



The Greenway

Grand Forks, ND • East Grand Forks, MN

Chapter Six Action Plan

May 2001

Chapter 6

Action Plan

The Grand Forks/East Grand Forks Greenway Plan is an ambitious and progressive initiative that will require the concerted efforts of local government agencies, private sector organizations, business and industry, civic groups, and community residents. These groups, organizations and agencies ultimately must assume a leadership position and take necessary actions if the Greenway is to become the valuable community asset that this Plan envisions. State and federal agencies will need to provide funding and programs to support local efforts to assist in future implementation of the key elements of this Plan.

This chapter of the Plan defines some of the most important actions that will need to be undertaken to achieve the vision defined by this Plan. The chapter defines an overall implementation strategy for the Greenway, and outlines some practical “next steps” for implementing this Plan.

Organizational Framework

Implementation of the Greenway in Grand Forks, ND and East Grand Forks, MN will be accomplished separately by the two communities. Grand Forks will establish a Greenway Division within the City of Grand Forks Engineering Department. East Grand will work in partnership with the State of Minnesota Department of Natural Resources to manage the Greenway system.

Grand Forks Greenway Division

The purpose of the Greenway Division will be to manage, on behalf of the City, the development and implementation of the Greenway Master Plan. The Greenway Division shall engage in proactive partnerships with federal and state government agencies, private sector business organizations, institutions, community groups and individuals to realize the full potential of this Plan in order to enhance the livability and quality of life for residents of Grand Forks, ND and East Grand Forks, MN.

Structure:

Staffing: Initially, the Greenway Division may require up to two staff positions within the Engineering Department. The Greenway Division will report to the City Engineer.

Other Partners: The Greenway Division will work with the Greenway Alliance and others as appropriate. The Alliance brings

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public, private, and non-profit organizations expertise together. Additional private sector entities will also play a significant role. Currently, two non-profit organizations have been formed and may aide in the development and implementation of the Greenway. The Greenway Division staff will work with Friends of the Greenway and GOALS within both communities. Other private sector support is beginning to emerge, including support from the Chambers of Commerce in both communities, as well as local civic clubs.

The State of Minnesota Department of Natural Resources is already a strong public sector partner and a co-developer of the East Grand Forks Greenway facilities. The State of North Dakota has also expressed some limited interest in assisting Grand Forks with facility development.

The federal government is a partner in Greenway facility development. The US Army Corps of Engineers will participate in the development of Greenway recreational facilities through the Greenway on a cost share basis with both communities. The Natural Resource Conservation Service (NRCS), the Environmental Protection Agency (EPA), North Dakota Game and Fish, and the North Dakota Forest Service have already identified programs and funding. The US Fish and Wildlife Service has expressed an interest in partnering with both communities to conduct environmental education within the Greenway. The Federal Emergency Management Agency has also expressed an interest in the larger Red River Basin through its Project Impact program. In addition, other federal agencies have expressed interest.

Responsibilities of the Greenway Division: Management and Coordination

The overall management of the Greenway and coordination with other entities operating within the Greenway rests with the Greenway Division. The Engineering Department shall review and have final approval of proposed projects within the Greenway area to assure that they comply with Corps of Engineers flood plain project management requirements. The Greenway Division shall coordinate with other public and private organizations interested in the development of the Greenway. The Greenway Division shall give special attention to working with the City of Grand Forks Planning Department to develop an overall strategy to implement the City's approved Greenway Master Plan; the City of Grand Forks Urban Development Department in the maintenance of the Greenway area; and the Grand Forks Park District to take advantage of its expertise in areas such as forestry management, recreation, event coordination, and management of park areas.

Planning and Design:

The planning and design of facilities within the Greenway in accordance with the Greenway Master Plan as approved or as amended by the City Council from time to time.

Events Programming:

Maintain a master calendar of scheduled events within the Greenway and work with the Park District and other organizations to host and market a variety of events as the Greenway is developed.

Marketing:

In an effort to make the Greenway a tourist attraction, the Greenway Division is responsible for the marketing of events scheduled within the Greenway. The Greenway Division shall work closely with the Park District, Convention and Visitor Bureau, and other Greenway organizations and community groups to coordinate marketing efforts.

Fund Raising:

Assist 501(c)(3) non-profit organizations in writing grants and seeking resources to implement the Greenway Master Plan and/or to funds for the operation and management of the Greenway.

