

**New York Central West Shore Branch
Multi-Use Trail Feasibility Study**

**Towns of Riga, Bergen and Byron and
Village of Churchville
Counties of Monroe and Genesee
New York**

Prepared for:

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Robert Colby	County Legislator, 20 th District	Monroe County Legislature
Tom Felton	Councilman	Town of Byron
Jeanne Freeman	Councilwoman	Town of Byron
Nancy Steedman	Mayor	Village of Churchville
Robert Ottley	Councilman	Town of Riga
David Smith	Councilman	Town of Riga
Robert Patterson	Appointed Representative and Code Enforcement Officer	Town of Bergen
George Squires	District Manager	Town of Byron Parks Department and Genesee County Soil and Water Conservation District
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Gerald Ivison	Member	Town of Byron Planning Board and Genesee County Snowmobile Clubs
Joan Kennedy/Patricia Coan	Designated Representatives	Bergen Swamp Preservation Society
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Steve Beauvais	Regional Bike-Ped Program Coordinator	NYS Department of Transportation
Robert Torzynski	Program Manager	Genesee Transportation Council
Former Committee Members		
Donald Ehrmentraut	Former Mayor	Village of Churchville
Richard Glazier	Former Supervisor	Town of Byron
Pamela Moore	Former Supervisor	Town of Riga

Executive Summary

This document evaluates the feasibility of completing a multi-use trail utilizing the former New York Central Railroad's West Shore alignment from the Village of Churchville in Monroe County to the Byron-Elba Town Line in Genesee County, New York. The overall length of the prospective trail is 12.25 miles. This trail link was recommended for further study as part of the Regional Trails Initiative, a comprehensive regional trails plan developed by the Genesee Transportation Council for its nine-county service area. The West Shore Trail would link the Village of Churchville and the Town of Riga with the Towns of Bergen and Byron in Genesee County. It would also offer linkages to Monroe County's Churchville Park, and Turtle Park, Community Park and Trestle Park in the Town of Byron, as well as the Drews Nature Center in the Town of Bergen. It also offers views of unique wetland communities and glimpses of wildlife in Black Creek and the Bergen Swamp. The project is supported and recommended for completion in the comprehensive Plans for the Village of Churchville and Town of Riga, as well as the Towns of Bergen and Byron.

The trail could be constructed as either a dual treadway trail that could potentially be used by non-motorized user groups, including bicyclists, in-line skaters and other higher speed users on one trail, and pedestrians, including people with disabilities, on a second, parallel trail. Other dual treadway alternatives could include the use of one trail by off-road motorized vehicles and use of the second treadway by bicyclists, pedestrians and others. Public comments indicated an interest on the part of several residents to permit off-road motorized vehicle use of the alignment in rural areas of Bergen and Byron. Others commenting strongly opposed the use of off-road motorized vehicles on the prospective trail.

The decision on which user groups will be allowed to use the alignment rests with the alignment owners, the Towns of Bergen and Byron. In May, 2008, Town of Bergen representatives stated that they would not at this time support a multi-use trail alternative that did not permit use by off-road motorized vehicles.

The Village of Churchville and the County of Monroe have already indicated that off-road motorized vehicle use will not be permitted on their sections of the alignment. Federal Highway Administration funds (including Transportation Enhancement Program funds) may not be used to design or construct multi-use trails that will be used by off-road motorized vehicles. It is noted that snowmobiles are not considered to be off-road motorized vehicles for the purposes of this discussion. The use of snowmobiles on the trail, if allowed by the owning community, will not preclude the use of federal trail design and construction funds.

The recommended alternative calls for the construction of a single treadway, 10-foot wide stone dust surface trail from North Street in Churchville to the Byron-Elba Town Line. A shared use, on-road section utilizing Fitch Street as a connector between NY Route 36 (Main Street) and North Street in the Village of Churchville is proposed. Future trail connections are proposed for the Park Road Extension in Churchville Park and the prospective Black Creek Trail, also included in the Regional Trails Initiative. Phased development of the trail is also recommended, with the first phase beginning in the Village of Churchville and continuing westward to either NY Route 19 in the Town of Bergen or to Parish Road in the Town of Riga, Monroe County.

The feasibility of a trail connection to a Parish Road terminus was not specifically evaluated as part of this study. The Parish Road terminus alternative only emerged in May, 2008 as the Town of Bergen indicated their unwillingness to support a terminus at NY Route 19. Future trail development may need to include a feasibility analysis for a connector across Monroe County-owned land to Parish Road.

1.0 Introduction

1.1 Project Background and Purpose

The proposal to create a multi-use trail on the former New York Central Railroad (NYCRR) West Shore Line extending from the Village of Churchville to the Byron-Elba Town Line originated as a near-term recommendation in the Genesee Transportation Council's Regional Trail Initiative Study (2002). The conversion of the former West Shore railroad alignment to a multi-use trail represents a link in the network of trails proposed in the Regional Trails Initiative.

The purpose of this study is to determine the feasibility of creating a multi-use trail on the former NYCRR West Shore alignment from NY Route 36 (Main Street) in the Village of Churchville in Monroe County, to the Byron-Elba Town Line at Transit Road in Genesee County.

1.2 Project Steering Committee Participants

The preparation of the study was guided by a Steering Committee. Steering Committee representatives included elected and appointed officials from the Towns of Riga (Monroe County), Bergen and Byron (Genesee County), and the Village of Churchville (Monroe County), the Monroe County Parks Department, the Genesee County Planning Department, Bergen Swamp Preservation Society (BSPS), New York State Department of Transportation (NYSDOT), New York State Office of Parks, Recreation, and Historic Preservation, and the Genesee Transportation Council.

1.3 Project Relationship with Other Multi-Use Trails

The majority of the existing West Shore Railroad alignment is publicly owned from Buffalo Road in the Village of Churchville to the Byron-Elba Town Line in Genesee County. The Churchville to Elba section includes approximately 12 miles of the 31 mile long State Snowmobile Trail 4D¹.

The prospective project would convert the snowmobile trail to an ADA-compliant, stone-dust surfaced trail that could be used by pedestrians and cyclists as well as snowmobiles. This report also evaluates the feasibility of constructing a dual treadway trail.

The West Shore Line Multi-Use Trail would originate at NY Route 36 in the Village of Churchville, with a designated parking area and trailhead in the Village Municipal Parking Lot. The trail would continue along village streets and sidewalks to North Street, where it would access the original alignment of the West Shore line. The trail would continue on the original alignment across Buffalo Road through Churchville Park, and into Genesee County, terminating at the Byron-Elba Town Line.

The prospective trail would include future connections to the prospective Black Creek trail in Churchville Park, and a parking area off Park Road in Churchville. The trail would also cross NY Route 19, a designated bikeway, in the Town of Bergen, north of the Village of Bergen. The trail will also provide access to the Drews Nature Preserve in the Town of Bergen, as well as foot paths accessing portions of Trestle Park in Byron and the Byron Community Park.

¹ Genesee Transportation Council, Regional Trails Initiative – Phase 2, March, 2004, p. 11.

Figure 1 shows the location of the proposed West Shore Trail in relation to other trails included in the Regional Trails Initiative.

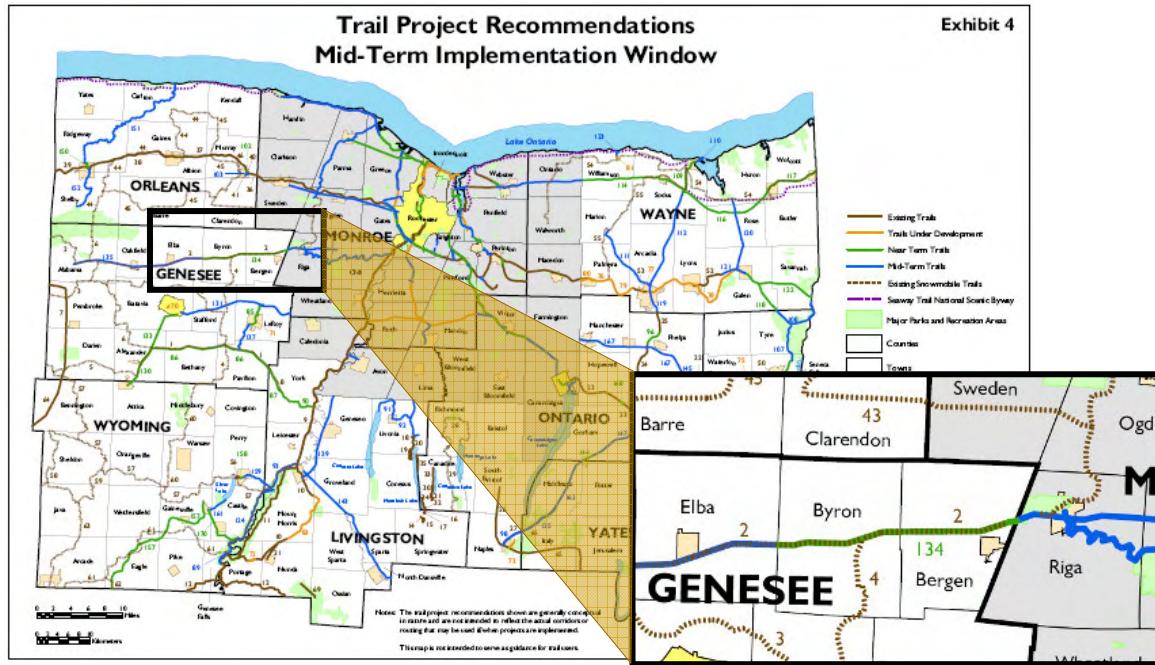


Figure 1. Relationship of West Shore Trail to RTI trails²

Figure 2 shows the location of the West Shore Trail in relation to a conceptual location of the Black Creek Trail in Churchville.

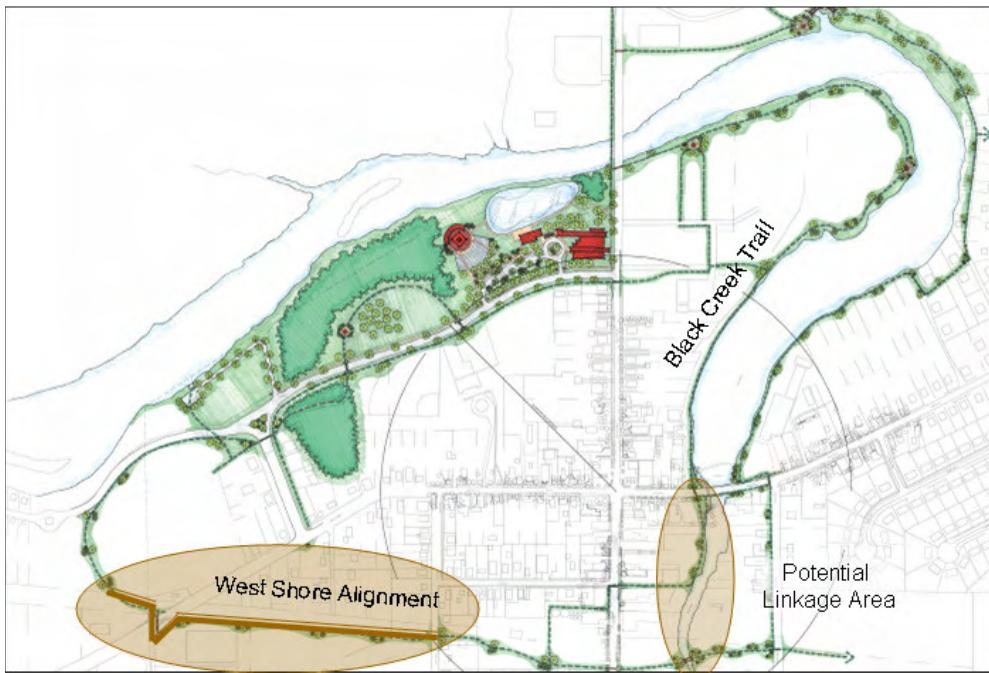


Figure 2. Potential Linkages to Black Creek Trail³

² Detail taken from Genesee Transportation Council, Regional Trails Initiative – Phase 2, March 2004

The prospective Black Creek Trail is included in the Genesee Transportation Council Regional Trails Initiative. The Village of Churchville is progressing a plan for the Black Creek Trail concurrently with this project.

1.4 Project Funding

Funding for the West Shore Multi-Use Trail Feasibility study has been provided by the Federal Highway Administration, the Towns of Riga, Bergen and Byron, and the Village of Churchville, and the Monroe County Department of Parks.

1.5 Feasibility Evaluation Factors

Numerous factors influence the decision on whether a trail alternative is feasible. These factors include:

- Project sponsorship and community support
- Financial backing
- Property ownership or ability to obtain easements
- Land use
- Environmental factors (wetlands, stream crossings, contaminated sites, steep slopes, erodible soils, etc.)
- Road crossings (traffic volume and speed, sight distance)

³ Detail taken from Churchville Vision Plan, September, 2006.

2.0 Existing Conditions

2.1 Site Location and Description

The proposed project is located within the Village of Churchville and Town of Riga in Monroe County, and extends through the Towns of Bergen and Byron in Genesee County, terminating at Transit Road (the Byron-Elba Town Line). The trail generally follows the original railroad alignment except for a small section in the Village of Churchville which would utilize Village streets and sidewalks.

Between NY Route 36 in the Village of Churchville and Transit Road on the Byron-Elba Town Line in Genesee County, the former railroad alignment extends approximately 12 miles in length. Most of the former railroad alignment is in public ownership, with two exceptions in the Village of Churchville and a single exception in the hamlet of Byron.

The corridor alignment is shown in Figure 3.

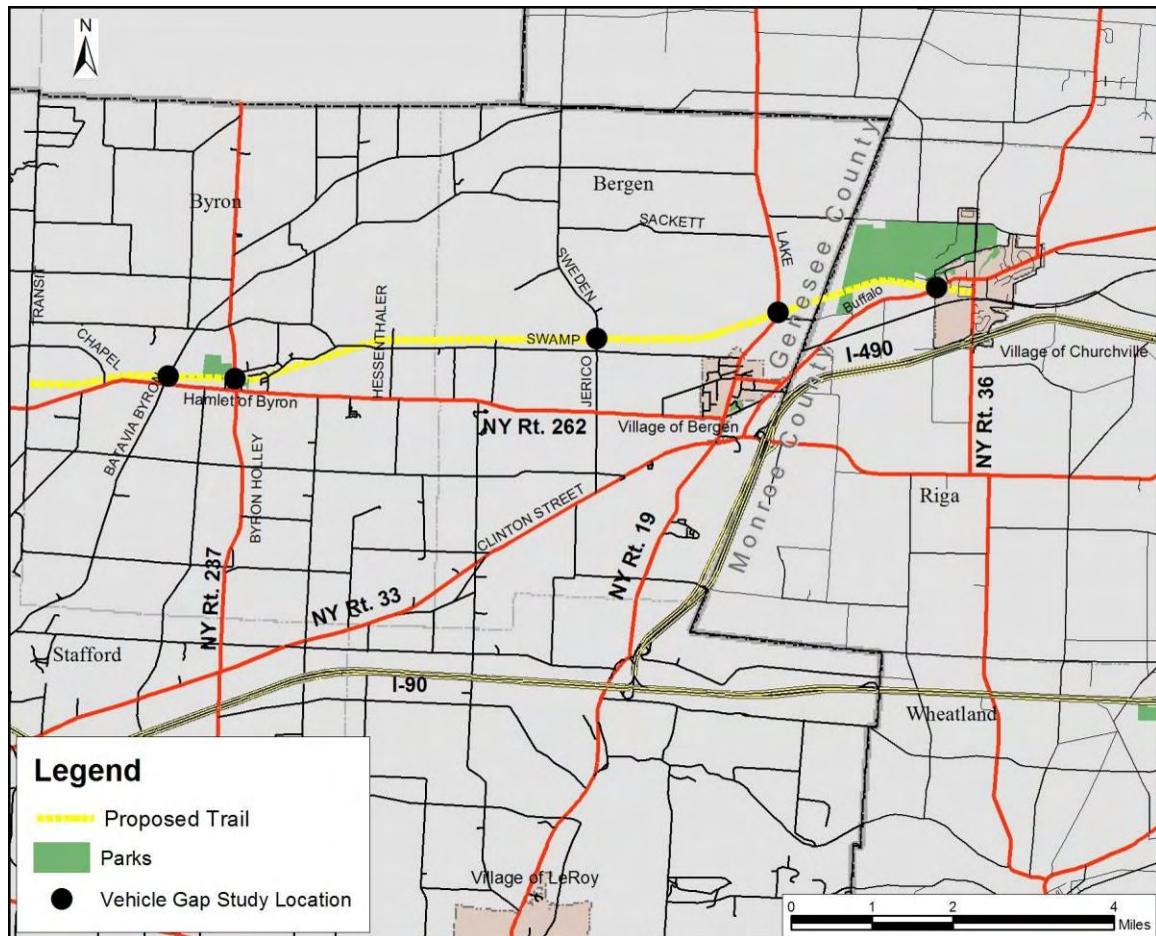


Figure 3. West Shore Railroad Alignment

The eastern terminus is located in the Village of Churchville on Main Street (NY Route 36). The original alignment included property owned by the Star of the West Mill. This facility is an industrial mill that produces over 3 million pounds of wheat flour per year. Mill operations and truck traffic make this site incompatible with trail use.

Two Village streets are being considered for use as trail alternatives to avoid the Star of the West property. These streets include Fitch Street and Howard Avenue.

Fitch Street is a residential street running east-west between Main Street (NY Route 36) and North Street. A marked pedestrian crossing is located at the intersection of Fitch Street and Main Street. Recently constructed, five-foot wide sidewalks are located along both sides of Fitch Street.

Howard Avenue is a narrow village street with mixed residential and business uses. Howard Avenue is an east-west street running between Main Street and North Street south of the Star of the West property. Sidewalks are present on both sides of the street, but do not meet current sidewalk design standards. The street is also lined with numerous large trees.

North Street is a two-lane, residential village street that narrows to one lane at the former railroad alignment. A marked pedestrian crossing is located at the intersection of Fitch Street and North Street.

From North Street to Buffalo Road, the former alignment is approximately 100 feet wide and is open. The alignment is at-grade and the surface consists of cinders, grass and some ballast. Ditches line both sides of the alignment. Access is restricted by gates and bollards at both ends.

At Buffalo Road, the alignment continues west through Churchville Park to the Genesee-Monroe County line. From Buffalo Road to the Monroe County line, the former railroad alignment is on a raised section. The right of way is approximately 100 feet wide. One private driveway uses a portion of the alignment to access a private property inside the limits of Churchville Park.

The raised section becomes at-grade as it approaches NY Route 19 in the Town of Bergen. The crossing at NY Route 19 is a skewed crossing, with a sight distance of approximately 350 feet to the south. Through Churchville Park, the cleared width of the embankment is approximately 20 to 30 feet. Except for a small section at Buffalo Road, the alignment is maintained by the snowmobile clubs who use the trail and by the Monroe County Parks Department. Brush has not been cleared recently from a short stretch of the alignment on the north side of Buffalo Road.

An informal parking area is located on the east side of NY Route 19. Tractor trailers occasionally park there or use it as a turn around. Off-road motorized vehicle riders and snowmobilers also park there to access the West Shore alignment. The width of the alignment is approximately 250 feet from NY Route 19 eastward for a distance of about 1180 feet. The Town of Bergen also uses this area to store asphalt millings and gravel.

West of NY Route 19 in Bergen the trail continues at-grade and on embankment sections until it reaches West Sweden Road. The width of the right of way is approximately 100 feet. National Grid uses the former railroad alignment to access its electrical substation east of West Sweden Road. National Grid also maintains a driveway access onto the alignment from NY Route 19.

A gravel parking area is located on the east side of West Sweden Road with signage for the Drews Nature Preserve. Access to the alignment is controlled by gates and steel posts.

From West Sweden Road west, the alignment varies from at-grade to slightly raised with ditches on both sides. All road crossings are at grade. The cleared width of the top of the embankment is generally 20 to 30 feet. The width of the right of way is generally about 100 feet, except for a wider section that begins about 1170 feet east of the Swamp Road crossing near the hamlet of

Byron. The width of the section immediately east of the Swamp Road crossing near the hamlet is approximately 180 feet.

The alignment width is 100 feet through the hamlet of Byron until it reaches NY Route 237 (Byron-Holley Road). The alignment passes adjacent to a mill pond on the east side of the hamlet and includes a portion of Turtle Park. Turtle Park is owned by the Town of Byron. A sanitary sewer line is also located along the former right of way in the hamlet of Byron between McElver Street and Swamp Road. The Byron Community Park is located immediately south of the alignment on the east side of McElver Street.

A portion of the former alignment is now occupied by residential houses along Terry Street. Terry Street is a dead-end residential street owned by the Town of Byron. A small, gravel surface parking lot is located at the west end of Terry Street. This lot provides parking and access to Trestle Park, a Town of Byron park.

The alignment passes through Trestle Park in the hamlet of Byron and continues west on a slightly raised embankment to Byron Road. West of Terry Street, the alignment widens to 300 feet for a distance of approximately 350 feet. West of this point, the width of the alignment varies between 100 and 165 feet.

At Byron Road, the alignment continues at grade to Chapell Road. From Chapell Road the alignment begins at grade but is carried over Spring Creek on a raised embankment. The embankment was removed about 200 feet east of Transit Road to create an at-grade intersection with Transit Road. A steep (>8%) grade brings the alignment back to grade at Transit Road.

