifts **(a) Allowance of deduction**

(1) General rule

There shall be allowed as a deduction any charitable contribution (as defined in subsection (c)) payment of which is made within the taxable year. A charitable contribution shall be allowable as a deduction only if verified under regulations prescribed by the Secretary.

(c) Charitable contribution defined

For purposes of this section, the term "charitable contribution" means a contribution or gift to or for the use of—

(1) A State, a possession of the United States, or any political subdivision of any of the foregoing, or the United States or the District of Columbia, but only if the contribution or gift is made for exclusively public purposes.

(2) Qualified real property interest

For purposes of this subsection, the term "qualified real property interest" means any of the following interests in real property:

- (A)** the entire interest of the donor other than a qualified mineral interest,
- (B)** a remainder interest, and
- (C)** a restriction (granted in perpetuity) on the use which may be made of the real property.

Appendix 'G'

**Town of Ledyard Potential Tax Credits for
Recreational Easements**

AN ORDINANCE
FOR THE ABATEMENT OF PROPERTY TAXES ON
LANDS PRESERVED FOR OPEN SPACE OR
FOR PUBLIC RIGHT OF WAY

Be it Ordained by the Town Council of the Town of Ledyard:

Section 1: Authorization

Pursuant to the authority granted in Section 12-129r of the Connecticut General Statutes a program is hereby established under which property taxes will be abated in exchange for the transfer of conservation easements or rights of way in favor of the Town of Ledyard.

Section 2: Eligibility

Properties eligible for this abatement are open space lands which lie within the greenway corridors designated on the Ledyard Open Space Plan. Open space lands are defined in the above referenced Statute. Taxable structures are specifically excluded from any abatement.

Section 3 Application

Property owners may submit an Open Space Abatement Application to the Ledyard Tax Assessor together with a letter from the Ledyard Planning Commission. The letter must certify that a certain parcel or portion of a parcel meets the eligibility requirements stated in Section 2 above. The Ledyard Tax Assessor will then determine the assessment value of the portion which is eligible by using the information from the most recent town wide appraisals. The Assessor will then calculate the dollar amount of property taxes that would be due on that parcel in subsequent billing periods (disregarding forestry or agricultural designations that may exist for that parcel). That is the dollar amount to be abated from the applicant's property taxes in subsequent billings. If this amount is greater than the total amount owed for the open space parcel, the taxpayer may apply the excess as a credit for property taxes owned by the same taxpayer on other properties in the Town of Ledyard.

Section 4: Performance

Upon acceptance of the application by the Ledyard Tax Assessor, and prior to October 1st in the year preceding the state of the abatement, the property owner will deliver to the Town Clerk a conservation easement or right of way in favor of the Town of Ledyard. The rights granted shall be in perpetuity and the abatement will run with the land forever (subject only to adjustments in dollar values after each town re-appraisal). The transferring documents shall be on the legal form provided by the Town of Ledyard. Legal descriptions shall meet the standards specified on said Ledyard form. All filing fees and conveyance taxes will be paid out of the Ledyard Open Space Acquisition fund.