Roles of Other Organizations

The Greenway Alliance was formed to facilitate the development of the Greenway Action Plan and to establish the Greenway governance, would be involved as an advisor to the governing structure of Grand Forks, ND and East Grand Forks, MN. The Greenway Alliance is made up of agencies and organizations with technical expertise in various areas of interest. The Greenway Alliance has been used to provide advice on management, development, operations, maintenance, and event coordination issues as needed. It is assumed that the Greenway Alliance will continue to work directly with the City of Grand Forks, City of East Grand Forks, MNDNR, and Grand Forks Park District on various issues.

Additionally, Two private sector non-profit organizations have been established to support the development and management of the greenway system. The **Friends of the Greenway** is a non-profit whose objective is to assist with advocacy and funding of future greenway facilities in both Grand Forks and East Grand Forks. Any person, organization or business can become a member of Friends of the Greenway. Friends also offers volunteers to both communities to help with clean up, event programming and operations of the Greenway system.

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GOALS (Greenway Outdoor Aerobic Lifetime Sports) is another non-profit organization whose primary purpose is to sponsor events within the Greenway. The mission of the organization is to promote aerobic lifetime sporting events and activities. GOALS co-sponsored the first Greenway Ski Day in partnership with the Grand Forks Park District in the winter 1999. GOALS also cosponsored a canoe trip on the Red River in the summer 2000. Many more events are currently being planned that will expand on these offerings.

Land Ownership

The property within the Greenway would be owned by the City of Grand Forks, ND, the City of East Grand Forks, MN, or the Minnesota Department of Natural Resources. The Grand Forks Park District will manage the following four areas: Lincoln Golf Course, Riverside Park, Lincoln Park, and Central Park trailhead facility and playground equipment as part of the City and Park District Lease Agreement. East Grand Forks and the State of Minnesota will cooperatively own and operate a State Recreation Area on the Minnesota side of the Greenway.

Next Steps

In order to implement the vision, goals, objectives and facilities recommended within this Plan, a plan of action is needed to guide future community activities. The following is a listing of next steps and immediate actions that should be undertaken by the two cities and their partners in order to quickly and efficiently bring Greenway facility development on-line.

Adoption of the Greenway Plan

One of the first steps to be taken by the City of Grand Forks, the City of East Grand Forks is to adopt this Greenway Plan as an element of their comprehensive plan and consider its recommendations for managing the Greenway. Likewise, other agencies, organizations and businesses within the communities should also incorporate the aspects of this plan that directly relate to their individual mission, goals and objectives.

Marketing the Greenway

Several marketing tools need to be completed for the Greenway. First, a brochure that describes the overall concept and specific elements of the Greenway Plan should be produced. Currently, the City of Grand Forks has taken the lead on this and has commissioned Greenways Incorporated to complete a marketing brochure. Second, a Greenway web site should be developed that provides up-to-date information about Greenway facility development, event programming

and operations. If possible, the web site should offer an opportunity for comment and feedback from the public. Third, the cities should work with local and national media to define the goals and objectives for the Greenway and promote its development to the extent possible. Fourth, the communities should continue to work with other local groups to sponsor marketing and promotion events for the Greenway. The Wal Mart stores of Greater Grand Forks have agreed to feature the Greenway in both brochures and national television ads. This is one example of some of the marketing efforts that can be made by local businesses and civic groups.

Private Sector Support

In addition to Friends of the Greenway and GOALS, other private sector organizations and businesses should be encouraged to support the future development and operation of the Greenway.

The Chambers of Commerce in both Grand Forks and East Grand Forks have also added their support for Greenway development and are interested in securing other private sector support. Additionally, the Rotary Club of Grand Forks has indicated an interest and willingness to support Greenway development. Currently, the Rotary Club has offered financial assistance to both communities for the future development of greenway facilities in the downtown section of Grand Forks and East Grand Forks.

Funding

Both communities need to aggressively pursue local, state, federal and philanthropic funding. The City of East Grand Forks primary effort is the designation and funding for a State Recreation Area. Several federal agencies currently offer financial support for Greenway facility development, including the EPA 319 Program, Ecosystem Protection Initiative, and Sustainable Development Program. A number of private foundations also support greenway development, including the Aspen Institute for Rural Economic Policy and the Pinchot Institute for Conservation which are currently offering assistance for community based forestry initiatives.

The Greater Grand Forks Metropolitan Planning Organization has also applied for TEA-21 funding to support trail/bridge development within the Greenway. This is in addition to financial support offered on a cost-share basis by the US Army Corps of Engineers.