2.2 Topography and Soil Conditions

At NY Route 36, the trail alignment is at an elevation of approximately 570 feet above sea level. The grade increases very gradually to an elevation of 580 feet at NY Route 19. The grade increases gradually to an elevation of 590 feet about 3100 feet east of West Sweden Road. This elevation is maintained for a distance of 4600 feet to a point about 1466 feet west of West Sweden Road where the trail elevation is shown as 600 feet. The former railroad alignment reaches its highest elevation at the western terminus at 672 feet.

Soil conditions along the former railroad alignment are highly variable. The embankment sections are characterized by stone ballast, earth fill, and cinders. Soils adjacent to the alignment consist of a variety of outwash, lacustrine and glacial till and organic soils. Portions of the alignment are located immediately adjacent to Black Creek and several of its tributaries.

Poor drainage conditions were noted east of Swamp Road near the hamlet of Byron, and in several scattered locations along the former alignment.

2.3 Water Bodies and Wetlands

The West Shore alignment crosses seven mapped stream channels, including an unnamed tributary of Black Creek approximately 1813 feet east of the intersection of NY Route 19, a second unnamed tributary of Black Creek approximately 4110 feet west of NY Route 19, Robins Brook, a tributary of Black Creek approximately 436 feet west of West Sweden-Jerico Road, an unnamed tributary of Black Creek approximately 2250 feet east of the western intersection of Swamp Road (near the hamlet of Byron), a tributary of Black Creek approximately 895 feet east of NY Route 237, Black Creek approximately 1053 feet west of NY Route 237, and Spring Creek approximately 3132 feet east of Transit Road. Black Creek is adjacent to the railroad

embankment in Churchville Park. The water quality classification of Black Creek in Churchville Park is “B”. All other water bodies within the project study area have a water quality classification of “C”⁴. Water bodies are shown in Figure 4.

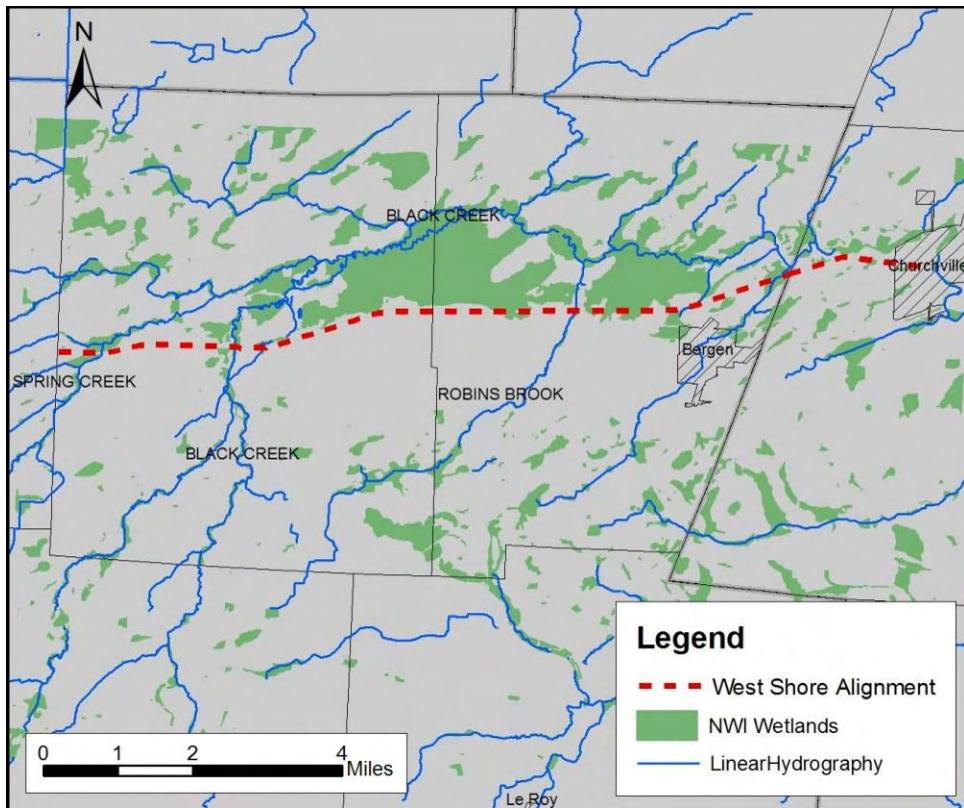


Figure 4. Waterbodies and NWI Wetlands

The National Wetland Inventory also shows a large, regionally important and diverse complex of wetlands along and adjacent to Black Creek adjacent to the West Shore alignment. Wetland cover types within this complex include emergent marsh, northern white cedar swamp, silver maple-green ash swamp, and marl ponds. The larger green area north of the alignment in the center of the map is the Bergen Swamp. The Bergen Swamp Preservation Society owns numerous parcels of land abutting the West Shore corridor. This land is maintained and protected as a private nature preserve.

It is unlikely that project related activities would require the placement of fill in federally regulated wetlands; however, a more detailed wetland evaluation will be required prior to completion of final design plans.

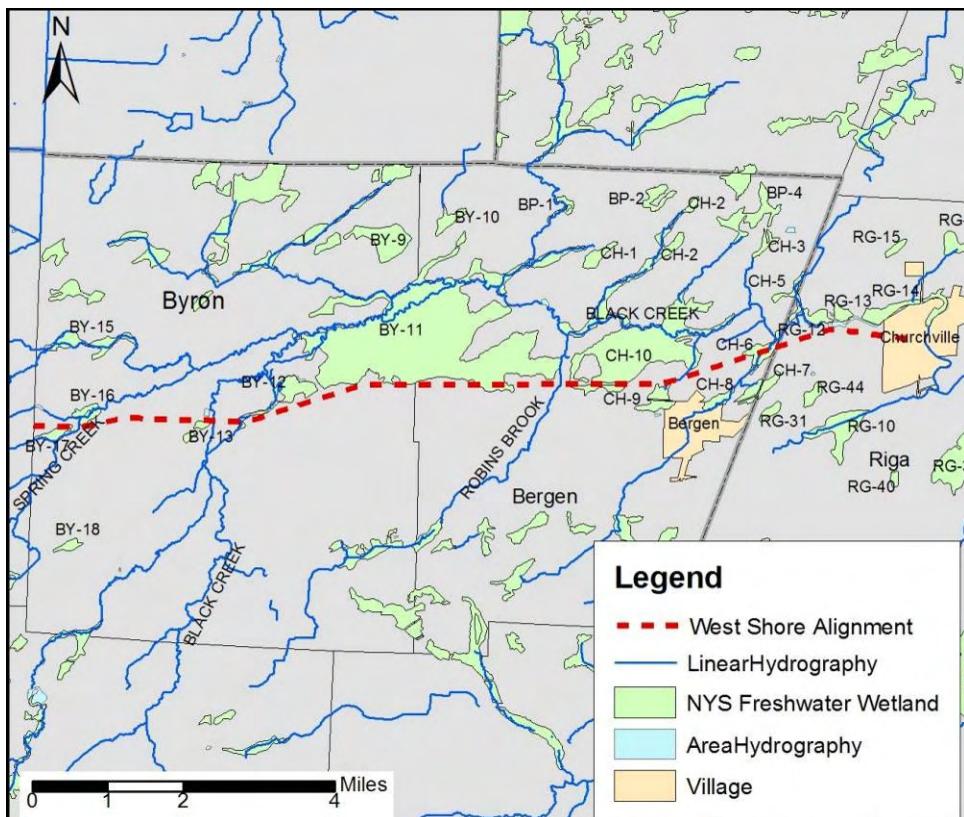
Figure 5 shows the mapped NY freshwater wetlands adjacent to the West Shore corridor. Table 1 summarizes the size and classification of each wetland mapped within 100 feet of the West Shore corridor.

⁴ NYS Department of Environmental Conservation, Environmental Resource Mapper, <http://www.dec.ny.gov/imsmaps/ERM/viewer.htm>

Table 1. NY Freshwater Wetlands

Wetland ID	Size (Acres)	Class
BY-11	2042.5	1
CH-10	675.5	1
CH-6	61.9	2
CH-9	65.9	3
BY-16	40.6	2
BY-12	106.5	2
BY-13	22.6	2
BY-17	35.0	2

Trail construction activities within the 100 foot adjacent area of NYS freshwater wetlands are likely to be regulated under Article 24 of the NY Environmental Conservation Law, and will require a Freshwater Wetlands Permit from the NYS Department of Environmental Conservation.

**Figure 5. NYS Freshwater Wetlands**

2.4 Existing Corridor Vegetation

Vegetation on the existing West Shore alignment generally consists of pioneer herbs and grasses, with fast growing trees and shrubs that have become established in embankment sections.

Typical vegetation includes green ash, red maple, red oak, staghorn sumac and dogwoods. Vegetation is kept trimmed by area snowmobile clubs. The railroad embankment cleared width is approximately 20 to 30 feet, with a fringe of brushy vegetation on the embankments separating the former railroad alignment from neighboring fields.

Vegetation adjacent to the West Shore corridor includes cultivated agricultural fields, pasture, cedar swamp, emergent marsh, shallow open water ponds, flood plain swamp, rural residential lawns and old fields. Two significant ecological communities are reported in the vicinity of the West Shore Corridor. These include (1) silver maple-ash swamp (located in the Bergen Swamp East Lobe, NYS freshwater wetland CH-10); and (2) northern white cedar swamp, located in the BY-11 wetland. Other significant features located near the alignment include marl ponds and fens. These features are found only in areas underlain by shallow dolomitic bedrock where upwelling groundwater carries the lime-laden water to the surface.

The dominant species in marl fens are graminoid. Characteristic herbaceous species include the sedge *Carex flava*, spikerush (*Eleocharis rostellata*), twigrush (*Cladium mariscoides*), beakrush (*Rhynchospora capillacea*), water-horehound (*Lycopus uniflorus*), grass-of-Parnassus (*Parnassia glauca*), pitcher-plant (*Sarracenia purpurea*), hard-stem bulrush (*Scirpus acutus*), nutrush (*Scleria verticillata*), Ohio goldenrod (*Solidago ohioensis*), arrow-grass (*Triglochin palustre*), variegated horsetail (*Equisetum variegatum*), jointed rush (*Juncus articulatus*), and Kalm's lobelia (*Lobelia kalmii*). Other herbaceous species found in marl fens include the sedges *Carex crassiei*, and *C. eburnea*. Shrubs found in marl fens include prostrate juniper (*Juniperus horizontalis*), shrubby cinquefoil (*Potentilla fruticosa*), and northern white cedar (*Thuja occidentalis*). Shrubby cinquefoil and *Carex eburnea* commonly occur on hummocks. Characteristic non-vascular species include the moss *Campylium stellatum*, and the alga *Chara vulgaris*. *Chara vulgaris* is common in marl pools and along stream banks.⁵

Northern white cedar swamp consists of conifer or mixed swamp that occurs on organic soils in cool, poorly drained depressions in central and northern New York, and along lakes and streams in the northern half of the state. These swamps are often spring fed or enriched by seepage of cold, minerotrophic groundwater, resulting in a stable water table and continually saturated soils. Soils are often rich in calcium. At some sites these soils have developed above a marl substrate. The characteristic tree is northern white cedar (*Thuja occidentalis*), which makes up more than 30% of the canopy cover. *Thuja* may form nearly pure stands, or it may be mixed with other conifers and hardwoods, including red maple (*Acer rubrum*), hemlock (*Tsuga canadensis*), balsam fir (*Abies balsamea*), tamarack (*Larix laricina*), yellow birch (*Betula alleghaniensis*), black ash (*Fraxinus nigra*), white pine (*Pinus strobus*), and black spruce (*Picea mariana*)⁶.

Silver maple-ash swamps are hardwood basin swamps that occur in poorly-drained depressions or on poorly-drained soils along the borders of large lakes or, less frequently, rivers. The sites are characterized by uniformly wet conditions, with minimal seasonal fluctuation in water levels. The tree canopy is dominated by silver maple (*Acer saccharinum*) and green ash (*Fraxinus pennsylvanica*), but typically includes a variety of other hardwood species such as American elm (*Ulmus americana*), red maple (*Acer rubrum*), swamp white oak (*Quercus bicolor*), and ironwood (*Carpinus caroliniana*). This community has a well-developed understory of tall shrub, short shrub, and herbaceous species. Silver maple-ash swamps often occur over calcareous bedrock, and the plant species composition may reflect this influence with the presence of calciphiles such as northern white cedar (*Thuja occidentalis*) and alder-leaf buckthorn (*Rhamnus alnifolia*)⁷.

⁵ Edinger, G.J., D.J. Evans, S. Gebauer, T.G. Howard, D.M. Hunt, and A.M. Olivero (editors). 2002. Ecological Communities of New York State. Second Edition. A revised and expanded edition of Carol Reschke's Ecological Communities of New York State. (Draft for review). New York Natural Heritage Program, New York State Department of Environmental Conservation, Albany, NY.

⁶ Edinger, et al., 2002.

⁷ Edinger, et al., 2002.

2.5 Rare and Endangered Species

Two species of NY-listed endangered animals have been reported to occur in the vicinity of the West Shore alignment. One species is included on the Federal list of threatened species. Two unprotected, but reportedly rare animal species have also been reported from the prospective project area.

Eight species of NY-listed endangered plants are also reported to occur in the vicinity of the West Shore alignment. One species is listed as “threatened” on the Federal List.

Further coordination with federal and state agencies will be required to determine potential effects of the prospective trail project on threatened and endangered species, and species of concern.

2.6 Surrounding Land Uses

Land uses adjacent to the West Shore alignment include village residential and industrial uses in Churchville, park lands in Churchville Park, agricultural fields, woodlots, cedar swamp, marl fens and pond wetlands, red and silver maple swamps and flood plains, and large rural residential lots. A generalized map of land use in the project vicinity is shown in Figure 6.

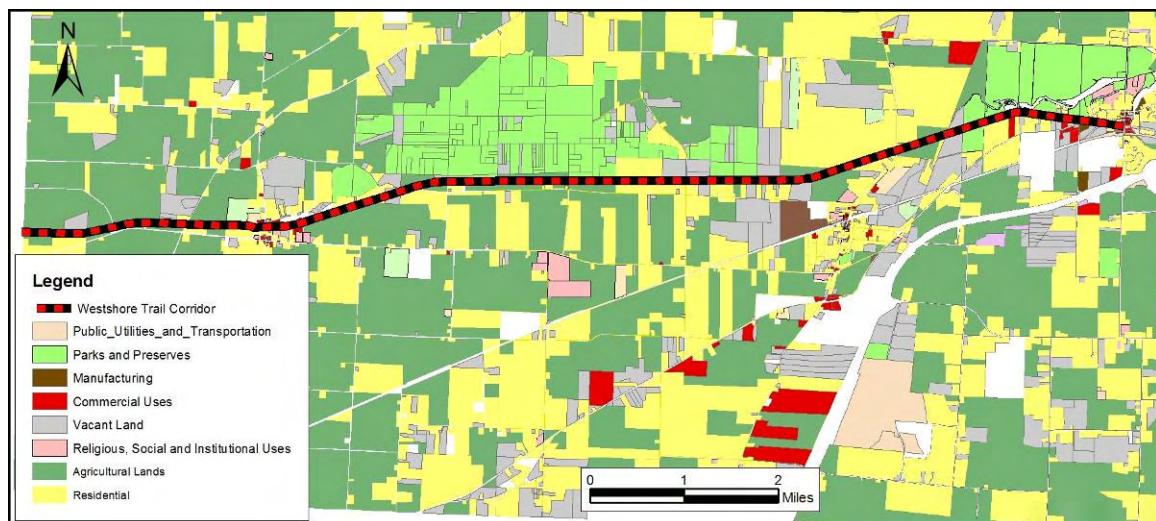


Figure 6. Generalized Land Use Map

Notable features include the Bergen Swamp which borders the West Shore alignment for several miles in the Towns of Bergen and Byron, and Churchville Park on the north side of Buffalo Road in the Town of Riga. The railroad alignment also passes through or adjacent to Trestle Park, Turtle Park and the Byron Community Park in the hamlet of Byron.

2.7 Ownership of the Former Alignment and Adjacent Properties

Ownership of the former West Shore railroad alignment is shown in Table 2. The majority of the parcels are in public ownership.

Table 2. Ownership of West Shore Alignment Parcels

Parcel Number	Size (acres)	Owner Name or Type	Address	Current Use	Assessed Valuation (2006 \$)	Is parcel available for Trail use?
142.04-1-3	14.3	County of Monroe	Buffalo Road	Part of Churchville Park	6,800	Yes
143.13-2-45.1	5.2	Star of the West Milling	35 S. Main St., Churchville	Industrial (flour mill)	432,900	No
143.13-1-17	0.23	County of Monroe	W. Buffalo St., Churchville	County park	15,000	Yes
143.13-1-42	2.55	Village of Churchville	Richmond Avenue, Churchville	Vacant land	5,500	Yes
143.13-1-41.1	4.7	Village of Churchville	Howard Avenue, Churchville	Vacant land	19,700	Yes. Acquired by Village of Churchville, March, 2008 ⁸
143.13-2-41.2	0.46	Private	Howard Avenue, Churchville	Vacant residential	1,400	No
6.-1-49	64.1	Town of Bergen	Rt. 19, Bergen	Linear park	45,600	Yes
None listed		Town of Bergen		Linear park		Yes
5.-2-78	16.1	Town of Byron	East of McElver St.	Linear park	16,300	Yes
4.-1-32.2	2.5	Town of Byron	Byron Road	Linear park	1,500	Yes
5.-1-73.12	0.82	Individual	Rt. 237, Byron	Commercial	8,200	Maybe. Property is for sale as of March, 2008
5.-1-115	9.1	Town of Byron	Terry Street, Byron	Linear Park	3,100	Yes
5.-1-73.2	3.9	Town of Byron	East of McElver St.	Linear park	16,300	Yes
4.-1-32.1	25.2	Town of Byron	Byron Road	Linear park	12,600	Yes
11.-2-62	12.6	Town of Byron	East of McElver St.	Linear park	16,300	Yes

Of the privately owned properties that comprise a portion of the former alignment, the Star of the West property and a privately owned adjacent parcel are not available for trail usage due to incompatible land uses. The Star of the West Mill recently expanded its operation at the Churchville site to include the former railroad alignment.

The Village of Churchville recently acquired a 4.7-acre parcel of land that was formerly in private ownership.

The 0.8-acre parcel in Byron was reportedly used for a commercial trucking operation. The parcel is currently for sale. The Town of Byron has expressed interest in acquiring the parcel.

The former alignment is entirely in public ownership within the Town of Bergen.

⁸ John Hartman, Churchville Village Trustee, pers. comm. to F. Reese, Lu Engineers, March 27, 2008.

From the north side of Buffalo Road to the Monroe-Genesee County Line, the former alignment is owned by Monroe County and maintained by the County Parks Department.

The Bergen Swamp Preservation Society (BSPS) owns approximately seven parcels that immediately abut the West Shore alignment on the north side. One parcel is located west of Chapell Road with the remainder located between the hamlet of Byron and NY Route 19 in Bergen. BSPS has expressed numerous concerns about the proposed development of a multi-use trail on the West Shore alignment. These concerns include potential impacts to protected reptile habitat⁹, importation of alien and invasive species with plantings and/or seeds in stone dust material, poaching, increased vandalism and trespass onto Preserve properties, and damage to endangered plant and animal habitats. Early consultation with the BSPS Board indicated that the organization would be interested in working cooperatively with trail developers to locate access control points, gates, and signage.

Other adjacent property owners expressed concern about maintaining existing driveway access and rights of way across the former railroad alignment. National Grid and the Village of Bergen use the railroad alignment to access lines and an electrical substation east of West Sweden-Jerico Road in the Town of Bergen. This access must be maintained because the substation is a critical facility.

One residential out-parcel is located entirely within the boundary of Churchville County Park. The owners maintain a driveway access across the alignment from Buffalo Road. The family has stated that this right of access be maintained.

Numerous farm properties also maintain field access points along the alignment. Owners have requested gates to control access at these points. These access rights must be preserved.

2.8 Relationship with Existing Transportation Network

2.8.1 Roads

Road Name, Description and Classification

From east to west, the West Shore alignment crosses the following roads: Main Street (NY Route 36) in Churchville, North Street (local road) in Churchville, Buffalo Road (NY Route 33) in Churchville, Lake Road (NY Route 19) in the Town of Bergen, West Sweden-Jerico Road in the Town of Bergen, Hessianthal Road and Swamp Road (twice) in the Town of Byron, McElver Street, Byron-Holley Road (NY Route 237), Byron-Batavia Road, Chapell Road and terminates at Transit Road at the Byron-Elba Town Line.

Gates currently control access to the former alignment on the south side of Buffalo Road, on both sides of NY Route 19, at West Sweden Road, at Hessianthal Road, on both sides of Swamp Road, at the west end of Terry Street in the hamlet of Byron, at Byron-Batavia Road, on both sides of Chapell Road and at the western terminus at Transit Road.