Property Clean Up

There are a number of environmental hazards being revealed as the demolition and clean-up continues throughout the Greenway lands. The Grand Forks Engineering Department, Urban Develop-

ment Department, Planning Department, and Grand Forks Park District currently has a checklist of problematic areas and a program for mitigation and clean up. Additionally, the City of Grand Forks has plans for utility cleanup throughout the Greenway. Property clean up and hazard abatement is nearing completion in East Grand Forks.

Comprehensive Inventory of Natural Resources

This Comprehensive Plan has identified the need for a more complete and thorough definition of the natural resource base contained within the Greenway lands. Specifically, a biological and vegetative inventory and associated mapping program is needed. This should pick up from where the ACRT Tree Inventory Plan concluded. This can be completed by the local communities in partnership with the University of North Dakota, and the States of Minnesota and North Dakota. Funding should be available from a variety of sources to complete this work.

Greenway Facility Implementation

The following provides a listing of specific actions that should be undertaken for each of the key Greenway facilities defined within this Plan.

City of Grand Forks Implementation Strategies

Riverside Park

- Grand Forks Park District will manage this area.
- Improvements by the Park District include a hockey rink, flower beds, playground, frisbee golf course, volleyball courts, horseshoe pits in 2004-2005.
- Prepare the design for a low level levee.
- Review completed low level levee plans with City, USACE, Office of Urban Development and Planning Department.

Festival Park

- Prepare design plans for a new layout for Festival Park from Demers Avenue Bridge to Gateway Drive Bridge.
- Review completed plans with City, Downtown Leadership Group (DLG), Office of Urban Development, Planning Department, etc.
- Conduct neighborhood reviews.
- Finalize design plans.
- Apply for funding.
- Obtain funds.
- Finalize construction documents.
- Begin construction of Festival Park facilities with a proposed start date of spring 2005.

Grand Forks Amphitheater

- Finalize research on similar sized amphitheatres around the United States.
- Prepare conceptual design plans for the riverside amphitheater, trails system and associated facilities.
- Review completed plans with City of Grand Forks, DLG, Office of Urban Development, etc.
- Finalize conceptual design plans.
- Apply for funding to build amphitheater and trails.
- Remove old train trestle that spans roadway.
- Obtain funds.
- Finalize construction documents.
- Begin construction of amphitheater, trails and realigned entry roadway with a proposed start date of spring 2005.

Grand Forks Community Green

- Prepare conceptual design plans for Community green. Coordinate these plans with those for the Town Square Park.
- Review completed plans with City of Grand Forks, DLG, Office of Urban Development, etc.
- Finalize conceptual design plans.
- Reconfigure remaining streets and parking lots and remove all asphalt and debris from project site.
- Apply for funding to build Greenway facilities
- Obtain funds.
- Finalize construction documents.
- Begin construction of trails, lawn terraces and landscaping with a proposed start date of 2001.

Lincoln Drive Neighborhood

- City of Grand Forks shall apply 319 Funds from EPA for ecological restoration of the low area of Lincoln.
- Close down select remaining streets, driveways, sidewalks and non-functioning City owned utilities. The remaining streets will remain open: Lincoln Drive Loop Road, Lincoln Drive to Plum Avenue, to Euclid Avenue, to Lanark Avenue.
- Identify scope for continued cleanup of relevant remaining properties that involve removal of materials that pose a risk to health and safety.
- Identify scope, prepare a budget for tree and vegetation trimming and removal, identify funding source.
- Trim trees and other vegetation according to Tree Inventory Plan by ACRT.
- Complete Site Design Plans for Lincoln Park Neighborhood.
- Meet with adjacent neighborhoods, City Council and agencies to review plans.
- Finalize restoration plans and have them adopted by City Council.

- Obtain the 319 Funds and other funds from sources identified by Plan.
- Begin early action project development within the Lincoln Park Neighborhood in accordance with the Greenway site plan that is adopted by the City Council. Complete work as a partnership between ND Forest Service, NRCS Grand Forks Park District, and City of Grand Forks.

Lincoln Park Golf Course

- Area managed by Grand Forks Park District.
- Complete a redesign of the golf course from 18 holes to a 9 hole executive course and add other features including a golf training center.
- Complete conceptual design plans for the new 9-hole course layout.
- Conduct Neighborhood reviews.
- Apply for funding.
- Obtain funds.
- Finalize construction documents.
- Begin to restructure golf course layout with a proposed start date of 2002.