Main Street (NY Route 36) is a two-lane, asphalt paved state highway that originates at NY Route 31 in the Town of Ogden and continues south to the Pennsylvania state line. NY Route 36 has an interchange with I-490 south of the Village of Churchville. The posted speed limit in the Village of Churchville is 35 mph. A traffic signal controls the southbound flow of traffic on NY Route 36 at the intersection of NY Route 33. The roadway is a curbed section through the

⁹ Massasauga snakes have reportedly been observed in the vicinity of the West Shore alignment. L. Drake, BSPS Board member, pers. comm. to F. Reese, Lu Engineers, at BSPS Board meeting, September 18, 2007.

Village with designated parking on both sides. The roadway width is approximately 40 feet at the intersection of Fitch Street.

Buffalo Road (NY Route 33) is a two-lane, asphalt paved state highway that connects Rochester with Batavia and Buffalo, and numerous smaller villages. On the Rochester end, it provides a parallel local route to Interstate 490. The posted speed limit of Buffalo Road is 35 mph in the Village of Churchville. At the study location, the posted speed limit changes to 40 mph just west of the village limit, at the intersection of Sanford Road and Buffalo Road. The roadway is a curbed section with sidewalks on both sides within the Village. The road width is 30 feet from curb to curb.

Lake Road (NY Route 19) is a two-lane, asphalt paved state highway that originates at the Lake Ontario State Parkway and continues to the Pennsylvania State Line. This north-south roadway connects the Villages of Brockport, Bergen, LeRoy and numerous smaller communities in Monroe, Genesee, Wyoming, and Allegany Counties. At the study location, where the prospective trail crosses, the roadway was repaved in 2007. The posted speed limit is 55 mph. The sight distance to the south is approximately 350 feet. Visibility to the south is limited by a curve in the road near the Bissell Road intersection. Sight distance to the north is approximately 700 feet. Visibility of vehicles approaching the crossing from the north is limited by a slight hill north of the crossing point. The width of the roadway is 31 feet at the West Shore alignment crossing. NY Route 19 is designated as NY Bike Route 19. This route provides a connection to the Erie Canal Trail approximately 8.3 miles north in the Village of Brockport.

West Sweden/Jerico Road is a two-lane, asphalt paved local road that originates at Fourth Section Road in the Town of Sweden, Monroe County. It is oriented in a north-south direction, terminating at Clinton Street (NY Route 33) in the Town of Bergen, Genesee County. The posted speed limit at the study location is 45 mph. The road width is 28 feet wide, with two 12 foot travel lanes, and gravel shoulders varying in width from two to three feet. Sight distance appears to be approximately 700 to 800 feet in both directions from the crossing point. A two-way stop sign at the intersection of Swamp Road and West Sweden/Jerico Roads controls turning movements onto West Sweden Jerico Road. No stop sign is present for through-traffic on West Sweden/Jerico Road. No pedestrian crossing signs were observed on West Sweden/Jerico Road.

Hessenthaler Road is an asphalt paved, two lane, local road that originates at NY Route 262 and terminates approximately 870 north of its intersection with the West Shore alignment. This road is lightly traveled, and receives only local traffic at the prospective trail crossing.

Swamp Road is a two lane, asphalt paved road that originates on the west side of NY Route 19 north of the Village of Bergen, and terminates at a T-intersection at NY Route 262 in the hamlet of Byron. The prospective trail crosses Swamp Road in two locations. For its entire length, Swamp Road has a posted speed limit of 45 mph.

The easternmost crossing point is located approximately 2100 feet east of the intersection with Hessenthaler Road. This intersection is skewed at a 30-degree angle. Visibility at this crossing is approximately 500 feet in both directions. No pedestrian crossing signs are located on the road at the West Shore crossing. The width of the roadway is approximately 30 feet at this crossing. No traffic data was available for Swamp Road. Field observation showed that Swamp Road is generally lightly traveled, but may be used as an alternate commuter route during peak travel times.

The westernmost crossing is located approximately 960 feet west of the intersection of Swamp Road and Mud City Road, east of the hamlet of Byron. This crossing is opposite Turtle Park, which has a scenic overlook of Mill Pond. The crossing is highly skewed, but visibility is generally 500 feet in either direction. Based on observation, it appears that vehicles using Swamp Road at the prospective trail crossing point are generally traveling at less than 45 mph due to a curve located in front of the Byron Cemetery.

Byron-Holley Road (NY Route 237) is a two-lane, asphalt paved state highway that originates at the Lake Ontario State Parkway, immediately south of Lake Ontario, in the Town of Kendall in Orleans County and terminates at the intersection of NY Route 5 in Town of Stafford in Genesee County. The road connects the communities of Holley, Clarendon and Byron. At the study location, the posted speed limit is 35 mph. The width of the roadway is 34.5 feet at the observation point. Northbound traffic is controlled by a four-way stop at the intersection of Town Line Road (NY Route 262) and Byron Holley Road (NY Route 237). Southbound traffic coming into the hamlet has no flow control. The sight distance to the south is approximately 650 feet. Sight distance to the north is approximately 700 feet. No pedestrian crossing signs were observed on NY Route 237 for this crossing.

The West Shore alignment crosses NY Route 237 opposite the intersection of Terry Street. Terry Street provides pedestrian and vehicular access to Trestle Park. A small parking area is located at the west end of Terry Street. Trestle Park and the West Shore alignment are already used by pedestrians, bicyclists and others in the hamlet of Byron.

Byron Batavia Road (County Route 19A) is a two lane, asphalt paved local road that originates at Fitch Road in the Town of Stafford and continues in a northeast-southwest orientation to Byron-Holley Road (NY Route 237) north of the hamlet of Byron. At NY Route 237, it continues as Warboys Road, terminating at West Sweden Road in the Town of Bergen. The posted speed limit at the study location is 45 mph. Northbound traffic flow is controlled from the south by a stop sign at the intersection of Town Line Road (NY Route 262) and Byron-Batavia Road. The roadway is 30 feet wide at the study location, with two, 12-foot wide travel lanes and 3-foot wide gravel shoulders. Sight distance at the study location is approximately 800 feet in both directions.

Traffic Data

Average annual daily traffic data were obtained from the New York State Department of Transportation, Genesee County Highway Department and the Monroe County Department of Transportation for major roadways within the project corridor. Traffic data for roadways crossed by the West Shore alignment is presented in Table 3.

Table 3. Traffic Data

Intersection	Road Functional Classification	AADT (two-way)	Count Year	P.M. Peak Hour Volume
Buffalo Road (NY Route 33)	Major collector	2910	2005	278
Lake Road (NY Route 19)	Minor arterial	4196	2007	369
Byron-Holley Road (NY Route 237)	Minor arterial	2010	2006	186
Jerico/West Sweden Road	Minor collector	1031	2007	111
Byron-Batavia Road (Co. Route 19A)	Minor collector	1240	2001	121

Sight Distance

Sight distances at road intersections were determined during vehicle gap analyses. Sight distances were determined qualitatively by noting the point at which a vehicle could first be seen from both travel directions at trail crossing points. These distances were measured using map reference points.

Sight distances for each major road crossing are presented as follows:

- Main Street (NY Route 36) – 700 feet both directions, posted speed limit 35 mph
- Buffalo Road (NY Route 33) – eastbound 700 feet, westbound 800 feet, posted speed limit 35 mph, increasing to 40 mph at Village corporate limit immediately west of alignment crossing point
- Lake Road (NY Route 19) – northbound 350 feet, southbound 700 feet, posted speed limit 55 mph
- West Sweden-Jerico Road – northbound 700 feet, southbound 800 feet, no posted speed limit
- Byron-Holley Road (NY Route 237) – northbound 650 feet, southbound 700 feet, posted speed limit 35 mph
- Byron-Batavia Road (County Route 19A) – northbound 600 feet, southbound 1500 feet, no posted speed limit

Lu Engineers consulted with New York State Department of Transportation staff regarding the 350 foot sight distance at NY Route 19 in the northbound direction. NYSDOT staff did not see the need to relocate the trail, but recommended signage and pavement marking at the designated trail crossing point. They also recommended stop signs in both directions for trail users at NY Route 19.

Existing Access Control

A number of snowmobile clubs currently use the West Shore alignment as a designated snowmobile trail. Temporary stop signs are put up every year at each road intersection by the clubs. Signs are generally removed at the end of the snowmobile season.

Vehicular access to the former railroad alignment is restricted by gates at nearly every road crossing point. Gates are maintained by the Towns of Byron, Bergen and Monroe County.

Vehicular access to the West Shore alignment is currently allowed for Town vehicles, police and emergency vehicles and National Grid and Village of Bergen and Village of Churchville utility vehicles.

Public vehicular access is also available to Trestle Park from Byron-Batavia Road between mid-April and October. This section is used to access a parking area on the north side of the alignment adjacent to a scenic fishing pond and picnic area. The Town also allows vehicular access for fee-paid camping in Trestle Park from this location during the summer months. No vehicular traffic is allowed across the Trestle bridge over Black Creek from the east side of the park.

Off-road motorized vehicles (ATVs) are able to access the railroad alignment from a number of locations and have created informal paths around the gated access points at nearly all road crossings.

Informal parking areas exist along the West Shore alignment at the following locations:

- East side of NY Route 19
- East side of West Sweden-Jerico Road
- Turtle Park in the hamlet of Byron opposite Swamp Road crossing
- East side of Transit Road, Town of Byron
- North side of the alignment, immediately west of Black Creek (parking for Trestle Park)
- West end of Terry Street, hamlet of Byron (parking for Trestle Park)

Vehicle Gap Analyses

Lu Engineers conducted vehicle gap analyses to determine whether the existing road crossing points could be negotiated safely by pedestrian trail users. A modified version of the Florida Department of Transportation methodology was used.

Safety improvements at proposed trail crossings must be based on the walking characteristics of a broad spectrum of the pedestrian population. Average walking speeds vary from 2.0 to 4.3 ft/sec.¹⁰ The Florida Department of Transportation vehicle gap analysis method is based on an average walking speed of 3 ft./sec. This speed is generally acceptable for trail users without mobility impairments. Trail users with mobility impairments or assistive devices (canes, walkers, wheel chairs) usually require additional time to cross streets safely.

Vehicle gap analyses were conducted at the alignment crossings of Buffalo Road (NY Route 33), Lake Road (NY Route 19), West Sweden-Jerico Road, Byron-Holley Road (NY Route 237) and Byron-Batavia Road during the PM peak traffic hour. The locations of the gap analysis studies are shown in Figure 3. Sufficient gaps between traffic exist to allow the average pedestrian to cross at all potential trail crossing points.

Safety improvements for pedestrian crossings must also be considered in the context of the intersection's setting. For example, some treatments recommended for high speed, multi-lane roadways are not appropriate for a rural village setting such as Churchville. Treatments used within the Village of Churchville should be consistent with the Village character and streetscape preferences.

Based on field observations of traffic gaps and sight distance concerns, safety improvements should be considered for all road intersections. At a minimum, pedestrian crossings should be posted from both road travel directions at all trail crossing points.

At the Lake Road (NY Route 19) crossing, additional safety improvements should be considered. Consultation with NYSDOT staff indicated that a pavement marked pedestrian walkway, advanced warning signs on the roadway, and pedestrian crossing signs would be appropriate. The NY Route 19 crossing point presents a safety concern in its present condition.

Signage should also be placed on the trail in both directions to warn of upcoming road crossings and stop requirements. Signage should also include the name of the road intersection.

¹⁰ Transit Research Cooperative Research Program. 2006. Report 112, "Improving Pedestrian Safety at Unsignalized Crossings." TRCRP Report 112 and NCHRP Report 562, p. 7.

2.8.2 Bridges and Culverts

The West Shore alignment includes two bridges and several culverts. The bridges and larger culverts are documented in Table 4.

Table 4. Location and Condition of Bridges and Culverts

Location	Type	Condition Notes	Photograph
1200 feet ± east of Hessenthaler Road	Concrete slab over stone abutments, approx. 5' x 3'	Appears to be in good condition	 View of slab bridge over cattle crossing. Date on slab is 1903.
380 feet ± west of the end of Terry Street	Wooden trestle bridge over Black Creek	Wood deck; with rubber treads; Original stone abutments and wingwalls in fair condition; deck support timbers cracked and may need replacement with continued use. Snowmobile club representatives note that the bridge width (10') is only barely wide enough to accommodate their 9' wide trail groomer.	 Timber deck bridge over Black Creek, Hamlet of Byron
1813 ft. east of NY Route 19	36-42 in. concrete culvert carrying a tributary of Black Creek	Good condition. Appears to have some silt and debris accumulation.	No picture available

Table 4. Location and Condition of Bridges and Culverts

Location	Type	Condition Notes	Photograph
4113 ft. west of NY Route 19	Concrete box culvert (?), size unknown, carrying tributary of Black Creek	Culvert not completely visible from air photo. No erosion, settling or problems noted from surface inspection.	No picture available
436 ft. west of West Sweden-Jerico Road	Concrete box culvert, size unknown, carrying Robins Creek	Culvert not completely visible. No erosion or settling noted on surface inspection.	No picture available
2250 ft. east of Swamp Road crossing nearest hamlet of Byron	Concrete box culvert (?), size unknown, carrying tributary of Black Creek	Culvert obscured by vegetation canopy in aerial photo. No erosion or settling noted on surface inspection.	No picture available
895 ft. east of NY Route 237	Concrete structure with multiple round 36-42" culverts, carrying tributary of Black Creek	Culverts partially obscured by vegetation, silt and debris.	
3132 feet east of Transit Road	Stone and concrete arch structure, size unknown, carrying Spring Creek	Flow and vegetation partially obstructed view of structure; no settling or erosion noted. Appeared to be in good condition.	No picture available

3.0 Factors Affecting Feasibility of Trail Using Former Alignment

3.1 Land Uses

Land uses affect the safety and aesthetic experience of trail users. Land uses adjacent to the former West Shore alignment consist of agricultural, park, nature preserve and residential development. Within the Village of Churchville, one parcel that comprised the former alignment (Star of the West Mill) has been converted to industrial use, thus precluding its use for a multi-use trail.

A single residential property adjoins the Star of the West property on the east side of North Avenue in Churchville. It is not feasible to use this parcel since it cannot be connected to another usable parcel. An alternative route will be required to bring a trail from NY Route 36 in Churchville to North Street.

From North Street in Churchville west to McElver Street in the hamlet of Byron, the West Shore alignment has not been developed. One parcel in Churchville west of North Street was recently acquired by the Village. The Village plans to demolish an electrical substation on a parcel that abuts the alignment at the end of Richmond Avenue. This adjacent parcel may be available for trail-related use, once the substation is removed.

One industrial parcel is adjacent to the alignment in Churchville. The remainder of the land adjacent in the Village of Churchville is residential. From Buffalo Road west to the County line, the alignment is located inside Churchville County Park.

Residential properties are located adjacent to the former alignment in the Village of Churchville, and in the hamlet of Byron. The nearest residences are between 50 and 100 feet away from the alignment.

The Town of Bergen owns the former West Shore railroad alignment in its entirety through the Town. The Town of Bergen has designated the West Shore alignment as a Linear Park.

The Town of Byron acquired all of the parcels that comprised the alignment except one small commercial parcel in the hamlet of Byron. This parcel was reportedly used as part of a commercial trucking operation. Further environmental investigation of this parcel is needed to determine the potential for contaminated materials.

The Town of Byron has designated the alignment section between Byron Road and Terry Street as a Town Park – Trestle Park. Fishing, picnicking and camping are permitted at Trestle Park. The alignment provides access for a small gravel parking area for a large fishing pond, picnic tables and camp sites.

Use of the former West Shore railroad alignment as a multi-use trail is supported in comprehensive plans for the Village of Churchville, the Town of Riga, the Town of Bergen and the Town of Byron.

National Grid maintains an electrical transmission line and electrical substation adjacent to the West Shore alignment from West Sweden Road to NY Route 19. Coordination with National Grid will be required during the design process to maintain access for utility vehicles. The Villages of Bergen and Churchville also utilize the alignment to access power lines.

3.2 Ownership

Ownership and/or the right to use a trail alignment is also an important factor in determining the feasibility of a trail. The West Shore alignment is predominantly in public ownership at the present time. Private inholdings of former railroad parcels are limited to one small parcel in Byron and two parcels in Churchville. Of these privately owned parcels, land use incompatibility and connectivity issues limit the feasibility of using these parcels for a multi-use trail.

One parcel in Byron is potentially available for trail use if the community is able to acquire it in fee or obtain an easement for trail use.

3.3 Right of Way Acquisition

The cost of acquisition is an important feasibility factor for communities seeking to develop a multi-use trail, particularly in situations where trail easements are not viable.

The full market value assessment of these properties provides a starting point for negotiations with private owners. Appraised values may be slightly higher or lower than these values, given the fact that the properties are in tax foreclosure or may have suspected environmental issues.

The privately owned property in Byron is actually two parcels. Both parcels are listed for sale; however, the owner is reportedly unwilling to sell the railroad parcel separately from the commercial parcel. In some cases, federal or other funds may be used to acquire key parcels if needed for trail right of way, provided that the prescribed process is followed. A Phase I Environmental Site Assessment is recommended before any property acquisition.

3.4 Dual Use of Trail by All-Terrain Vehicles and Non-motorized Vehicles and Pedestrians

Use of trails by motorized off-road vehicles and non-motorized vehicles and pedestrians often creates conflicts between those who wish to have a quiet walk or bicycle ride away from vehicular traffic and noise, and those who wish to ride a long, straight trail at high speeds.

Non-motorized trail users generally prefer to hike or cycle on trails that are closed to motor vehicle traffic, except for emergency, utility and law enforcement vehicles. Another concern for a dual use trail is the difference in speeds between pedestrians, bicycle riders and motorized vehicle users. Off-road motor vehicle users generally ride in excess of 15 mph. Motorized vehicles require a longer stopping distance than hikers or bicyclists. Motorized vehicle riders may overtake hikers and cyclists much more rapidly than the non-motorized user may anticipate.

While motorized off-road vehicle users can co-exist on multi-use trails with hikers and cyclists, the most common experience is that motorized vehicles such as all terrain vehicles damage the trail surface by creating ruts that present safety and mobility concerns to hikers and wheelchair trail users.

The West Shore alignment is generally wide enough to accommodate a dual treadway trail (two parallel tracks), one which could be used for off-road motorized vehicles and one for non-motorized vehicle use. However, a dual treadway trail for off-road motorized vehicles and non-motorized users would require a structural or vegetation barrier between the two trails to separate user groups.

At the present time, the Federal Highway Administration and NYS Department of Transportation do not fund design or construction of trails for off-road motorized vehicles. Under NYS law, off-road motorized vehicular use of a multi-use trail is not permitted unless a trail is specifically posted for that use. At the present time, portions of the West Shore alignment are posted for no motorized vehicles.

At both public meetings, a number of residents spoke up and said they would like to be able to ride ATVs on the West Shore alignment. Others spoke about the noise and fumes generated by ATVs. Several residents of a mobile home park in the hamlet of Byron spoke about the noise generated by snowmobiles and ATVs using the alignment. Use of the alignment as a “race track” by some snowmobilers and all-terrain vehicle riders was noted by a Churchville resident. This resident asked what could be done to control this use.

3.5 Access Control and Protection of Private Property

Access control and protection of private property are recurring issues in determining trail feasibility. Adjacent property owners, particularly farmers, are extremely sensitive to trespassers who damage standing crops or vandalize buildings and equipment. Anecdotal information from the Lehigh Valley Trail in Monroe County has shown that as people begin using a trail regularly, trail users take “ownership” of the trail and report persons who are observed trespassing or damaging property.

Trails can be constructed with limited access gates and landscape features that would limit the ability of unauthorized motor vehicles and ATVs to enter the trail. Where access to fields must be maintained, placement of large rocks, logs, gates and other impediments may reduce trespassers.

The efforts of local law enforcement personnel can also assist in reducing and controlling vandalism from unauthorized users.

3.6 Sensitive Environmental Areas

The West Shore Trail is adjacent to a unique and diverse complex of wetland habitats in the Bergen Swamp. The BSPS utilizes the West Shore alignment to access some of its properties. Representatives of the BSPS expressed concerns about the development of a multi-use trail on the West Shore alignment. Major concerns expressed by the BSPS include:

- Potential disturbance of endangered species habitat
- Importation of alien and invasive plants
- Trespass and vandalism

BSPS representatives have requested that signage be posted to remind trail users to stay on the trail to avoid trespass into preserve lands and that visitors must receive prior permission to access preserve lands.

Development of the West Shore alignment into an officially-recognized multi-use trail could provide some benefits for the Bergen Swamp property. Development of the trail will provide access to funds to install access control gates and landscaping elements at critical points. Signage may also help to educate trail users about the sensitivity of the habitat and its resident wildlife.

3.7 Community and Private Support for the Trail

Development of the West Shore railroad alignment into a multi-use trail is recommended in the comprehensive plans of all of the sponsoring communities. The Village of Churchville has expressed interest in developing a Village Welcome Center associated with a trailhead and parking area on the south side of Buffalo Road. The Village has also formed a trail committee to coordinate the development of a network of walking trails.

The Town of Riga generally supports the concept of a multi-use trail, but would like to see “No Trespassing” signs posted on private properties bordering the right of way. The Town of Riga is also participating with the Village on the development of a network of walking trails.

The Monroe County Parks Department currently maintains the West Shore alignment from Buffalo Road to the Genesee-Monroe County line. County Parks Department staff patrol the alignment periodically to maintain the gate and other facilities within the park. This arrangement is expected to continue if a trail is constructed.