Grand Forks Nature Center

- Meet with local, state and federal officials to define goals and objectives.
- Prepare conceptual plans for Nature Center.
 - Use project goals to define landscape condition.
 - Define location of trailheads, signage, overlooks, etc.
 - Define location of visitors center/education center.
- Review plans for Nature Center with City of Grand Forks.
- Review plans with Neighborhoods adjacent to Nature Center.
- Begin to clean up the landscape designated for Nature Center.
- Remove hazardous materials from landscape.
- Remove non-functioning utilities from designated landscape.
- Rehabilitate and restore landscape to support designated wildlife habitat.
- Obtain permits necessary to install Nature Center elements (EPA, SWC, Health Department, USACE).
- Market and promote Nature Center.
- Apply for funding.
- Obtain funding.
- Begin early action projects.
- Construct Nature Center with a proposed start date of summer 2002.
- Establish operations budget and employ staff necessary to run Nature Center.

City of East Grand Forks Implementation Strategies

State Recreation Area

The State of Minnesota has designated a significant portion of the East Grand Forks Greenway as a State Recreation Area. The Department of Natural Resources (MnDNR) will provide operations, development and management support for these land areas. MnDNR is currently conducting comprehensive management plan to include campground development plans, recreational and educational trail systems for the Greenway visitor center and staffing plans. The Minnesota State Recreation Area will provide valuable recreational and educational services for citizens and school systems of both cities as well as an important tourism hub for visitors to the area.

Valley Golf Course Area

- ✚ Prepare plans to reconfigure and expand the golf course to the northeast to accommodate for the loss to golf holes due to the levee alignment.
- Work with the Army Corps of Engineers (USACE) to design a levee opening or reconfigure the course or clubhouse to retain cart and handicapped accessibility and visibility of the course from the parking lot and the clubhouse.
- Modify the Red River dam to a rock structure (USACE action).

River Heights Park

- Begin to restore vegetation at the river's edge.
- Consider vegetation test plantings for prairie seed mix.
- Add paved and non-paved trails from downtown and connections to the proposed USACE trailhead at 17th Avenue NW.
- Work with USACE to relocate the proposed 12th Avenue NW trailhead to a more suitable location or to reallocate the resources to another recreation facility.
- Evaluate the suitability for accessible shore fishing location as part of the trail improvements.
- Continue selective tree pruning and removal as appropriate.

Sherlock Park Area

Sherlock Park Amphitheater

- Use the USACE levee to create a grass performance amphitheater.
- Add a roof over the railroad engine, move it to the downtown or donate it to the Minnesota Transportation Museum.

Former Sherlock Neighborhood Area

- Site of the proposed Red River State Recreation Area campground.
- Work with USACE to retain a suitable low level protective dike for the campground.
- Work with USACE to relocate the proposed USACE Fifth Avenue trailhead to a more suitable location or to reallocate the resources to another recreation facility.
- Facilitate removal of Sunshine Terrace and relocation of residents.
- Use the existing streets for camp site access and add bathrooms/shower houses, picnic facilities, trails and access control in East Grand Forks.
- Continue selective tree pruning and removal as appropriate.

Downtown Area

MnDNR Visitor's Center

- Pursue State of Minnesota funding for the Visitor's Center as part of a Minnesota State Recreation Area.
- Partner with Minnesota Office of Tourism, U. S. Fish and Wildlife Service, City of East Grand Forks, and Minnesota DNR, Division of Parks and Recreation for operation of the visitor's center.
- Reserve the 35,000 square foot land area north of the Blue Moose for the Visitor's Center.
- Plan for an extension of the invisible floodwall to protect the Center location.
- Plan visitor center education under the following themes:
 - The Red River of the North - The action of the glaciers 7,000 years ago created a very unique landscape, a major river flowing north and one of the flattest and richest farmlands in the world.
 - History: From American Indians, traders and steamboats to the impacts of a flooding river.
- Plan for the following functions at the new visitor center:
 - An information lobby area with a large model of the entire Greenway showing trails, boat access, camping areas, etc.
 - An information center and enough brochures and maps to provide regional and state recreation information and sales of recreation maps and books.
 - A central commons/exhibit area with large windows and a deck for major bird feeding display and wildlife observation. This room would have only limited permanent displays that might become static in the future. Instead, the room should be developed as a space for small traveling displays or changeable exhibits by season would help bring visitors back to the facility and keep them interested and engaged throughout the year.
 - A small (30-40 person) outdoor presentation area should adjoin

the building as a staging area for outdoor education programs.