Several snowmobile clubs also maintain the trail for use as a snowmobile trail in the winter. Club members trim vegetation, put up signage and do minor repairs to the trail surface as needed to maintain it for snowmobile use. Snowmobile club representatives commented that the Trestle bridge over Black Creek is only ten feet wide, barely wide enough to accommodate their 9' wide trail groomer. They have requested consideration of a replacement bridge deck that is wide enough to accommodate their groomer.

Although the Town of Bergen supports the concept of a multi-use trail, maintenance on the trail is currently done by the snowmobile clubs. The Town of Bergen maintains the alignment as needed to support its current use.

The Town of Byron maintains its section of the West Shore trail with Town forces and materials. It is expected that this commitment will continue if a multi-use trail is constructed.

For budgetary purposes, an average figure of \$1,600/mile/year is used to determine maintenance costs for a stone-dust surface trail. Some additional investments may be required to construct, maintain, rehabilitate or replace fixtures and appurtenances such as kiosks, welcome centers, picnic facilities, signage, restrooms and concession buildings. Table 5 shows anticipated annual maintenance costs for each participating community.

Table 5. Anticipated Maintenance Costs

Community	Miles of Trail	Anticipated Annual Maintenance Cost (2006\$)
Village of Churchville	0.3	480
Monroe County	1.45	2330
Town of Bergen	4.85	7760
Town of Byron	5.14	8222

4.0 Trail Design Guidelines and Standards

Standards and recommendations for Bicycle safety and facilities are historically dictated by the AASHTO guidelines stated in the “Guide for the development of bicycle facilities”, dated 1999 and the NYSDOT “Highway Design Manual - Chapter 17, Bicycle Facility Design”, dated 3/30/06.

4.1 AASHTO and NYSDOT Guidelines

4.1.1 Rail-Trail Design Guidelines

Guidelines for rail-trail design are included within the shared-use path guidelines prepared by the American Association of State Highway and Transportation Officials (AASHTO)¹¹, the New York State Department of Transportation¹², and the Rail to Trail Conservancy’s “Trails for the Twenty First Century” publication. Standards for rail-trails fall under the shared use path guidelines, without a need for consideration of the separation between path and roadways. Recommendations are as follows:

- Path width (two-way): 10 foot minimum recommended.
- Reduced trail width of 8 feet when: low bicycle usage, pedestrian traffic occasional and good horizontal/vertical alignment for safe and frequent passing opportunities.
- 2 foot wide (3 foot preferred) trail shoulder width for each side.
- 5 foot wide trail shoulder adjacent to slopes greater than 3 foot horizontal run to 1 foot vertical rise.
- Vertical clearance of 8 feet (10 feet preferred).
- 5% grade maximum for up to 800 feet (3% grade maximum recommended for crushed stone paths).
- 2% maximum cross slope.
- Hard, all weather pavement surface cover recommended over crushed aggregate, due to lower service and higher maintenance requirements.
- Provide 10 feet of pavement each side of road and driveway crossings for crushed aggregate trails to prevent stone spillage into road/drive.
- Shared use of a multi-use trail by motorized vehicles (e.g., ATVs), bicycles and pedestrians is not recommended. Motorized vehicles diminish the “quiet experience” and generally operate at speeds that are much higher than that of bicycles and pedestrians. Trail use by ATV riders may require additional law enforcement and may increase the potential need for emergency vehicle access.
- Shared trail use by horse riders and bicycle traffic is not recommended. Bicycle riders are generally not aware of horse operating space needs. Horses can become startled easily and become unpredictable if they perceive cyclists or pedestrians as threats.
- Trail use by cross country skiers, snowshoers and snowmobiles may be acceptable if trails are not plowed during the winter months.

¹¹ AASHTO, “Guide for the Development of Bicycle Facilities”, 1999, pp. 33-59.

¹² New York State Department of Transportation, “Highway Design Manual”, Chapter 17. Bicycle Facility Design, rev. 3/30/2006.

4.1.2 Shared Roadway Design Guidelines

A shared roadway alternative must be considered in the Village of Churchville due to the unavailability of a centrally located parcel which formerly comprised part of the West Shore alignment through the Village. Design guidelines include:

- Paved shoulder width of 4 feet recommended (5-foot width at inlet locations).
- 12 foot wide curbed road lane for shared use (14 feet preferred), when full width paved shoulder not available.
- Pavement improvements to provide smooth, even, level riding surface.
- Additional pavement or shoulder width recommended at inclines (5 foot shoulder, 15 foot road).
- Dedicated Bike lane requires 5 feet width, outside of white line.
- Bicycle use of Village sidewalks is strongly discouraged. Signage may be used to direct bicycle trail riders to use the roadway.

4.1.3 General Bicycle and Shared Use Path Design Guidelines

- Federal aid requirement 23 CFR 652.7(b)(3)(ii) states that unauthorized motor vehicles are banned from bicycle or shared-use paths.
- Provision of rest areas should be considered on long, uninterrupted bicycle and shared use paths.

4.1.4 Dual Treadway Corridor Design Guidelines

Dual treadway corridors accommodate a variety of trail users on two or more different trails. Dual treadway trails allows for separation of uses within a corridor. This can reduce conflict and still accommodate varied users. The dual treadway corridor may also provide the same support services, such as trailheads, restrooms, and rest areas, for many different users, thereby economizing trail development. It does, however, require a wider right-of-way.

Incompatible user groups include:

- Bicyclists/pedestrians and equestrians. These two user types have different requirements for trail surfaces, and bicycles and pedestrians may frighten horses.
- Bicyclists/pedestrians and off-road motorized vehicle users. These two user types have greatly different average speeds, which could create hazards for both groups. In addition, the two groups require different trail surfaces.
- Equestrians and off-road motor vehicle users. Despite the similarity of trail design for these two modes, the speed and noise of motorized off-road vehicles could frighten horses.
- Pedestrians and bicyclists/in-line skaters. If traffic volume on a trail is very high, dangerous conflicts can occur. In cases of high traffic volume, the multi-use trail should be split into separate trail facilities for these two groups, or additional width can be considered.

When dealing with dual treadways, there are two issues to consider.

- The design of each treadway.
- The separation of the various treadways.

The design of each treadway is dependent upon the needs of the designated user group. Each treadway should follow the most stringent guidelines, based on the user modes it will host. In addition, each treadway should be wide enough to permit users to travel in both directions.

The separation of treadways varies with local conditions and planned user modes. The following is a description of a common dual-treadway corridor with recommended separation.

- Separation between multi-use trails and equestrian trails: 2 feet or greater, possibly with a fence or planted median between them (clear zones from each trail to any fence or tree should be maintained).

For the purpose of this study, conceptual designs for off-road motorized vehicles were not developed due to incompatibilities with non-motorized uses intended for multi-use trails. However, should the participating communities determine that off-road motorized vehicles should be allowed on a portion of the trail, the alignment width is sufficient to accommodate such a proposal.

General guidelines for separate treadway trails for pedestrians and bicyclists/snowmobiles are as follows:

Preferred dimensions:

- 10 to 13-foot wide trail for bicycles, snowmobiles, etc.
- 6-foot wide walking trail
- Separated by 2 to 7 feet with plantings and other physical barriers
- Stone dust surface

The general appearance of a dual treadway trail of this type is shown in Figure 7.

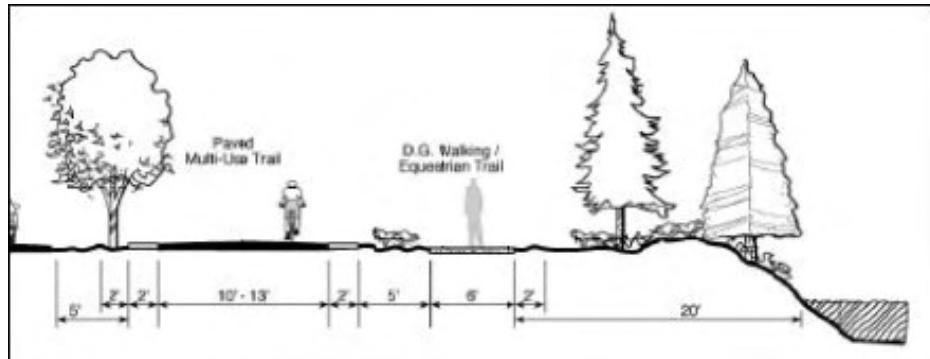


Figure 7. Dual Treadway Trail Typical Section

Limitation of trail width may be desirable or even required in areas where the trail will be adjacent to wetlands or sensitive environmental habitats. Minimum trail guidelines include:

Minimum dimensions:

- 8-foot wide bicycle/snowmobile trail
- 6-foot wide walking trail
- 2 to 4 feet separation

Figure 8 shows the minimum width configuration for a dual treadway trail:

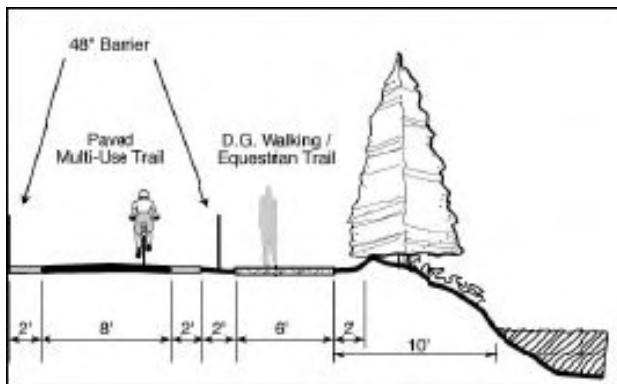


Figure 8. Dual Treadway Trail minimum width (typical)

5.0 Alternatives Considered

Trail designers were requested to consider the feasibility of constructing a dual treadway trail to serve the needs of both pedestrians and higher speed trail users such as bicyclists, in-line skaters and runners. During the first public meeting, it was mentioned that walkers are most likely to be concentrated within a mile or two of population centers or trailhead locations. Dual use sections have been considered for trail sections between Buffalo Road and Lake Road and for a section between Swamp Road and Byron Road, passing through the hamlet of Byron.

The needs of three possible combinations of dual treadway user groups were considered for the purposes of this study. These include: (1) Equestrian and pedestrian/bicycle trails with a bark chip surface trail for equestrians and a 10-foot wide stone dust surface trail for pedestrians and cyclists; (2) off-road motorized vehicles and pedestrian/bicycle trails, with a 10-foot wide earth surface for off-road motorized vehicle users and a parallel 10-foot wide stone dust trail for pedestrians and bicyclists separated with a physical barrier; and (3) bicycle/snowmobile and pedestrian trail with a 10-foot wide stone dust trail for bicycles and higher speed non motorized users and a separate 6-foot wide stone dust trail for pedestrians and wheelchair users.

The equestrian/bicycle-pedestrian dual treadway alternative was eliminated early in the review process because comments at the first public information meeting indicated that there was little use of the existing alignment by equestrians.

A dual treadway trail for off-road motorized vehicles and bicyclists and pedestrians could be constructed within the existing alignment width; however, a conceptual design for this alternative could not be advanced using NYSDOT and FHWA funding sources. Provision of a physical barrier between the trails would be needed, adding considerable cost to this alternative. In addition, numerous comments against the use of the West Shore alignment by motorized off-road vehicles were received at the public meetings. It is recognized, however, that there is some support for off-road motorized vehicle use of the alignment in the communities of Byron and Bergen, given the current use of the alignment by off-road motorized vehicles.

A dual treadway combination of a 10-foot wide stone dust trail for bicycles and snowmobiles with a separate 6-foot wide stone dust trail for pedestrians and wheelchair users was also considered. Three permutations of this alternative are discussed in Section 5.1.

5.1 Dual Treadway Sections

5.1.1 Churchville Section

The West Shore alignment is currently used as a designated snowmobile trail from Churchville Park west to the Village of Elba. Snowmobile clubs maintain sections of the trail from Buffalo Road to Elba, and have a vested interest in sharing the trail with other trail users.

It was also noted during field reconnaissance that small numbers of dogwalkers and pedestrians use the West Shore alignment for a short section into Churchville Park. The trail is not readily accessible for pedestrians from Buffalo Road at the present time.

The cleared width of the top of the railroad embankment is approximately 20 to 30 feet between Buffalo Road and Lake Road. The alignment widens out to 250 feet on the east side of Lake Road, allowing for an informal parking area that is currently used by all-terrain vehicle riders and snowmobilers.

Based on design guidelines, the former railroad alignment is wide enough to accommodate a dual treadway trail (two paths, one each for different user groups) within the existing developed footprint. No changes to the toe of slope or embankment sections would be required, with the exception of a small section immediately west of Buffalo Road.

A dual treadway trail could be considered between Buffalo Road and Lake Road. This segment is approximately 2.0 miles in length. The trail would incorporate design guidelines from AASHTO and NYSDOT. A typical section is shown in Figure 9.

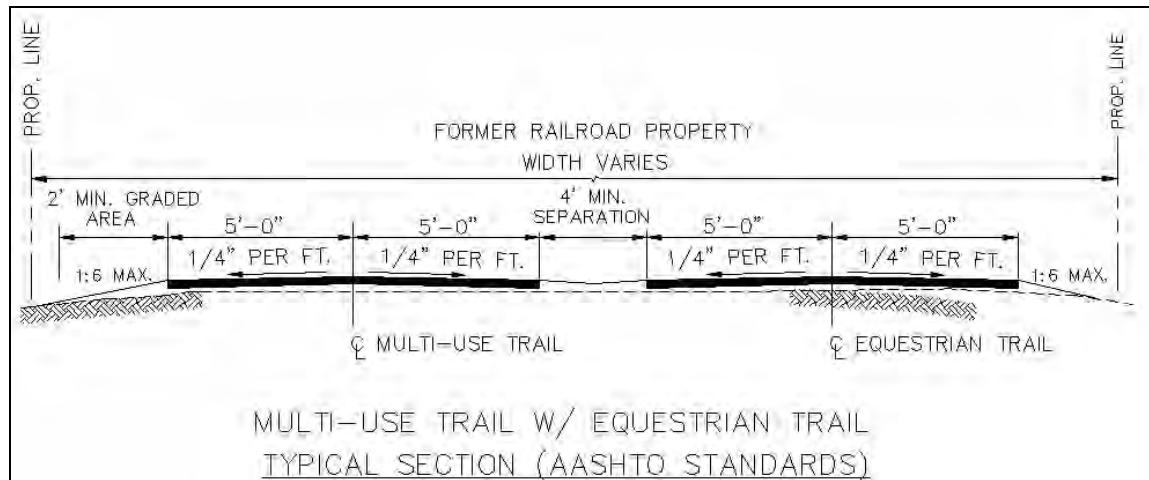


Figure 9. Dual Treadway Trail Typical Section

The overall width of a dual treadway trail would be approximately 26 feet, allowing for a 4-foot wide separation between the trails. In areas where trail width is constrained by vegetation or proximity to wetlands or other sensitive environmental features, the dual treadway trail width could be reduced to a minimum of 22 feet.

If a dual treadway trail is considered, a stone dust surface is recommended due to the increasing cost of asphalt pavement. Surfacing material for the pedestrian trail should also be stone dust, providing a hard surface to meet ADA accessibility guidelines.

5.1.2 Byron Section

Comments received at the first public information meeting indicated that the alignment segment between the hamlet of Byron and Byron-Batavia Road is currently used by residents for exercise and recreational walking. This section of the alignment is also used as a driveway to provide access to a parking area on the north side of the alignment in Trestle Park. This vehicular use section must be maintained.

A section of dual treadway trail consisting of an asphalt or gravel paved road with a separated pedestrian path could be considered between the Trestle Park bridge over Black Creek and Byron-Batavia Road. This section is approximately 0.7 mile in length. Parking for walkers is available at the end of Terry Street, while vehicular access would be maintained along the roadway. Bicycles could use the vehicular roadway.

5.1.3 Full Dual Treadway Trail

The scope of work for this project requested consideration of a full length dual treadway trail. A dual treadway trail could be constructed for the entire length of the alignment between Buffalo Road and Transit Road in Byron, except for small sections in the hamlet of Byron and the on-street section along Terry Street.

Members of the BSPS expressed concern about a dual treadway trail adjacent to the Bergen Swamp. They would prefer a minimum-width trail with use limited to pedestrians, bicyclists and snowmobilers. Based on comments received at the initial public meeting, there does not appear to be public support for a full length dual treadway alternative.

5.2 Single Trail Alternative

A single trail alternative is feasible along the former West Shore right of way between North Street in Churchville and Transit Road on the Byron-Elba Town Line. Shared-road sections must be considered in the Village of Churchville between NY Route 36 and North Street, and in the hamlet of Byron along Terry Street.

5.3 Churchville Section Subalternatives

Two separate shared-roadway alternatives were considered for the segment from NY Route 36 to North Street in the Village of Churchville. Consideration of these two subalternatives was necessary because operations at the Star of the West Mill property have expanded to include the former West Shore right of way. Figure 10 shows the location of the Howard Avenue subalternative and the Fitch Street subalternative.

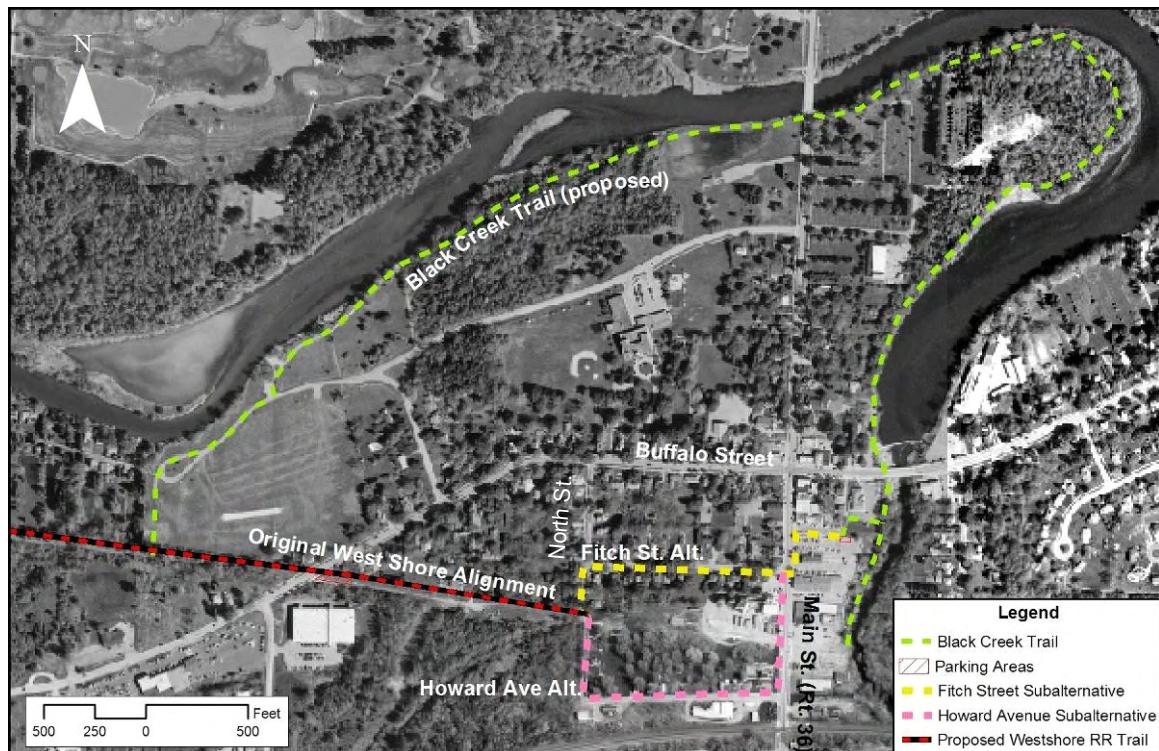


Figure 10. Churchville Subalternatives

5.3.1 Howard Avenue On-Road Alternative

The Howard Avenue and Fitch Street subalternatives would both begin at the Village Parking Lot on the east side of Main Street (NY Route 36) in the Village of Churchville. Approximately five parking spaces would be indicated as available for trail users with signage at the far northeast end of the parking lot. These spaces are often open because they are located furthest away from retail shops in the plaza and on the street. The trail would then continue along a concrete promenade as shown in Figure 11. The promenade is five feet wide on a raised curb median in the parking area. From this point, trail users would continue onto the main sidewalk on the east side of Main Street for a distance of approximately 213 feet to a marked crosswalk at the intersection of Fitch Street. The crosswalk and Fitch Street are shown in Figure 12.

At this intersection, pedestrians would cross to the west side of Main Street, and continue south approximately 580 feet to Howard Avenue. The sidewalk on the west side of Main Street is shown in Figure 13. The sidewalk on the north side of Howard Avenue is shown in Figure 14.

The Howard Avenue subalternative continues west on the north side of Howard Avenue, turning north toward the original alignment crossing point just south of Fitch Street. The sidewalk on the north side of Howard Avenue is narrow, approximately 3 to 4 feet in width, and located flush to the gutter as shown in Figure 14. The north side of the street is lined with several large trees. Widening the sidewalk to accommodate a standard sidewalk width is likely to require tree removal. Drainage grates are also located in the gutter, and may require relocation for sidewalk reconstruction. Several homes and buildings on the north side of Howard Avenue are located very close to the existing sidewalk. Sidewalk easements or acquisition of property would likely be required to provide an adequate median between a new sidewalk and the gutter.

The presence of potential wetlands and industrial uses on the south side of Howard Avenue make placement of the sidewalk on the south side less desirable.

Howard Avenue turns north at a 90 degree angle at a corner and continues approximately 400 feet to the former railroad crossing point. A 5-foot wide sidewalk is located on the east side of Howard Avenue between the turn and the end of Fitch Street. At Fitch Street, Howard Avenue changes to North Street. The shared road portion of the trail would stop at the former crossing point on the west side of Howard Avenue/North Street. The width of Howard Avenue/North Street narrows to one lane north of the former railroad crossing (Figure 16).

The Village recently acquired a privately owned parcel immediately west of Howard Avenue/North Street. As a result of this acquisition, the Village now owns the entire West Shore alignment between Howard Avenue/North Street and Buffalo Road.



Figure 11. Promenade in Churchville Municipal Lot, looking east toward Black Creek



Figure 12. Marked crosswalk on Main Street (NY Route 36) at Fitch Street, looking west



Figure 13. Sidewalk on the west side of Main Street (NY Route 36) north of Howard Avenue looking north



Figure 14. Howard Avenue looking east toward the Bean Mill (red building in center background)



Figure 15. Howard Avenue looking south toward 90-degree turn



Figure 16. North Street looking south toward former railroad crossing. Note proximity of blue building on east side of road (photo left) and road narrowing to single lane north of alignment.

The condition of the sidewalk on the east side of Howard Avenue appears to be generally good. A marked crosswalk is located at the end of Fitch Street.

From the railroad crossing, the trail alignment resumes on the original alignment. A view of the original alignment looking west from Howard Avenue/North Street is shown in Figure 17.



Figure 17. West Shore alignment looking west from North Street crossing

5.3.2 Fitch Street Subalternative

The Fitch Street subalternative would also begin at the Village Municipal Parking lot in Churchville. Pedestrians would use the promenade through the parking lot west to Main Street (NY Route 36). From this point, pedestrians would continue south using the sidewalk on the east side of Main Street for a distance of approximately 213 feet to a marked crosswalk opposite the west end of Fitch Street. Pedestrians would continue to use the sidewalk on Fitch Street while bicyclists would share the roadway with motorized vehicles for a distance of 980 feet before turning south on North Street/Howard Avenue to cross to join the former railroad alignment.

Sidewalks on both sides of Fitch Street are in good condition and appear to meet ADA standards. No amenities are present, but could be added at a later date.

Caution signs would be required to alert motorists to share the road with bicycles. Signage would also be required to direct pedestrian trail users to the sidewalk.

From a cost stand point, the Fitch Street subalternative would be easier to implement, requiring only signage and any amenities that the Village would choose to include.

5.3.3 Churchville Park Links

Two future trail links into Churchville Park have been considered as part of this study. The first is a 650-foot section linking a trailhead on the north side of Buffalo Road to an existing parking area located off Park Road, utilizing the same alignment currently approved for use by the snowmobile club trail. The approximate alignment of the snowmobile trail is shown in Figure 18. Comments received at the final public information meeting indicated that the Park Road Extension should be utilized to the turnaround area, and that the trail connector should continue from that point. This alignment would allow continued use of the grass field area for traditional program uses.



Figure 18. Potential trail connection to Park Road parking area

A second link to Churchville Park is proposed through the Black Creek Trail. The Village of Churchville is progressing a design for the Black Creek Trail simultaneously with this project. A preliminary conceptual layout of the Black Creek Trail linkage is previously shown in Figure 2. From the trailhead at the northwest corner of the Village Municipal Parking lot the link to the Black Creek trail would make use of existing pathways to the blacktop trail under the Buffalo Road bridge leading to the Black Creek dam on the north side of Buffalo Road.

A third trail link already exists for snowmobiles off Parish Road. The location of this trail and its link points into the existing West Shore alignment is shown at the north end of the loop trail in Figure 19.



Figure 19. Red line shows snowmobile trail linkages with West Shore alignment.

5.3.4 Parking and Trailheads

Parking was evaluated at the following locations:

- Churchville Municipal Lot (4-5 spaces)
- South side of Buffalo Road at Churchville village limit (4-5 spaces)
- NY Route 19, east side, Town of Bergen (4-5 spaces)
- West Sweden/Jerico Road (4-5 spaces)
- Hamlet of Byron, Turtle Park (2-3 spaces)
- Hamlet of Byron, West end of Terry Street – Trestle Park (7-10 existing spaces)
- Byron-Batavia Road, Byron (3-4 spaces)
- Transit Road – Town of Byron (4-5 spaces)

Parking lots are proposed to be gravel surfaced. The Churchville Municipal Lot is an existing asphalt surface lot. Parking spaces for trail users will be marked with signage.

6.0 Preferred Alternative

The preferred alternative for the West Shore Trail is a single treadway, 10-foot wide trail with a stone-dust surface. A shared roadway section is necessary in Churchville to connect the trail head/parking area at the Village Municipal Lot to the original alignment location beginning on the west side of Howard Avenue/North Street. The most feasible shared roadway alternative is the Fitch Street alternative. It is anticipated that pedestrians and people with disabilities will utilize existing sidewalks, while bicyclists will utilize the residential streets. Crossings will be made at marked crosswalks.

6.1 Typical Section

A typical section of single treadway trail will consist of a 10-foot wide stone dust surface trail with cleared shoulders of a minimum of two feet wide on either side. Brush and branches will be trimmed to a height of eight feet above the grade level to permit clear passage of bicycles and pedestrians. A typical trail section is shown in Figure 20.

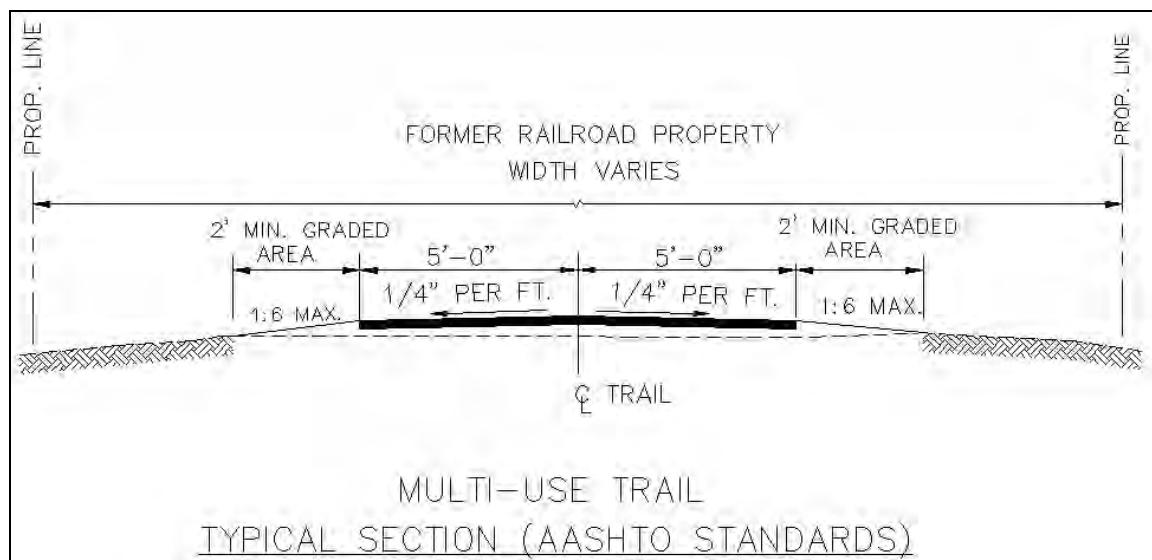


Figure 20. Typical Single Treadway Trail Section

A minimum trail width of eight feet may be considered in areas that are within the regulated adjacent area of NY Freshwater Wetlands adjacent to the trail, and in areas that are deemed to be particularly sensitive for the presence of threatened or endangered species. These areas are located primarily in the Towns of Byron and Bergen.

6.2 Trailhead and Parking Locations

Trailheads will be established with signage and parking areas. Parking areas will generally consist of 4-5 car lots with gravel or stone dust surfaces. The Village Municipal lot is asphalt-surfaced, and parking located in this lot will be shared use.

Village of Churchville

- Municipal Parking Lot
- South side of Buffalo Road adjacent to Qualicoat, east of Sanford Road

Town of Bergen

- NY Route 19 (proposed as temporary parking area to allow phased development)
- West Sweden Road

Town of Byron

- Turtle Park
- Trestle Park
- Transit Road

An optional ramp has been included to provide ADA-compliant access to the trail from Transit Road in Byron. The slope leading up to the original railroad embankment on the east side of Transit Road is too steep to meet design requirements of the Americans with Disabilities Act (ADA). Applicable ramp design guidelines are included in the Proposed Architectural Barriers Act Accessibility Guidelines for Outdoor Developed Areas¹³. The maximum slope of the ramp cannot exceed 1:8 (1 foot vertical rise to 8 feet horizontal run). Resting intervals and ramp width must be compliant with these guidelines. Construction of a timber ramp is likely to be more cost-effective than regrading the embankment. A conceptual design of a timber or composite ramp is shown in the design details. The conceptually designed ramp would accommodate wheelchairs and pedestrian users. Access for emergency, law enforcement and maintenance vehicles would be available from Transit Road or Chapell Road.

The remainder of the existing alignment meets ADA design guidelines for slope. ADA-compliant access is available at the Byron-Batavia Road entrance to Trestle Park. The Steering Committee indicated a preference to eliminate the ramp at Transit Road.

6.3 Signage

Table 6 shows the type and location of all signs recommended for the West Shore Trail. All signage within the public right of way must conform to the National Manual of Uniform Traffic Control Devices (MUTCD) as modified by the New York State supplement to the MUTCD.

Table 6. West Shore Trail Sign Recommendations

Location	Sign Type	MUTCD ID No.	Notes
Churchville Village Municipal Parking Lot	Rectangular sign with green lettering	Non-standard	“Trail User Parking” or similar
Same	Brown and white rectangular cultural feature identification sign	Compliant with H-series	“West Shore Trail” with directional arrow to Main Street (Rt. 36)
SW corner of Fitch Street & Rt. 36	Brown and white rectangular cultural feature identification sign	Compliant with H-series	“West Shore Trail” with directional arrow

¹³ Federal Register, 6/20/2007, <http://www.access-board.gov/outdoor/nprm.pdf>

Table 6. West Shore Trail Sign Recommendations

Location	Sign Type	MUTCD ID No.	Notes
West end of Fitch Street	Brown and white rectangular cultural feature identification sign.	Compliant with H-series	“West Shore Trail “ with directional arrow
West side of Village property at Fitch Street/Howard Avenue	Brown and white rectangular cultural feature identification sign.	Compliant with H-series	“West Shore Trail” with directional arrow
South side of Buffalo Road	Village gateway welcome sign	Non-standard	To be selected by Village of Churchville (see Figure 21 for example)
South side of Buffalo Road parking area	Rectangular with green lettering	Non-standard	“Trail User Parking” or similar to be determined by community
North side of Buffalo Road opposite Churchville welcome parking area	Brown and white cultural feature sign	Compliant with H-series	“West Shore Trail” with arrow
At each end of on-road alternative in Churchville and at the east end of Terry Street, Byron	Yellow diamond caution sign	W11-1	Bicycle
	Yellow rectangular instruction sign	W16-1	“Share the Road”
Posted No Trespassing	Rectangular with white background and black lettering	Non-standard	At all private properties
Rt. 19 east side	(Rectangular with white background and green lettering (parking))	Non-standard	“Parking for West Shore Trail”
	Rectangular with white background and black lettering	R5-3	“No motorized vehicles allowed”
East side of West Sweden Road	Rectangular with white background and green lettering	Non-standard	“Parking for West Shore Trail”, or similar according to community preference
East side of West Sweden Road	Trailhead	Non standard	Similar to Figure 21 but with community name, or to be determined by community preference
Turtle Park, Byron	Rectangular with white background and green lettering	Non standard	“Parking for West Shore Trail” or similar, according to community preference
Terry Street, Byron	Rectangular with white background and green lettering	Non-standard	“Parking for West Shore Trail” or similar; according to community preference
	Trailhead	Non-standard	Similar to Figure 21, but with community name; or to be determined by community preference

Table 6. West Shore Trail Sign Recommendations

Location	Sign Type	MUTCD ID No.	Notes
Transit Road	Trail head sign	Non-standard	Similar to Figure 21, but with community name, or to be determined by community preference. Include directional arrow.
	Rectangular with white background and green lettering	Non-standard	“Parking for West Shore Trail” or similar, according to community preference
Bi-directional at all road crossings	Yellow diamond caution signs	W11-2 and W16-7	Pedestrian crossing and diagonal down arrow
At all trail road crossings	12"X 12" Octagon - Red background with white reflective lettering	R1-1	Stop signs
On private properties with trail crossings adjacent to the trail	12" x 18", rectangular, white background with black lettering	Non-standard	“Private Drive”
At all vehicle gates west of Rt. 19	Rectangular with white background and black lettering	R5-3	“No motorized vehicles allowed”

Attendees at the public information meeting requested placement of mile markers along the West Shore alignment to better facilitate trail use by long-distance runners.

Figure 21 shows a potential trailhead sign for the proposed Village of Churchville trailhead and welcome center.

Pedestrian crossing pavement markings are recommended at all road crossings.

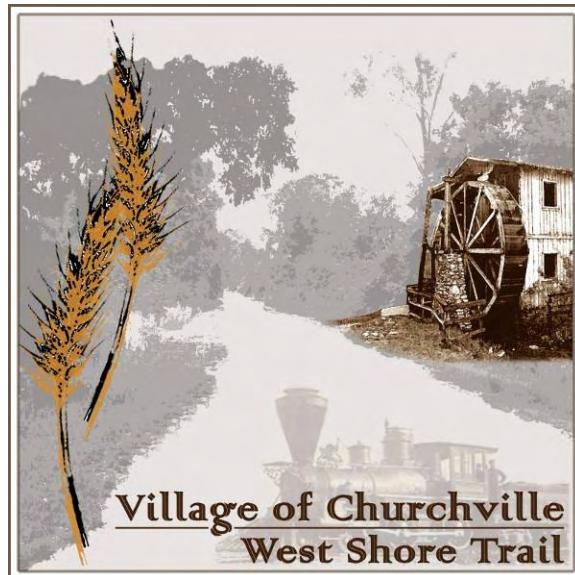


Figure 21. Sample Trailhead Sign

6.4 Access Control

Based upon comments received from the project Steering Committee and from the public at the first public information meeting, control of access from the West Shore Trail onto private properties and access to the alignment from road intersections is an important issue. Agricultural private property owners adjacent to the alignment have experienced damage to standing crops and vandalism to self-installed gates and buildings from trespassers accessing their lands from the West Shore alignment. The Bergen Swamp Preservation Society has noted that all-terrain vehicles access sensitive environmental areas of their properties using access points from the West Shore alignment. They have requested access control gates and/or landscaping features to be placed at all known entry points. The BSPS has also recommended that landscape features include native rocks, large logs or stumps, or native plant species to reduce the opportunity for introduction of invasive species.

Standardized access control gates similar to those used on the Genesee Valley Greenway and the Erie Canalway Trails are proposed for use at all road crossings. Trail identification signage will be placed on or near all access gates. Bollards and landscape features such as large rocks, stumps or logs will be placed to limit the ability of motorized vehicles to enter the trail from area roadways.

“No Trespassing-Private Property” signs are recommended at the limits of the West Shore alignment on all private properties abutting the trail alignment. Consultation with BSPS and owners of other environmentally sensitive properties is recommended to determine appropriate placement.

Municipal officials and other trail advocacy groups will be encouraged to develop a cooperative communication system with the Genesee County Sheriff’s Department Road Patrol and the Monroe County Sheriff’s Department.

Properties with pre-existing rights of way across the West Shore alignment will be allowed to maintain access unless owners wish to abandon these rights. Further consultation on these crossings will be completed during the final design stage.

6.5 Drainage Improvements

Field reconnaissance identified a few locations along the West Shore alignment that have drainage problems. Drainage improvements along the alignment may include replacement of culverts, slight grade adjustments and establishment of appropriate cross-slopes. Drainage improvements may also be required at the proposed Churchville “Village Gateway” trailhead and parking area.

6.6 Project Construction

Prior to trail construction, the trail center line will be staked in the field. Vegetation will be cleared to a height of eight feet above the ground surface and two feet on either side of the proposed tread surface. Erosion and sediment controls will be installed. The tread of the trail will be excavated to a depth of approximately six to eight inches. Excess soil material will be staged and re-used on site to match the existing grade. Subbase material consisting of crusher run gravel or stone, will be placed within the excavated tread width to a depth of approximately six inches. The surface will be leveled to grade and an additional two inches of fine stone dust will be placed over the subbase. Final grading will include matching the existing grade with the shoulders and creating the appropriate cross slope. Asphalt transitions will be constructed at all road crossings to minimize stone loss from the trail surface. Following construction of the trail surface, signage will be placed as required. Amenities such as benches, picnic tables, and bicycle racks will be added as the communities determine they are needed.

7.0 Cost Estimate

The following tables present the pay items and quantities used to develop the cost estimates for the preferred alternative and several permutations of the dual treadway alternative. Cost estimates for each phase of the preferred alternative have also been provided, along with unit costs for common trail amenities.

Cost estimates for the Howard Avenue and Fitch Street on-road alternatives have not been provided due to the number of factors that could influence the cost, including drainage improvements (new drop inlets, grates, tree removal, easements or property acquisition, etc.). Signage for the Fitch Street on-road alternative has been included in the estimate.

Cost estimates for potable water at trailheads could not be estimated without more information on the availability of potable water at each location. The cost to provide a single drinking fountain is approximately \$4,000 to \$5,000. The cost of bringing water to the trailhead could vary substantially from one location to another.

Contingency costs for the prospective trail project could also include environmental permitting and studies needed to support the trail permit applications, as well as drainage improvements and other factors that may be determined at the time of final design.

All costs are estimated from recent itemized bid documents, Internet catalog prices, and other sources of cost data.

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PREFERRED ALTERNATIVE ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	19.82	\$ 8,500.00	\$ 168,470.00
209.13	SILT FENCE - TEMPORARY	FT	33,920.0	\$ 2.50	\$ 84,800.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	11,384.4	\$ 10.00	\$ 113,844.00
203.03	EMBANKMENT IN PLACE	CY	759.2	\$ 12.00	\$ 9,110.40
304.0701_12	CRUSHER RUN LIMESTONE COURSE	CY	3,774.6	\$ 125.00	\$ 471,825.00
304.12	SUBBASE COURSE, TYPE 2	CY	11,384.4	\$ 40.00	\$ 455,376.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	40.3	\$ 150.00	\$ 6,050.00
610.0203	ESTABLISHING TURF	SF	245,900.0	\$ 1.00	\$ 245,900.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	30.0	\$ 300.00	\$ 9,000.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	12.0	\$ 500.00	\$ 6,000.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	322.0	\$ 30.00	\$ 9,660.00
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	96.0	\$ 40.00	\$ 3,840.00
645.81	TYPE A SIGN POSTS	EACH	76.0	\$ 85.00	\$ 6,460.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	24.0	\$ 50.00	\$ 1,200.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	2,160.0	\$ 2.00	\$ 4,320.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	24.0	\$ 1,500.00	\$ 36,000.00
Total Trail Cost					\$ 1,631,855.40
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	275.0	\$ 10.00	\$ 2,750.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	275.0	\$ 55.00	\$ 15,125.00
	LANDSCAPE ROCKS	EACH	75.0	\$ 500.00	\$ 37,500.00
	TRAILHEAD SIGN	EACH	6.0	\$ 1,000.00	\$ 6,000.00
	ACCESS RAMP	EACH	1.0	\$ 25,000.00	\$ 25,000.00
Total Parking Area Cost					\$ 86,375.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	10.0	\$ 4,000.00	\$ 40,000.00
Total Construction Cost					\$ 1,758,230.40
	Engineering (10%)				\$ 175,823.04
	Contingency (15%)				\$ 263,734.56
Total Estimated Cost					\$ 2,197,788.00
	ANNUAL MAINTENANCE	MILE	12.25	\$ 1,600.00	\$ 19,600.00

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

OPTIONS ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRESTLE PARK BRIDGE REPLACEMENT					
	80'-0"L X 12'-0"W TIMBER DECK	SF	960.00	\$ 100.00	\$ 96,000.00
	PEDESTRIAN TIMBER RAILING	LF	160.0	\$ 150.00	\$ 24,000.00
	REMOVAL OF EXISTING TIMBER DECK AND BRIDGE RAILING	LS	1.0	\$ 10,000.00	\$ 10,000.00
	Total Trestle Park Bridge Cost			\$ 130,000.00	
	Engineering (10%)				\$ 13,000.00
	Contingency (15%)				\$ 19,500.00
	Total Estimated Trestle Park Bridge Cost			\$ 162,500.00	
PARK ROAD CONNECTOR TRAIL					
201.07	CLEARING AND GRUBBING (650'-0"L X 14'-0"W)	ACRE	0.20	\$ 8,500.00	\$ 1,700.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL (650'-0"L X 10'-0"W X 0'-6"D)	CY	120.4	\$ 10.00	\$ 1,203.70
203.03	EMBANKMENT IN PLACE (650'-0"L X 2'-0"W X 0'-2"D AT 2.0%) * 2 SHOULDERS	CY	80.2	\$ 12.00	\$ 962.96
304.0701 12	CRUSHER RUN LIMESTONE COURSE (650'-0"L X 10'-0"W X 0'-2"D)	CY	4.0	\$ 125.00	\$ 501.54
304.12	SUBBASE COURSE, TYPE 2 (650'-0"L X 10'-0"W X 0'-6"D)	CY	120.4	\$ 40.00	\$ 4,814.81
	Total Park Road Connector Trail Cost			\$ 9,183.02	
	Engineering (10%)				\$ 918.30
	Contingency (15%)				\$ 1,377.45
	Total Estimated Cost			\$ 11,478.78	
AMENITY UNIT COSTS					
	BICYCLE RACK	EACH		\$ 400.00 - \$ 500.00	
	PEDESTRIAN BENCHES	EACH		\$ 1,200.00	
	CUSTOM SIGNS (NO TRESPASSING, etc.)	EACH		\$ 50.00	
	WOODEN KIOSK	EACH		\$ 1,200.00	