- Bathroom facilities.
- Two offices.
- Storage.

Riverwalk, Parking, and Upper Plaza Areas

- Landscape the parking lots and upper plaza area with a mix of native grasses, turf grass, wildflowers and trees.
- Use the parking lots for events and activities such as farmers market, arts and crafts, etc.

Pedestrian Bridge

- Work with USACE and Grand Forks to retain a pedestrian bridge at the location of the existing railroad/pedestrian bridge.
- Pursue funding partners on both sides of the river for this bridge.

Downtown Riverfront

- Landscape with a mix of wildflowers and grasses.
- Seek trail funding from MN and Federal grants.
- Build trails for access north and south and up and down the riverbank. (TEA-21 and MNDOT funding assistance)
- Designate selected areas for tree plantings, design flood level water markers/memorials and seating areas along the main trail.
- Design an adjustable "riverboat style" dock/landing along the riverbank for shore fishing, seating and walking and possible future steamboat landing.

Griggs Park

- Use this area for fishing, special events, athletic fields and winter sports.
- Revise the driveway access to connect the new downtown river-side parking lot along the wet side of the levee to Central Avenue. This allows for a levee closure of the existing driveway located south of the railroad bridge, but requires an opening near Central Avenue.
- Work with USACE to incorporate/revise the USACE planned trailhead into the Griggs Park plan
- Create parking and overflow parking for special events.
- Add trails (paved and non-paved), reestablish turf, prairie grasses and selected tree planting/seating areas.
- Widen the existing boat ramp.
- Create a sledding hill using an expanded section of the levee.
- Build a pond/wetland and use it for skating in the winter.
- Seek funding assistance or maintenance agreements for a ball field/soccer field in the upper plateau.
- Use a portable-warming house for winter sports.

Confluence Area

- Use for environmental education displays, historic interpretation, picnicking and fishing.
- Revise USACE plans to shift a proposed USACE pedestrian bridge from the eastern portion of the Red Lake River to the existing dam location.
- Apply for MNDNR funds for dam safety improvements.
- Modify the dam through use of a rock structure, while addressing reservoir needs.
- Define the parking lot with bollards, add picnic tables and a screen fence for a portable bathroom.

Folson and O'Leary Parks

- Plant selected areas with prairie/wildflower seed mix.
- Improve the boat access and add a defined parking area.
- Maintain existing trails and work with USACE to add new connections/loops where appropriate. (TEA-21 and MNDOT funding assistance)

Red Lake River Area

- Define and acquire a multi-use trail easement along the north side of the Red Lake River.
- Seek grant funding to begin trail construction.
- Work with MNDNR and others to implement a corridor trail link to Crookston.
- Convert lime ponds to wetlands and storm water retention.

South Red River Area (Triangle Prairie, Long Loop and Rhinehart)

- Manage as a combination of wildlife habitat and agricultural uses.
- Enhance the potential for prairie production for seed sources.

Coulee

- Pursue a trail easement or rights of way along the east side of the coulee.
- Work with the School District to create a nature/interpretive trail for school and community use.

Ring Dike and Trail

- Plan for a paved multi-use trail at the base of the levee and a soft surface trail varying between the top and base of the levee.
- Use the ring trail system to link existing and planned community facilities (parks, schools, etc.).

Greenway Events

One of the early action initiatives that can be undertaken by public and private sectors alike is to continue to sponsor and host public events within the Greenway. This can serve several purposes: 1) educate the public as to the existence of the Greenway and share future goals and objectives for its development and operation; 2) promote goodwill and community spirit through events that occur throughout the year, which could help to bring community residents together; 3) generate revenue from Greenway events that could help to offset costs associated with facility development and operation.

Toward these ends, a diverse group of individuals met for several months during the spring 1999 to define events that could take place within the Greenway. Many of these events have historical roots in both communities and have been in operation for many years. Other events are proposed as new initiatives that would take advantage of the wealth of new facilities that are slated for development in the Greenway.

Goals of Event Programming

- Promote The Greenway as a community amenity
- Make use of various Greenway facilities throughout the year
- A way to make some money to offset costs of Greenway maintenance
- Promote the community throughout the nation
- Keep interest and excitement in Greenway

Existing and possible new Greenway events

The following is a list of existing and possible events that could happen within the proposed greenway once it becomes fully operational. This is a wish list.