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

DUAL TREADWAY ALTERNATIVE ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	33.97	\$ 8,500.00	\$ 288,745.00
209.13	SILT FENCE - TEMPORARY	FT	33,920.0	\$ 2.50	\$ 84,800.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	18,215.0	\$ 10.00	\$ 182,150.00
203.03	EMBANKMENT IN PLACE	CY	1,518.1	\$ 12.00	\$ 18,217.20
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	6,039.3	\$ 125.00	\$ 754,912.50
304.12	SUBBASE COURSE, TYPE 2	CY	18,215.0	\$ 40.00	\$ 728,600.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	64.5	\$ 150.00	\$ 9,680.00
610.0203	ESTABLISHING TURF	SF	491,800.0	\$ 1.00	\$ 491,800.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	30.0	\$ 300.00	\$ 9,000.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	12.0	\$ 500.00	\$ 6,000.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	322.0	\$ 30.00	\$ 9,660.00
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	96.0	\$ 40.00	\$ 3,840.00
645.81	TYPE A SIGN POSTS	EACH	76.0	\$ 85.00	\$ 6,460.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	24.0	\$ 50.00	\$ 1,200.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	2,160.0	\$ 2.00	\$ 4,320.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	24.0	\$ 1,500.00	\$ 36,000.00
Total Trail Cost					\$ 2,635,384.70
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	275.0	\$ 10.00	\$ 2,750.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	275.0	\$ 55.00	\$ 15,125.00
	LANDSCAPE ROCKS	EACH	75.0	\$ 500.00	\$ 37,500.00
	TRAILHEAD SIGN	EACH	6.0	\$ 1,000.00	\$ 6,000.00
	ACCESS RAMP	EACH	1.0	\$ 25,000.00	\$ 25,000.00
Total Parking Area Cost					\$ 86,375.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	10.0	\$ 4,000.00	\$ 40,000.00
Total Construction Cost					\$ 2,761,759.70
	Engineering (10%)				\$ 276,175.97
	Contingency (15%)				\$ 414,263.96
Total Estimated Cost					\$ 3,452,199.63
	ANNUAL MAINTENANCE	MILE	12.25	\$ 1,600.00	\$ 19,600.00

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

DUAL TREADWAY ALTERNATIVES ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
DUAL TREADWAY (BUFFALO ROAD TO RT. 19 SECTION)					
201.07	CLEARING AND GRUBBING (10,700'-0" L X 24'-0"W)	ACRE	5.91	\$ 8,500.00	\$ 50,204.40
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL (10,700'-0" L X 16'-0"W X 0'-6"D)	CY	3,170.4	\$ 10.00	\$ 31,703.70
203.03	EMBANKMENT IN PLACE (10,700'-0" L X 2'-0"W X 0'-2"D AT 2.0%) * 4 SHOULDERS	CY	528.4	\$ 12.00	\$ 6,340.74
304.0701 12	CRUSHER RUN LIMESTONE COURSE (10,700'-0" L X 16'-0"W X 0'-2"D)	CY	1,056.8	\$ 125.00	\$ 132,098.77
304.12	SUBBASE COURSE, TYPE 2 (10,700'-0" L X 16'-0"W X 0'-6"D)	CY	3,170.4	\$ 40.00	\$ 126,814.81
Total Dual Treadway Trail Cost					\$ 347,162.42
* Dual Treadway is one 10'-0" Trail and one 6'-0" Trail, each with 2'-0" Shoulders					
	Engineering (10%)				\$ 34,716.24
	Contingency (15%)				\$ 52,074.36
Total Estimated Cost					\$ 433,953.03
PEDESTRIAN PATH (TERRY STREET TO BYRON ROAD SECTION)					
201.07	CLEARING AND GRUBBING (3,600'-0" L X 30'-0"W)	ACRE	2.48	\$ 8,500.00	\$ 21,114.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL (3,600'-0" L X 6'-0"W X 0'-6"D)	CY	400.0	\$ 10.00	\$ 4,000.00
203.03	EMBANKMENT IN PLACE (3,600'-0" L X 2'-0"W X 0'-2"D AT 2.0%) 2 SHOULDERS	CY	88.9	\$ 12.00	\$ 1,066.67
304.0701 12	CRUSHER RUN LIMESTONE COURSE (3,600'-0" L X 6'-0"W X 0'-2"D)	CY	133.3	\$ 125.00	\$ 16,666.67
304.12	SUBBASE COURSE, TYPE 2 (3,600'-0" L X 6'-0"W X 0'-6"D)	CY	400.0	\$ 40.00	\$ 16,000.00
Total Dual Treadway Trail Cost					\$ 58,847.33
* Dual Treadway is one 10'-0" Trail and one 6'-0" Trail, each with 2'-0" Shoulders.					
ROADWAY (TERRY STREET TO BYRON ROAD SECTION)					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL (3,600'-0" L X 24'-0"W X 1'-6½"D)	CY	34,533.3	\$ 10.00	\$ 345,333.33
304.12	SUBBASE COURSE, TYPE 2 (3,600'-0" L X 24'-0"W X 1'-0"D)	CY	3,200.0	\$ 40.00	\$ 128,000.00
403.118902	HOT MIX ASPHALT - TYPE 1 BASE COURSE (3,600'-0" L X 24'-0"W X 0'-3"D) * 1.98 T/CY	T	1,584.0	\$ 85.00	\$ 134,640.00
403.138902	HOT MIX ASPHALT - TYPE 3 BINDER COURSE (3,600'-0" L X 24'-0"W X 0'-2"D)	T	1,056.0	\$ 90.00	\$ 95,040.00
403.198202	HOT MIX ASPHALT - TYPE 7F2 TOP COURSE (3,600'-0" L X 24'-0"W X 0'-1½"D)	T	792.0	\$ 95.00	\$ 75,240.00
407.0101	TACK COAT (BETWEEN COURSES OF PAVEMENT AT 0.10 GAL./SY)	GAL.	8,640.0	\$ 4.00	\$ 34,560.00
Total Roadway Cost					\$ 778,253.33
* Roadway is two 10'-0" Travel Lanes with 2'-0" Shoulders.					
	Engineering (10%)				\$ 83,710.07
	Contingency (15%)				\$ 125,565.10
Total Estimated Cost					\$ 1,046,375.83
AMENITY UNIT COSTS					
	BICYCLE RACK	EACH		\$ 400.00 - \$ 500.00	
	PEDESTRIAN BENCHES	EACH		\$ 1,200.00	
	CUSTOM SIGNS (NO TRESPASSING, etc.)	EACH		\$ 50.00	
	WOODEN KIOSK	EACH		\$ 1,200.00	

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PHASE 1 - CHURCHVILLE SECTION ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	0.44	\$ 8,500.00	\$ 3,740.00
209.13	SILT FENCE - TEMPORARY	FT		\$ 2.50	\$ -
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	250.0	\$ 10.00	\$ 2,500.00
203.03	EMBANKMENT IN PLACE	CY	16.7	\$ 12.00	\$ 200.40
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	81.5	\$ 125.00	\$ 10,187.50
304.12	SUBBASE COURSE, TYPE 2	CY	250.0	\$ 40.00	\$ 10,000.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	3.7	\$ 150.00	\$ 550.00
610.0203	ESTABLISHING TURF	SF	5,400.0	\$ 1.00	\$ 5,400.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	1.0	\$ 300.00	\$ 300.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	1.0	\$ 500.00	\$ 500.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	75.25	\$ 30.00	\$ 2,257.50
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	12.00	\$ 40.00	\$ 480.00
645.81	TYPE A SIGN POSTS	EACH	17.0	\$ 85.00	\$ 1,445.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	2.0	\$ 50.00	\$ 100.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	450.0	\$ 2.00	\$ 900.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	5.0	\$ 1,500.00	\$ 7,500.00
Total Trail Cost					\$ 46,060.40
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	50.0	\$ 10.00	\$ 500.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	50.0	\$ 55.00	\$ 2,750.00
	LANDSCAPE ROCKS	EACH	10.0	\$ 500.00	\$ 5,000.00
	TRAILHEAD SIGN	EACH	1.0	\$ 1,000.00	\$ 1,000.00
Total Parking Area Cost					\$ 8,750.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	2.0	\$ 4,000.00	\$ 8,000.00
Total Construction Cost					\$ 62,810.40
	Engineering (10%)				\$ 6,281.04
	Contingency (15%)				\$ 9,421.56
Total Phase 1 Estimated Cost					\$ 78,513.00
	ANNUAL MAINTENANCE	MILE	0.63	\$ 1,600.00	\$ 1,015.15

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PHASE 2 - MONROE COUNTY - CHURCHVILLE PARK SECTION ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE

LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	3.48	\$ 8,500.00	\$ 29,580.00
209.13	SILT FENCE - TEMPORARY	FT	13,356.0	\$ 2.50	\$ 33,390.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	2,000.0	\$ 10.00	\$ 20,000.00
203.03	EMBANKMENT IN PLACE	CY	133.4	\$ 12.00	\$ 1,600.80
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	664.9	\$ 125.00	\$ 83,112.50
304.12	SUBBASE COURSE, TYPE 2	CY	2,000.0	\$ 40.00	\$ 80,000.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	3.7	\$ 150.00	\$ 550.00
610.0203	ESTABLISHING TURF	SF	43,200.0	\$ 1.00	\$ 43,200.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	5.0	\$ 300.00	\$ 1,500.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	2.0	\$ 500.00	\$ 1,000.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	24.50	\$ 30.00	\$ 735.00
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	8.00	\$ 40.00	\$ 320.00
645.81	TYPE A SIGN POSTS	EACH	6.0	\$ 85.00	\$ 510.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	4.0	\$ 50.00	\$ 200.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	180.0	\$ 2.00	\$ 360.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	2.0	\$ 1,500.00	\$ 3,000.00
Total Trail Cost					\$ 299,058.30
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	50.0	\$ 10.00	\$ 500.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	50.0	\$ 55.00	\$ 2,750.00
	LANDSCAPE ROCKS	EACH	10.0	\$ 500.00	\$ 5,000.00
	TRAILHEAD SIGN	EACH	1.0	\$ 1,000.00	\$ 1,000.00
Total Parking Area Cost					\$ 8,750.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	2.0	\$ 4,000.00	\$ 8,000.00
Total Construction Cost					\$ 315,808.30
	Engineering (10%)				\$ 31,580.83
	Contingency (15%)				\$ 47,371.25
Total Phase 2 Estimated Cost					\$ 394,760.38
	ANNUAL MAINTENANCE	MILE	2.05	\$ 1,600.00	\$ 3,272.73

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PHASE 3 - RT. 19 TO WEST SWEDEN ROAD ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	3.92	\$ 8,500.00	\$ 33,320.00
209.13	SILT FENCE - TEMPORARY	FT	7,510.0	\$ 2.50	\$ 18,775.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	2,250.0	\$ 10.00	\$ 22,500.00
203.03	EMBANKMENT IN PLACE	CY	150.0	\$ 12.00	\$ 1,800.00
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	748.2	\$ 125.00	\$ 93,525.00
304.12	SUBBASE COURSE, TYPE 2	CY	2,250.0	\$ 40.00	\$ 90,000.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	3.7	\$ 150.00	\$ 550.00
610.0203	ESTABLISHING TURF	SF	48,600.0	\$ 1.00	\$ 48,600.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	6.0	\$ 300.00	\$ 1,800.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	2.0	\$ 500.00	\$ 1,000.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	24.50	\$ 30.00	\$ 735.00
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	8.00	\$ 40.00	\$ 320.00
645.81	TYPE A SIGN POSTS	EACH	6.0	\$ 85.00	\$ 510.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	4.0	\$ 50.00	\$ 200.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	180.0	\$ 2.00	\$ 360.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	2.0	\$ 1,500.00	\$ 3,000.00
Total Trail Cost					\$ 316,995.00
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	50.0	\$ 10.00	\$ 500.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	50.0	\$ 55.00	\$ 2,750.00
	LANDSCAPE ROCKS	EACH	10.0	\$ 500.00	\$ 5,000.00
	TRAILHEAD SIGN	EACH	1.0	\$ 1,000.00	\$ 1,000.00
Total Parking Area Cost					\$ 8,750.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	2.0	\$ 4,000.00	\$ 8,000.00
Total Construction Cost					\$ 333,745.00
	Engineering (10%)				\$ 33,374.50
	Contingency (15%)				\$ 50,061.75
Total Phase 3 Estimated Cost					\$ 417,181.25
	ANNUAL MAINTENANCE	MILE	2.30	\$ 1,600.00	\$ 3,681.82

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PHASE 4 - WEST SWEDEN ROAD TO TRESTLE PARK ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	7.57	\$ 8,500.00	\$ 64,345.00
209.13	SILT FENCE - TEMPORARY	FT	6,370.0	\$ 2.50	\$ 15,925.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	4,351.9	\$ 10.00	\$ 43,519.00
203.03	EMBANKMENT IN PLACE	CY	290.2	\$ 12.00	\$ 3,482.40
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	1,441.4	\$ 125.00	\$ 180,175.00
304.12	SUBBASE COURSE, TYPE 2	CY	4,351.9	\$ 40.00	\$ 174,076.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	18.3	\$ 150.00	\$ 2,750.00
610.0203	ESTABLISHING TURF	SF	94,000.0	\$ 1.00	\$ 94,000.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	12.0	\$ 300.00	\$ 3,600.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	4.0	\$ 500.00	\$ 2,000.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	136.50	\$ 30.00	\$ 4,095.00
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	40.00	\$ 40.00	\$ 1,600.00
645.81	TYPE A SIGN POSTS	EACH	32.0	\$ 85.00	\$ 2,720.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	10.0	\$ 50.00	\$ 500.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	900.0	\$ 2.00	\$ 1,800.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	10.0	\$ 1,500.00	\$ 15,000.00
Total Trail Cost					\$ 609,587.40
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	25.0	\$ 10.00	\$ 250.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	25.0	\$ 55.00	\$ 1,375.00
	LANDSCAPE ROCKS	EACH	25.0	\$ 500.00	\$ 12,500.00
	TRAILHEAD SIGN	EACH	1.0	\$ 1,000.00	\$ 1,000.00
Total Parking Area Cost					\$ 14,875.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	2.0	\$ 4,000.00	\$ 8,000.00
Total Construction Cost					\$ 632,462.40
	Engineering (10%)				\$ 63,246.24
	Contingency (15%)				\$ 94,869.36
Total Phase 4 Estimated Cost					\$ 790,578.00
	ANNUAL MAINTENANCE	MILE	4.55	\$ 1,600.00	\$ 7,280.30

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PHASE 5A - TRESTLE PARK TO BYRON ROAD ESTIMATE

PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	1.43	\$ 8,500.00	\$ 12,155.00
209.13	SILT FENCE - TEMPORARY	FT	3,188.0	\$ 2.50	\$ 7,970.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	819.5	\$ 10.00	\$ 8,195.00
203.03	EMBANKMENT IN PLACE	CY	54.7	\$ 12.00	\$ 656.40
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	271.3	\$ 125.00	\$ 33,912.50
304.12	SUBBASE COURSE, TYPE 2	CY	819.5	\$ 40.00	\$ 32,780.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	3.7	\$ 150.00	\$ 550.00
610.0203	ESTABLISHING TURF	SF	17,700.0	\$ 1.00	\$ 17,700.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	2.0	\$ 300.00	\$ 600.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	1.0	\$ 500.00	\$ 500.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	24.50	\$ 30.00	\$ 735.00
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	8.00	\$ 40.00	\$ 320.00
645.81	TYPE A SIGN POSTS	EACH	6.0	\$ 85.00	\$ 510.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	2.0	\$ 50.00	\$ 100.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	180.0	\$ 2.00	\$ 360.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	2.0	\$ 1,500.00	\$ 3,000.00
Total Trail Cost					\$ 120,043.90
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	50.0	\$ 10.00	\$ 500.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	50.0	\$ 55.00	\$ 2,750.00
	LANDSCAPE ROCKS	EACH	10.0	\$ 500.00	\$ 5,000.00
	TRAILHEAD SIGN	EACH	1.0	\$ 1,000.00	\$ 1,000.00
Total Parking Area Cost					\$ 8,750.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	1.0	\$ 4,000.00	\$ 4,000.00
Total Construction Cost					\$ 132,793.90
	Engineering (10%)				\$ 13,279.39
	Contingency (15%)				\$ 19,919.09
Total Phase 5A Estimated Cost					\$ 165,992.38
	ANNUAL MAINTENANCE	MILE	0.84	\$ 1,600.00	\$ 1,340.91

NYCRR WEST SHORE TRAIL
BYRON, BERGEN, CHURCHVILLE
TRANSIT ROAD (C.R. 42) TO SOUTH MAIN STREET (N.Y.S. ROUTE 36)
MONROE AND GENESEE COUNTIES

PHASE 5B - BYRON ROAD TO TRANSIT ROAD ESTIMATE**PRELIMINARY ENGINEER'S ITEM LIST, QUANTITIES, AND COST ESTIMATE**
LU ENGINEERS

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	COST
TRAIL					
201.07	CLEARING AND GRUBBING	ACRE	2.98	\$ 8,500.00	\$ 25,330.00
209.13	SILT FENCE - TEMPORARY	FT	3,496.0	\$ 2.50	\$ 8,740.00
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	1,713.0	\$ 10.00	\$ 17,130.00
203.03	EMBANKMENT IN PLACE	CY	114.2	\$ 12.00	\$ 1,370.40
304.0701 12	CRUSHER RUN LIMESTONE COURSE	CY	567.3	\$ 125.00	\$ 70,912.50
304.12	SUBBASE COURSE, TYPE 2	CY	1,713.0	\$ 40.00	\$ 68,520.00
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS	CY	7.3	\$ 150.00	\$ 1,100.00
610.0203	ESTABLISHING TURF	SF	37,000.0	\$ 1.00	\$ 37,000.00
614.0323	TREE REMOVAL OVER 150 MM TO 300 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	4.0	\$ 300.00	\$ 1,200.00
614.0333	TREE REMOVAL OVER 300 MM TO 450 MM DIAM. BREAST HIGH STUMP CUT 150 MM BELOW GRADE	EACH	2.0	\$ 500.00	\$ 1,000.00
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS	SF	36.8	\$ 30.00	\$ 1,102.50
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING	SF	20.0	\$ 40.00	\$ 800.00
645.81	TYPE A SIGN POSTS	EACH	9.0	\$ 85.00	\$ 765.00
646.0701	REFERENCE MARKER, 2.1 M MOUNTING HEIGHT	EACH	2.0	\$ 50.00	\$ 100.00
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES	FT	270.0	\$ 2.00	\$ 540.00
	ACCESS GATES (2 AT EACH CROSSWALK LOCATION)	EACH	3.0	\$ 1,500.00	\$ 4,500.00
Total Trail Cost					\$ 240,110.40
PARKING AREA					
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	CY	50.0	\$ 10.00	\$ 500.00
623.12	CRUSHED STONE (IN PLACE MEASURE)	CY	50.0	\$ 55.00	\$ 2,750.00
	LANDSCAPE ROCKS	EACH	10.0	\$ 500.00	\$ 5,000.00
	TRAILHEAD SIGN	EACH	1.0	\$ 1,000.00	\$ 1,000.00
	ACCESS RAMP	LS	1.0	\$ 25,000.00	\$ 25,000.00
Total Parking Area Cost					\$ 33,750.00
	EASEMENTS (SURVEYING AND LEGAL FEES)	EACH	1.0	\$ 4,000.00	\$ 4,000.00
Total Construction Cost					\$ 277,860.40
	Engineering (10%)				\$ 27,786.04
	Contingency (15%)				\$ 41,679.06
Total Phase 5B Estimated Cost					\$ 347,325.50
	ANNUAL MAINTENANCE	MILE	1.75	\$ 1,600.00	\$ 2,800.00

TRAIL SECTION											
ITEM NO.	DESCRIPTION										
201.07	CLEARING AND GRUBBING										
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL										
203.03	EMBANKMENT IN PLACE										
304.0701 12	CRUSHER RUN LIMESTONE COURSE										
304.12	SUBBASE COURSE, TYPE 2										
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS										
610.0203	ESTABLISHING TURF										
STATION		TRAIL LENGTH	TRAIL WIDTH	SHOULDER WIDTH	201.07 (ACRE)	203.02 (cy)	203.03 (cy)	304.0701 12 (cy)	304.12 (cy)	608.020101 (cy)	610.0203 (sf)
FROM	TO	(ft)	(ft)	(ft)							
RT. 36	BUFFALO RD. 3,350.0 FT	1,350	10.0	2.0	0.44	250.0	16.7	81.5	250.0	3.7	5,400
BUFFALO RD.	RT. 19 10,800.0 FT	10,800	10.0	2.0	3.48	2,000.0	133.4	664.9	2,000.0	3.7	43,200
RT. 19	W. SWDEN RD. 12,150.0 FT	12,150	10.0	2.0	3.92	2,250.0	150.0	748.2	2,250.0	3.7	48,600
W. SWDEN RD.	TRESTLE PK. 24,025.0 FT	23,500	10.0	2.0	7.57	4,351.9	290.2	1,441.4	4,351.9	18.3	94,000
TRESTLE PK.	BYRON RD. 4,425.0 FT	4,425	10.0	2.0	1.43	819.5	54.7	271.3	819.5	3.7	17,700
BYRON RD.	TRANSIT RD. 9,250.0 FT	9,250	10.0	2.0	2.98	1,713.0	114.2	567.3	1,713.0	7.3	37,000
TOTAL				19.82	11,384.4	759.2	3,774.6	11,384.4	40.3	245,900.0	

Item No.	Calculation*
201.07	Trail Length * (Trail Width + Shoulder Width * (2 Shoulders)) * (conversion to acres) (1 square foot = 0.000023 acres)
203.02	Trail Length * Trail Width * Depth of Subbase (0.5 ft) * (conversion to cubic yard) (1 cubic foot = 0.037037 cubic yards)
203.03	Trail Length * ((Shoulder Width * (2 Shoulders)) * Crusher Run Depth (0.166667 ft) * ($\frac{1}{2}$)) * (conversion to cubic yards)
304.0701 12	(Trail Length - Asphalt Transition Length (15.0 ft) leading up to and away from the road at the crosswalk locations * Trail Width * Depth of Crusher Run (0.166667 ft) * (conversion to cubic yards)
304.12	Trail Length * Trail Width * Depth of Subbase (0.5 ft) * (conversion to cubic yards)
608.020101	Asphalt Transition Length (15.0 ft) leading up to and away from the road at the crosswalk locations * Trail Width * Depth of Asphalt (0.166667 ft) * (conversion to cubic yards) * (conversion to tons) (1 ton = 1.98 T/cy)
610.0203	Trail Length * ((Shoulder Width * (2 Shoulders))

* See Dwg. D-1 for above dimensions.

DUAL TREADWAY TRAIL SECTION											
ITEM NO.	DESCRIPTION										
201.07	CLEARING AND GRUBBING										
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL										
203.03	EMBANKMENT IN PLACE										
304.0701 12	CRUSHER RUN LIMESTONE COURSE										
304.12	SUBBASE COURSE, TYPE 2										
608.020101	ASPHALT CONCRETE SIDEWALKS, DRIVEWAYS, AND BICYCLE PATHS										
610.0203	ESTABLISHING TURF										
STATION		TRAIL LENGTH	TRAIL WIDTH*	SHOULDER WIDTH	201.07 (ACRE)	203.02 (cy)	203.03 (cy)	304.0701 12 (cy)	304.12 (cy)	608.020101 (cy)	610.0203 (sf)
FROM	TO	(ft)	(ft)	(ft)							
RT. 36	BUFFALO RD. 3,350.0 FT	1,350	16.0	2.0	0.75	400.0	33.4	130.4	400.0	5.9	10,800
BUFFALO RD.	RT. 19 10,800.0 FT	10,800	16.0	2.0	5.97	3,200.0	266.7	1,063.8	3,200.0	5.9	86,400
RT. 19	W. SWDEN RD. 12,150.0 FT	12,150	16.0	2.0	6.71	3,600.0	300.0	1,197.1	3,600.0	5.9	97,200
W. SWDEN RD.	TRESTLE PK. 24,025.0 FT	23,500	16.0	2.0	12.98	6,963.0	580.3	2,306.2	6,963.0	29.3	188,000
TRESTLE PK.	BYRON RD. 4,425.0 FT	4,425	16.0	2.0	2.45	1,311.2	109.3	434.1	1,311.2	5.9	35,400
BYRON RD.	TRANSIT RD. 9,250.0 FT	9,250	16.0	2.0	5.11	2,740.8	228.4	907.7	2,740.8	11.7	74,000
TOTAL				33.97	18,215.0	1,518.1	6,039.3	18,215.0	64.5	491,800.0	

* Trail Width includes 10'-0" Trail Width plus an additional Trail Width of 6'-0".

Item No.	Calculation*
201.07	Trail Length * (Trail Width + Shoulder Width * (4 Shoulders)) * (conversion to acres) (1 square foot = 0.000023 acres)
203.02	Trail Length * Trail Width * Depth of Subbase (0.5 ft) * (conversion to cubic yard) (1 cubic foot = 0.037037 cubic yards)
203.03	Trail Length * ((Shoulder Width * (4 Shoulders)) * Crusher Run Depth (0.166667 ft) * (½)) * (conversion to cubic yards)
304.0701 12	(Trail Length - Asphalt Transition Length (15.0 ft) leading up to and away from the road at the crosswalk locations * Trail Width * Depth of Crusher Run (0.166667 ft) * (conversion to cubic yards)
304.12	Trail Length * Trail Width * Depth of Subbase (0.5 ft) * (conversion to cubic yards)
608.020101	Asphalt Transition Length (15.0 ft) leading up to and away from the road at the crosswalk locations * Trail Width * Depth of Asphalt (0.166667 ft) * (conversion to cubic yards) * (conversion to tons) (1 ton = 1.98 T/cy)
610.0203	Trail Length * ((Shoulder Width * (4 Shoulders))

* See Dwg. D-1 for above dimensions.

PAVEMENT MARKINGS AND SIGNS							
ITEM NO.	DESCRIPTION						
645.5102	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS						
645.5202	GROUND MOUNTED SIGN PANELS LESS THAN OR EQUAL TO 2.78 SQUARE METERS WITH Z-BARS, HIGH VISIBILITY SHEETING						
645.81	TYPE A SIGN POSTS						
688.01	WHITE PREFORMED REFLECTORIZED PAVEMENT STRIPES						
STATION		ROADWAY WIDTH (ft)	CROSSWALK WIDTH (ft)	645.5102 (sf)	645.5202 (sf)	645.81 (EACH)	688.01 (ft)
FROM	TO						
RT. 36	BUFFALO RD.						
	3,350.0 FT	30.0	14.0	75.25	12.00	17.0	450.00
BUFFALO RD.	RT. 19						
	10,800.0 FT	30.0	14.0	24.50	8.00	6.0	180.00
RT. 19	W. SWDEN RD.						
	12,150.0 FT	30.0	14.0	24.50	8.00	6.0	180.00
W. SWDEN RD.	TRESTLE PK.						
	24,025.0 FT	30.0	14.0	136.50	40.00	32.0	900.00
TRESTLE PK.	BYRON RD.						
	4,425.0 FT	30.0	14.0	24.50	8.00	6.0	180.00
BYRON RD.	TRANSIT RD.						
	9,250.0 FT	30.0	14.0	36.75	20.00	9.0	270.00
TOTAL			322.00	96.00	76.0	2,160.0	

Item No.	Calculation*
607.4060	2 Access gates required per crosswalk location, one gate each side of road.
645.5102*	Add the total sign panel areas for the following MUTCD ID numbers; R5-3, W11-1, W11-2, W16-1, and W16-7p.
645.5202*	Add the total sign panel areas for the following MUTCD ID numbers; R1-1.
645.81*	1 Post per sign location.
688.01^	12 Type S crosswalk.

* See sign table for sign panel areas and number of signs.

^ See pavement marking table for more information.

SIGN TABLE					
Location	MUTCD ID Number	Sign Panel Size (sf)	Total Number of Signs	Total Sign Panel Area (sf)	SIGN TEXT
2 At each crosswalk location	R1-1	4.00	24	96.00	Stop Sign
2 At each crosswalk location	R5-3	4.00	24	96.00	No Motorized Vehicles Allowed
At the begining and end of the two on-road alternative locations	W11-1	4.00	4	16.00	Bicycle Sign
	W16-1	3.00	4	12.00	Share the Road
2 At each crosswalk location	W11-2	6.25	24	150.00	Pedestrian Crossing Sign
	W16-7p	2.00	24	48.00	Diagonal Down Arrow

PAVEMENT MARKING TABLE					
Location	Stripe Length (ft)	Stripe Width (ft)	Payment Width (ft)	Payment Factor	DESCRIPTION
1 Type S crosswalk at each location	30.0	1.0	0.33	3	2 - 1'-0" Crosswalk Bars

SILT FENCE				
ITEM NO.	DESCRIPTION			
209.13	SILT FENCE - TEMPORARY			
STATION		SILT FENCE LENGTH (ft)	SIDE	209.13 (ft)
FROM	TO			
BUFFALO RD	RT. 19	6,678	LT AND RT	13,356.0
RT. 19	WEST SWEDEN RD	3,755	LT AND RT	7,510.0
WEST SWEDEN RD	TRESTLE PARK	3,185	LT AND RT	6,370.0
TRESTLE PARK	BYRON RD	1,594	LT AND RT	3,188.0
BYRON RD	TRANSIT ROAD	1,748	LT AND RT	3,496.0
TOTAL				33,920.0

8.0 Public Participation

8.1 Steering Committee

A Steering Committee was formed in early 2007 to guide the feasibility study process with advice and recommendations on community preferences for access control, signage, parking areas, safety concerns, and other issues related to the proposed conversion of the West Shore railroad alignment to a multi-use trail. Steering Committee members included representatives from each of the sponsoring communities (Towns of Riga, Byron and Bergen, and the Village of Churchville), Monroe County Parks Department, the Genesee County Planning Department, trail user groups, adjacent property owners, NYS Department of Transportation, NYS Department of Parks, Recreation and Historic Preservation and the Genesee Transportation Council.

The initial Steering Committee meeting was held on February 8, 2007, at the Churchville Village Hall. Attendees were introduced to the project by Genesee Transportation Council staff. Lu Engineers presented a project overview and requested any comments.

A second Steering Committee meeting was held on August 28, 2007, following the first public information meeting. Representatives of the Genesee County Sheriff's Department Road Patrol and an Environmental Conservation Officer from the NYS Department of Environmental Conservation each made special presentations on their jurisdictions and enforcement efforts to control the use of off-road motor vehicles on the West Shore Trail.

Due to the sensitivity of the Bergen Swamp properties, Frances Reese of Lu Engineers made a special presentation to the Board of Directors of the Bergen Swamp Preservation Society on September 14, 2007. Board members expressed numerous concerns which are documented below.

Special meetings were also held with representatives of the Village of Churchville, the Town of Riga and the Monroe County Parks Department. Issues pertaining to each group were discussed separately.

A third Steering Committee meeting was held on April 3, 2008. Attendees reviewed the draft feasibility report and discussed the preferred alternative, project implementation and phasing, funding sources and potential trail user group conflicts.

8.2 Public Meetings

The first public meeting for this project was held on August 14, 2007, at the Gillam Grant Center in Bergen, NY. Genesee Transportation Council staff introduced the project and Lu Engineers presented an overview of the project. Attendees were invited to ask questions and comment on the feasibility study. A summary of comments received is presented in Section 8.3.

A second public information meeting for this project was held on April 24, 2008, at the Riga Town Hall in Churchville, NY. Lu Engineers staff introduced representatives of the Genesee Transportation Council and the New York State Department of Transportation, elected representatives and members of the Steering Committee. Staff also presented the preferred alternative and several dual treadway alternatives, cost estimates, project phasing, funding and implementation strategies. Members of the audience were invited to ask questions and comment on the feasibility study after the presentation. A summary of comments is presented in Section 8.3.

8.3 Summary of Comments Received

First Public Meeting Comments held on August 14, 2007

1. Bergen Swamp Preservation Society properties abut along the West Shore alignment for about one mile. This land is privately owned and BSPS wants to protect it from being overrun by ATVs, dirt bikes and pedestrians who go off-trail without permission. They have had problems with trespassers and vandals who use the railroad alignment to access the Swamp property. How will the Bergen Swamp properties be protected if the trail is developed?
2. How many people are likely to use the trail?
3. ATV riders trespass on private property adjacent to the alignment now. What measures will be taken to prevent trespass and vandalism?
4. Farmers have had crops destroyed by ATV riders.
5. ATVs ride on the trail now at excessive speeds.
6. Locked gates have caused problems for law enforcement officers who need to access the trail quickly.
7. The Village of Bergen maintains a crossing on the West Shore to access their electrical transmission line west of Rt. 19.
8. National Grid uses the West Sweden Road entrance to access their electrical substation.
9. How will this trail be connected to other trails?
10. Trail surface is rutted. It should be leveled out for pedestrians.
11. Install mile markers so runners can use it for a training route.
12. Crushed stone is the best trail surface in terms of maintenance and cost.
13. Trail entrances should either remain open or be gated with gates at least 12 ft. wide. The snowmobile club's grooming equipment needs that width to access the trail.
14. Snowmobile club volunteers put in over 60 hrs last year doing trail maintenance (brush clearing and putting up signs).
15. An asphalt surface is not desirable for equestrians or for snowmobiles. The dark surface of the asphalt speeds snow melting.
16. The Sleds of Stafford have keys for all padlocked gates at this time.
17. Gates at the road entrances currently restrict access for emergency vehicles.
18. There is a group in Oakfield and Elba that is interested in extending the snowmobile trail westward.

Village of Churchville Concerns:

1. The Village of Churchville is planning a network of walking trails around the Village. They would like to link this trail network with the proposed West Shore trail.
2. The Village of Churchville is also proposing a walking trail along Black Creek. They would like to see a link from the West Shore Trail head to the Black Creek trail.
3. The Village would like to utilize Village-owned property on the West Shore alignment as a "welcome center". Various concepts, including a possible use of a caboose, are being explored. The welcome center would include a small building that would be able to provide information about the Village, its businesses and amenities.
4. The Mayor favors the Howard Avenue subalternative.

Town of Riga Concerns:

1. Town of Riga representatives want to see “No Trespassing” signs placed on private properties adjacent to the proposed trail. They are sensitive to the issue of trespassing by ATV users and snowmobiles.
2. The Town of Riga generally supports the trail concept but would like to know if they would have any continuing maintenance responsibility for the trail.
3. The Town of Riga does not favor the placement of a parking area on the north side of Buffalo Road. They are not concerned about the placement of a parking area on the south side of Buffalo Road on Village-owned property.
4. The Town of Riga wants to be sure that properties with rights of way across the former railroad alignment are maintained.
5. Riga representatives had no opinions about either the Fitch Street or Howard Avenue alternatives.

Bergen Swamp Preservation Society Concerns and Requests:

1. Construction of trail will introduce invasive species via, equipment, plantings, fill material.
2. Increased trail use may attract poachers and other undesirables to the swamp, as well as increase gas and noise pollution.
3. Bikes, ATVs, and horses will increase incidents of reptile mortality and spread of invasives.
4. An Environmental Impact Study needs to be done before the feasibility study is completed.
5. Absolutely no plantings along the new trail.
6. All equipment should be cleaned before coming into areas adjacent to swamp property.
7. Board would like gates to discourage users going into swamp.
8. Before trail design is complete BSPS would like input on that design.
9. Board requested that Genesee Transportation Council officially recognize BSPS as a “party of interest” for the entire project. As party of interest we would receive a formal proposal and timeline for the project, and all correspondence to and from GTC pertaining to the project.

Comments from Second Public Meeting, April 24, 2008

1. What can be done to keep the ATVs off the trail? A Churchville resident has noticed that ATVs get on the trail behind the Churchville Family Restaurant and roar up and down the trail. He has been told to call 911, which he does, and gets little response. The resident counted more than 170 ATVs using the trail on a Saturday afternoon in May. Enforcement is not a priority on the West side of Monroe County.
2. A representative of the NYSDOT in the audience pointed out that with repeated violations, the police have the option to confiscate the off-road motor vehicle from the owner under current regulations. Sometimes one or two confiscations will discourage ATV riding on a trail. The DOT representative also mentioned that TEP funding could not be used for construction of a trail for off-road motorized vehicles.
3. When snowmobiles use the trail in large numbers, it becomes difficult for cross country skiers to use the trail.
4. Who determines who has access to the trail?
5. Mr. Felton stated that as a Town representative in a community where there are a lot of ATV users, he could see the attraction for having a trail available for the ATV riders to use. He said they currently contribute some income to the community by buying gas, etc, but many of them are local residents who access the trail from their own properties. He will bring the matter back to the Town Board for further discussion.
6. The ATV riders doing the damage and trespassing appear to be from out of town, possibly Gates and Chili.
7. Mr. Ivison inquired about the Byron share of the cost of the trail from West Sweden Road to Terry Street.
8. Churchville Park Road Extension should be used as the trail connector as far as possible. People use the open field area to practice golf shots, play Frisbee, etc. The Churchville Lions Club also uses it for their Country Fair every year. Placement of a trail across this field would disrupt these uses.
9. Snowmobiles rarely use the fishing access parking lot for their vehicles. They usually park over on the other side of Black Creek by the tennis courts.
10. Snowmobiles ride all over the "flats" south of the Park Road extension. They don't really stick to the marked trail.
11. Large stones should be placed at problematic access points along the trail.
12. One ATV user was present in the audience. After the meeting, he made the following comments:
 - a. ATV users pay taxes too. They should have the right to use this trail because it is public land and was purchased with taxpayer dollars.
 - b. Why spend the money for this trail when ATVs can use the trail as it is?
 - c. Why aren't public funds available for ATV trails?
13. How do we get organized to make a TEP application? Who is going to take the lead on this application?
14. Where does the Town of Bergen stand? Is there a representative from Bergen here tonight? Are they going to be willing to participate in the application process?

9.0 Steps to Implementation

9.1 Phasing of Trail Design and Construction

Development of the West Shore Trail is likely to be dependent upon the availability of funding sources and the priorities of the owners of the alignment. Project phases must be divided into sections with logical termini. The phases may also be implemented by each community independently. The following phases are proposed for implementation of the West Shore Trail:

Phase 1: Churchville Section (Village Municipal Parking Lot to south side of Buffalo Road)

- Designate parking spaces in Village Parking Lot; add signage and amenities (bike racks, benches).
- Determine preference for Fitch Street or Howard Avenue as on-road section. Develop detailed plans to improve sidewalks and drainage as needed to meet ADA requirements for pedestrian users.
- Construct 10-foot wide stone dust trail from North Street/Howard Avenue to Buffalo Road.
- Construct 5 car gravel surface parking lot on south side of Buffalo Road.
- Construct Village Welcome Center building and signage.

Note: These action items will be implemented by the Village of Churchville independently of the other trail phases pursuant to the Village plans.

Phase 2: Monroe County-Churchville Park Section (north side of Buffalo Road to Route 19, Bergen)

- Install signage for trailhead on north side of Buffalo Road.
- Construct 10-foot wide stone dust trail from north side of Buffalo Road to Route 19, Bergen.
- Install access control gate at Buffalo Road entrance.
- Construct temporary parking area at Route 19, Bergen with signage, access controls, and pedestrian crossing markers on road. Include stop signs for trail and advanced warning signs for traffic on NY Route 19.
- Coordinate with Town of Riga and adjacent property owners on access controls and signage.
- Consider constructing a trail link from the West Shore alignment to the Park Road Extension turnaround in Churchville Park.

Phase 3: NY Route 19 to West Sweden Road

- Install signage and access controls.
- Construct 10-foot wide stone dust trail from west side of NY Route 19 to West Sweden Road.
- Construct 5 car parking area with trailhead signage, access controls, and Bergen Swamp property notification.

Phase 4: West Sweden Road to Trestle Park

- Construct 10-foot wide stone dust trail.
- Install access controls, landscaping and signage.
- Coordinate with Bergen Swamp Preservation Society on preferences for access controls (gates, landscape rock placement) and signage.
- Acquire or obtain easement across privately owned property in hamlet of Byron.

Phase 5A: Terry Street to Byron-Batavia Road

- Remove existing 10-foot wide trestle bridge over Black Creek.
- Construct a 12-foot wide, timber replacement deck on the existing abutments of the Trestle Bridge over Black Creek.
- Construct a 10-foot wide stone dust trail and small parking area at Byron-Batavia Road.
- Add signage, access controls and other amenities.

Phase 5B: Byron-Batavia Road to Transit Road

- Construct 10-foot wide stone dust trail on former alignment.
- Add signage, access controls, and other amenities.