January

First Night (existing)
Frosty Bobber (existing)
Ice Fishing Tournament (proposed)
Forks Freezer (proposed)

February

Greenway Ski Day (existing)
Snowmobile Day (proposed)
Winter Wildlife Tracks Tour (proposed)
Snowshoe by the Moonlight (proposed)

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March

March of Dimes Walk (existing)

April

Earth Day (proposed)

May

Bike-to-Work Day (proposed)

Arbor Day (proposed)

Greenway Clean-up (proposed)

Make-a-Difference Day (proposed)

Crop Walk (proposed)

Historic Preservation Month (proposed)

National Tourism Week (proposed)

June

GOALS Father's Day 5K Walk/Run (existing)

Mountain Bike Race (proposed)

National Trails Day (proposed)

Greenway Happenings (proposed)

Children's Festival (proposed)

Volksmarch (link to GF Air Base) (proposed)

Greenway Jazz Festival (proposed)

Parks and Recreation Month (proposed)

Greenway Canoe Day (proposed)

July

ForksFest (existing)

Fourth of July RiverFest (existing)

Rollin-on-the-River (reinitiate)

Greenway Bike Race (proposed)

August

Pasta Party (reinitiate)

Friends of the Greenway Chili Cook-Off (existing)

Catfish Days (existing)

City-to-City Canoe Race (Fargo to GF) (proposed)

Coon-and-Crocket (link with canoe race) (proposed)

September

Potato Bowl (existing)

Antique Car Show (proposed)

Harvest Days – Ethnic Festival (proposed)

October

UND Homecoming (proposed)

November

GOALS Veterans Day Race (existing)
Fall Hunting Gun and Safety Show (existing)

December

Festival of Lights (proposed)
Bon Fire and Hayride (proposed)
Sleigh and Sledding Weekend (proposed)
Greenway Curling Festival (proposed)
First Night (existing)

Appendix A: Glossary of Terms

The following offers a definition for terms that are frequently used throughout the report, and may not be familiar to the readers of the master plan.

AASHTO: American Association of State Highway Transportation Officials.

ADA: Americans with Disabilities Act (ADA), prohibits discrimination on the basis of disability in employment, programs and services provided by state and local governments, goods and services provided by private companies, and in commercial facilities.

The ADA was signed into law on July 26, 1990. It contains requirements for new construction, for alterations or renovations to buildings and facilities, and for improving access to existing facilities of private companies providing goods or services to the public. It also requires that State and local governments provide access to programs offered to the public. The ADA also covers effective communication with people with disabilities, eligibility criteria that may restrict or prevent access, and requires reasonable modifications of policies and practices that may be discriminatory.

At-Grade Crossing: refers to a trail /roadway intersection where trail users are routed onto the road, rather than above (pedestrian bridge) or below (tunnel) it.

Bollards: metal, wooden or concrete posts designed to restrict vehicles access to a trail.

Floodplain: the lowland that borders a stream, creek, river, or water conveyance and is subject to flooding when the stream overflows its banks.

Floodway: generally the area of a stream or river channel that possesses fast moving water during a flood event. Technically, the floodway is often defined in terms of a 100-year storm event, and is illustrated on maps that are distributed by the Federal Emergency Management Agency. The floodway is often defined as the area of land that must be reserved in order to discharge the base flood of the 100-year storm without cumulatively increasing the water surface elevation more than one foot.

Greenway: a linear corridor of natural land, usually following

features such as rivers, creeks, ridges, old railroad lines or utility lines, which generally contain trails.

MUTCD: the Manual on Uniform Traffic Control Devices (MUTCD) is published by the US Department of Transportation and provides a uniform code for signage systems used in the construction and operation of bicycle and pedestrian systems.

Point-Source Pollutants: any confined conveyance including, but not limited to any pipe, ditch, or channel in which pollutants are or may be discharged.

Riparian: is the land area that is associated with a river or creek.

Rip Rap: large angular rocks that are traditionally used to armor eroding banks of small streams.

Soil Bioengineering: is an applied science that combines structural, biological and ecological concepts toward the construction of living structures for the purpose of controlling erosion and sediment and stabilizing stream banks.

Trail Head: a designated public access point along a greenway which can include bicycle and paved or gravel automobile parking, restroom facilities, drinking fountains, signage, benches and picnic tables.

Trail Tread: the surface of a trail.