9.2 Sources of Funding

The following sources of funding could be used to support further planning and development of a multi-use trail on the former West Shore alignment:

- **The Transportation Enhancement Program (TEP)** administered by the NYS Department of Transportation. It should be noted that funds from this program can only be used for non-motorized vehicle trails. The program provides up to 80% reimbursement of costs to participating communities, but communities must use their own funds up front. Trail-related activities eligible for funding under the TEP include:
 - Provision of facilities for pedestrians and bicycles – including sidewalks, trails, walkways, or curb ramps; wide paved shoulders for non-motorized use, bike lane striping, bike parking, and bike racks; construction or major rehabilitation of off-road shared use paths (non-motorized transportation trails); trailside and trailhead facilities for shared use paths; bridges and underpasses for pedestrians and bicyclists and for trails.
 - Landscaping and other scenic beautification - Landscaping, street furniture, lighting, public art, and gateways along highways, streets, historic highways, trails, and waterfronts.
 - Rehabilitation and operation of historic transportation buildings, structures, or facilities (including historic railroad facilities and canals).
 - Preservation of abandoned railway corridors (including the conversion and use of the corridors for pedestrian or bicycle trails) – including acquiring railroad rights-of-way; planning, designing, and constructing multiuse trails; developing rail-with-trail projects.
- **The Congestion Mitigation Air Quality (CMAQ) Program** provides federal funding for surface transportation and other related projects that contribute to air quality improvements and reduce congestion. This federal program has been used regionally to provide funding for two trail projects, including the Irondequoit Lakeside Trail and the Erie-Attica Railroad Connector to the Genesee Valley Greenway Trail. Funding is available for areas that do not meet the National Ambient Air Quality Standards (nonattainment areas) as well as former nonattainment areas that are now in compliance (maintenance areas). The formula for distribution of funds, considers an area's population by county and the severity of its ozone and carbon monoxide problems within the nonattainment or maintenance area, with greater weight given to areas that are both carbon monoxide and ozone nonattainment/maintenance areas.

- **New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP).** The NYSOPRHP offers potential funding sources that could be applied to the West Shore Trail.
 - The **Parks Program** is a matching grant program for the acquisition and/or development of parks and recreational facilities, and for the protection of open space. Funds may be awarded to municipalities or not-for-profit entities with an ownership interest in the property. Projects must reflect the priorities of the most recent NY Statewide Comprehensive Outdoor Recreation Plan (SCORP).
 - **Acquisitions.** The Acquisitions program funding can be used when acquisition of a parcel is a priority.
 - **New York State Snowmobile Grant Program.** The Snowmobile Trail Grant Program establishes a mechanism for allocating funds to local governmental sponsors that engage in the development and maintenance of snowmobile trails designated as part of the State Snowmobile Trail System. The annual funding is allocated to the local government sponsor on a pro-rated basis. The pro-rated amount is derived from the Application and is paid out with a 70% "Grant-In-Aid" followed by a 30% reimbursement to the municipality upon documentation of 100% of the awarded total cost. (The Post Project Submission). Snowmobile Grant Program funds are only committed to designated NYS Snowmobile Trails. Since the West Shore Trail is a designated snowmobile trail, it is eligible for funding under the grant program. Funding from this program could be used for more permanent signage, establishment of new trailheads and other features.
 - **Recreational Trails Grant Program.** OPRHP administers the Recreational Trails Grant Program, a federal matching grant program that provides funding to acquire and maintain recreational trails for motorized and non-motorized recreational trail use (30% motorized, 30% non-motorized and 40% mixed-use). Eligible trails must be: 1) accessible to the public; 2) developable as a trailway; 3) planned and developed to meet all state requirements; and 4) be a project identified or related to a project in the Statewide Comprehensive Outdoor Recreation Plan (SCORP). Special consideration is given to projects which: 1) provide access for the disabled; 2) mitigate and minimize impacts to the natural environment; 3) utilize youth conservation or service corps; 4) receive Millennium Trails recognition; or 5) are National Scenic Trails, National Historic Trails or trails designated as National Recreational Trails. The NYS Trails Council, a citizens' advisory council consisting of representatives from various trail user groups, provides recommendations to OPRHP on Recreational Trails.
 - **Land and Water Conservation Funds.** This federal program is administered in NYS through the OPRHP. Funds from this program may be used for acquisition of parcels for recreational or park use. Funding levels at this time are uncertain.
- **NYS Legislature Member Item Program (MIP).** Construction of the West Shore Multi-use trail may also be funded by a NYS Legislature Member Item Program designation. Municipalities and not-for-profit agencies are eligible to apply for funds to cover salaries and wages of award recipients, consulting and professional fees for design and construction, expenses related directly to employees, consultants and professionals involved in the project, costs of acquisition, repair, and other community development or improvement activities associated with the project.

- In-kind support from local communities and government agencies can be used as a local match for the Transportation Enhancements Program. It is anticipated that the Towns of Byron and Bergen, the Village of Churchville, and Monroe County will support trail construction through the use of in-kind labor and equipment.
- Donations from local businesses and individuals. Local businesses can be encouraged to support the trail by donating the cost of amenities such as benches, signage and bicycle racks. In return, the location of these businesses can be featured on signage or sponsor recognition could be provided.
- Volunteer labor and equipment. Local snowmobile clubs already donate significant hours of labor and equipment to maintain the West Shore Trail. Other sources of volunteer labor may include Boy and Girl Scout troops, church youth groups, and local service organizations.
- Local service organizations could be recruited to hold a fund drive to cover the cost of materials or construction of the West Shore Trail.

9.3 Local Needs

Non-profit Trail Advocacy and Support Group

For implementation of all phases of the West Shore Trail to be successful, further development of a local advocacy organization will be needed. While the alignment may be largely in public ownership, the issue of continuing trail maintenance and repairs must be addressed. The formation of a West Shore Multi-use Trail advocacy organization could spearhead funding applications and coordinate trail development.

Trail User Groups

Public comments received during the feasibility study period have indicated general public support for a multi-use trail, but community preferences for use modes must be better expressed and determined. The issue of permitting off-road motorized vehicle use on the West Shore alignment is a community decision for the Towns of Bergen and Byron. This decision will also govern the choice of available funding sources. At the present time, Transportation Enhancement Program funds cannot be used for all-terrain vehicle trails.

Opinions regarding the use of motorized off-road vehicles on the trail varied. Several residents at the first public meeting indicated that they own property along the West Shore trail and use it to ride their ATVs without trespassing. They noted that the alignment was purchased with taxpayer dollars and that they are taxpayers, and as such, have a right to use the trail. Others commented that their properties have been damaged and vandalism has occurred as a result of ATV riders accessing their properties from the West Shore Trail. The general comment was that ATV trespassers were generally not local to the Bergen/Byron community.

At the present time, use of all-terrain vehicles is not officially permitted on the West Shore alignment within the Towns of Byron and Bergen. Monroe County officially does not allow ATV use on its portion of the West Shore alignment. Law enforcement officials indicated that keeping ATVs off the West Shore trail is very difficult because of the locked gates at every intersection. Officers are reluctant to use expensive cruisers to chase the highly mobile and fast ATVs when they can be intercepted at intersections and at loading/unloading points.

Trail User Needs

- Restrooms. Site reconnaissance showed that there are no public restrooms conveniently available to potential trail users. Public restrooms are available at the Byron Community Park in the hamlet of Byron adjacent to the trail and in the Churchville Village Hall. Consideration should be given to providing improved access to existing public restroom facilities or to providing a public restroom at certain trailhead locations.
- Potable water. Site reconnaissance showed that there are no public drinking fountains readily available to users of the West Shore alignment. Trail users must walk into Churchville Park, the Churchville Village Hall, or to the Community Park in Byron to find a drinking fountain. Potable water is available at most of the proposed trailhead locations. Consideration should be given to including a source of potable water at each trailhead.
- Benches. Trail development guidelines call for benches or seats to be placed at a convenient distance for pedestrian trail users. In communities where pedestrians may be elderly or of limited mobility, bench placement may be critical to getting people to use the trail. Community representatives will be consulted regarding recommendations for the placement of benches along trail segments that are most likely to be used by pedestrians.
- Parking. Convenient, secure and well-marked parking is important in fostering use of the trail. Parking areas have been recommended at logical points along the trail.
- Signage. Signage will be required to designate parking areas, indicate access points and appropriate trail users, provide historical interpretive information about the New York Central's West Shore Line and its importance to the development of the Churchville, Bergen and Byron communities, indicate locations of rest rooms and businesses providing trail-related services (food, drinks, bicycle repair, lodging). It is anticipated that the cost of some signage may be offset by donations from local businesses or support organizations.

9.4 Schedule

The schedule for trail construction will depend largely upon the availability of grant funding and the ability or interest of the communities in making grant applications.

The Village of Churchville plans to implement its portion of the trail in the immediate future, and to coordinate development of the West Shore trail segment with plans for the Village "Welcome Center" and other walking trails within the Village.

The communities of Bergen and Byron must determine whether to allow motorized off-road vehicle use of their segments of the West Shore alignment. Further advancement of a trail design will depend upon this decision.

New York Central West Shore Branch
Multi-Use Trail Feasibility Study

Appendices

- Appendix 1. Public Meeting Presentations
- Appendix 2. Minutes from Committee Meetings
- Appendix 3. Minutes from Special Meetings
- Appendix 4. Minutes from Public Meetings
- Appendix 5. Vehicle Gap Analysis

**New York Central West Shore Branch
Multi-Use Trail Feasibility Study**

**Appendix 1.
Public Meeting Presentations**

**New York Central West Shore Branch
Multi-Use Trail Feasibility Study**

Appendix 2.

Minutes from Committee Meetings

**New York Central West Shore Branch
Multi-Use Trail Feasibility Study**

**Appendix 3.
Minutes from Special Meetings**

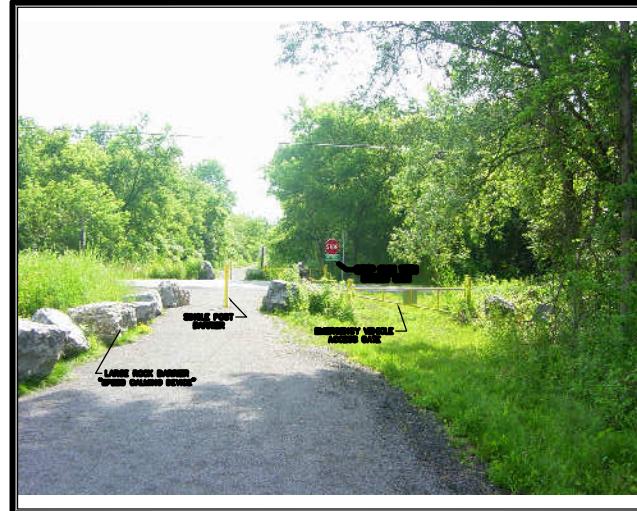
**New York Central West Shore Branch
Multi-Use Trail Feasibility Study**

**Appendix 4.
Minutes from Public Meetings**

**New York Central West Shore Branch
Multi-Use Trail Feasibility Study**

Appendix 5.

Vehicle Gap Analysis



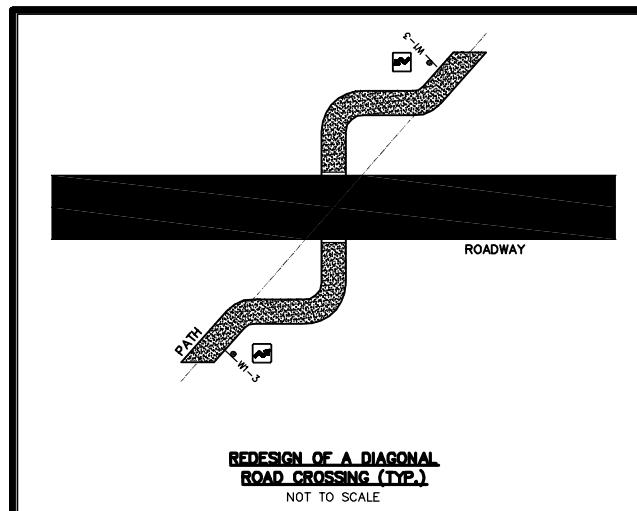
TYPICAL MULTI-USE TRAIL @ ROAD CROSSING
N.T.S.



TYPICAL MULTI-USE TRAIL/ROAD CROSSING
N.T.S.



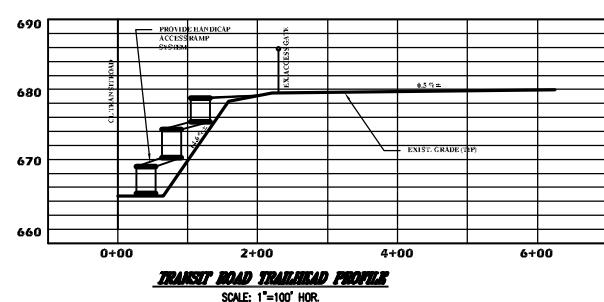
TYPICAL MULTI-USE TRAIL
N.T.S.



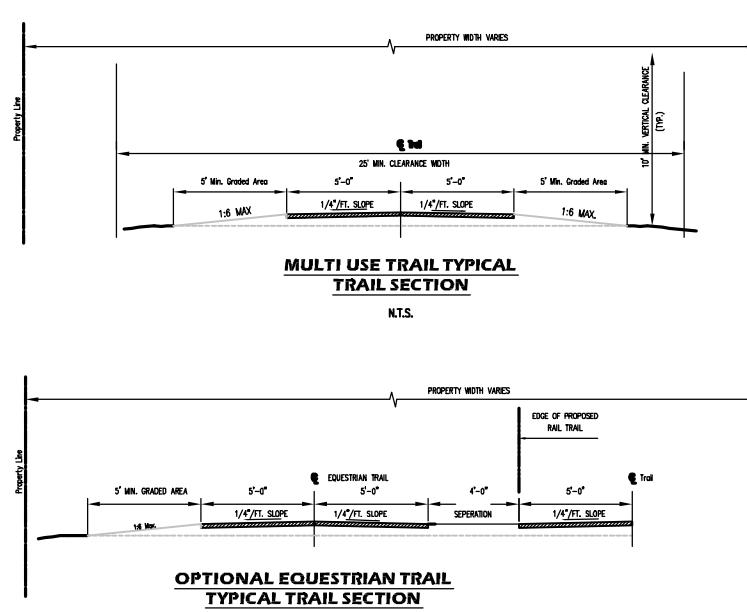
REDESIGN OF A DIAGONAL ROAD CROSSING (TYP.)
NOT TO SCALE

1 ON 3 OR FLATTER
12" COMPACTED CRUSHED STONE
SEE PLAN FOR DIMENSIONS
COMPACTED SUB-GRADE

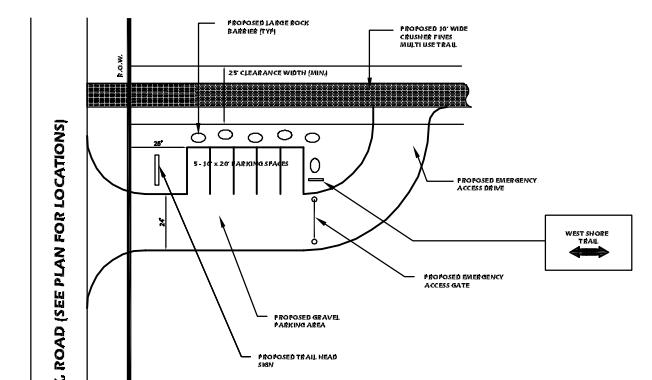
TYPICAL PARKING DETAIL
NOT TO SCALE



TYPICAL TRAIL PARKING AREA
N.T.S.



HANDICAP ACCESS @ BYRON TRAILHEAD
N.T.S.



LOCATION MAP
N.T.S.

DRAWING ALTERATION
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DR _____
DATE: _____

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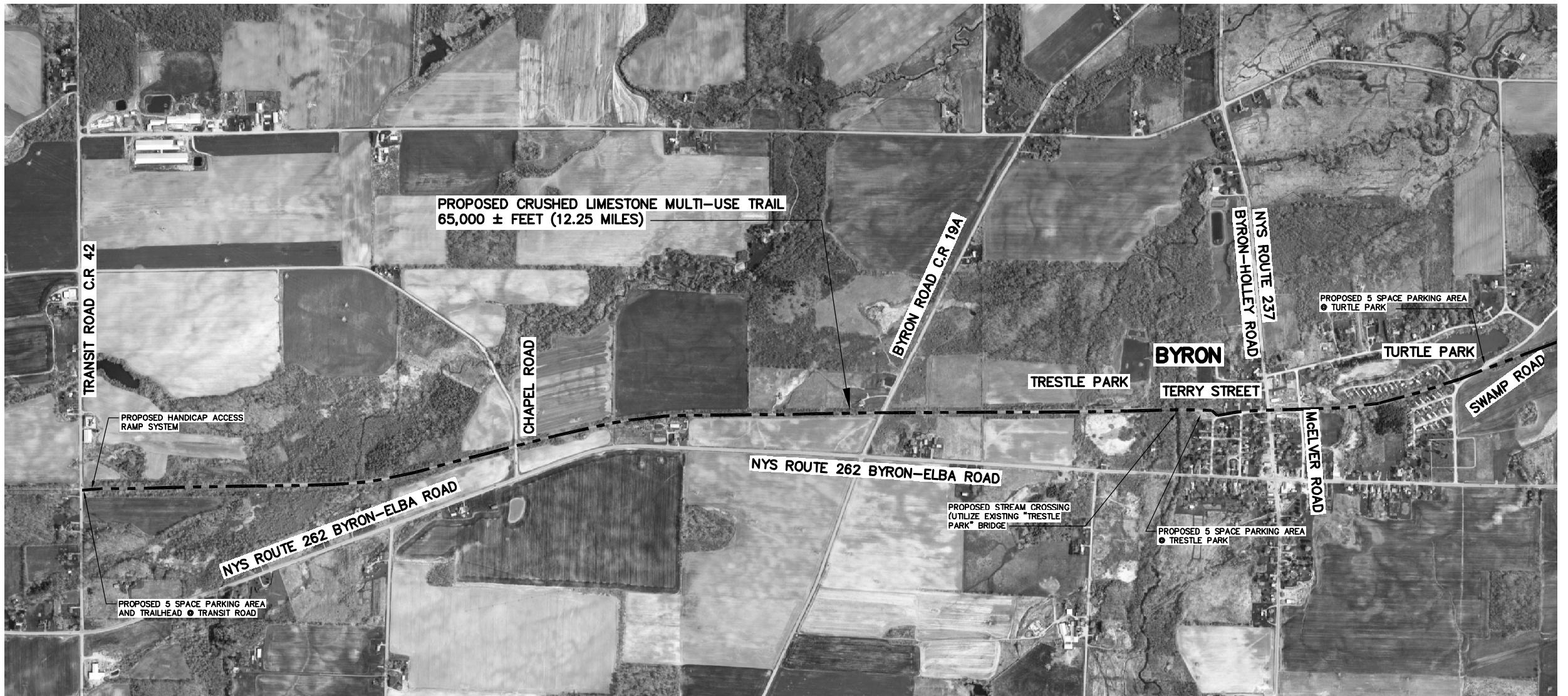
PROJECT:
NYCRR
WEST SHORE TRAIL
BERGEN, BYRON, CHURCHVILLE

CLIENT:
GENESSEE TRANSPORTATION
COUNCIL

DRAWING TITLE:
DETAILS

REVISION NUMBER: 00000000
DRAWN BY: JON DATE: JANUARY 2008
CHECKED BY: FR PROJECT No. 330002.02

SHEET 5 OF 5 DRAWING No. D-1



**LOCATION MAP
N.Y.S.**

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DATE: _____

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PROJECT:
NYCRR
WEST SHORE TRAIL
BERGEN, BYRON, CHURCHVILLE

CLEAR:
GENESSEE TRANSPORTATION
COUNCIL

DRAWING TITLE:

SITE PLAN

RECORDED DRAWING **SCALE: 1"-500'**

DRAWN BY: JH **DATE: JANUARY 2008**

CHECKED BY: PR **PROJECT No. 33002.02**

SHEET **1 OF 5**

DRAWING No. **PL-1**



GPS AND AERIALS

**LOCATION MAP
N.T.S.**

DRAWING NUMBER:
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PROJECT:
NYCRR
WEST SHORE TRIAL
BERGEN, BYRON, CHURCHVILLE

CLEAR:
GENESSEE TRANSPORTATION
COUNCIL

DRAWING TITLE:

SITE PLAN

RECORDED BY: **SCALE:** 1"=500'
DRAWN BY: **DATED:** JANUARY 2008
CHECKED BY: **PROJECT No.:** 33002.02

SHEET: **DRAWING No.:**
2 OF 5 **PL-2**



**LOCATION MAP
N.Y.S.**

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**DR. _____
DATE: _____**

REVISIONS BY

DRAWING NUMBER

DATE

BY

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PROJECT:
NYCRR
WEST SHORE TRAIL
BERGEN, BYRON, CHURCHVILLE

CLEAR:
GENESSEE TRANSPORTATION
COUNCIL

DRAWING TITLE:

SITE PLAN

REMOVED DRAWING **SCALE: 1"-500'**

DRAWN BY: JON **DATE: JANUARY 2008**

CHECKED BY: PR **PROJECT No. 33002.02**

SHEET **DRAWING No.**

3 OF 5 **PL-3**



0 500 1000 1500
SCALE: 1"=500'

**LOCATION MAP
N.Y.S.**

DRAWING ALTERATION
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**BY _____
DATE: _____**

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PROJECT:
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WEST SHORE TRAIL
BERGEN, BYRON, CHURCHVILLE

CLIENT:
GENESSEE TRANSPORTATION
COUNCIL

DRAWING TITLE:
SITE PLAN

RECORDED BY: JON **SCALE: 1"=500'**
DRAWN BY: JON **DATE: JANUARY 2008**

CHECKED BY: FR **PROJECT No. 33002.02**

SHEET **4 OF 5** **DRAWING No.**
PL-4