FAIRMOUNT
P • A • R • K
COMMISSION

"To promote understanding, appreciation, and stewardship of Fairmount Park and our total environment.

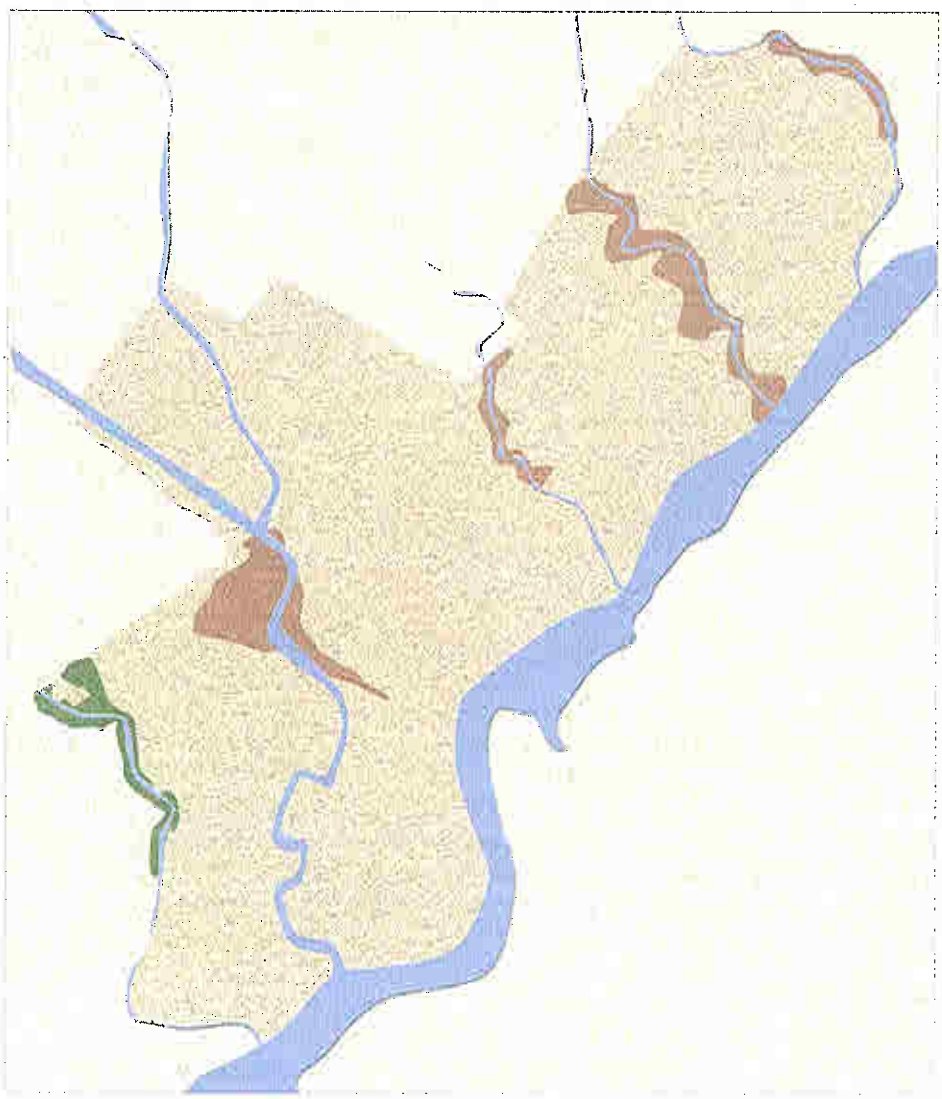
From neighborhood to region to world, our actions impact our environment and our environment impacts our quality of life."

Fairmount Park Mission Statement

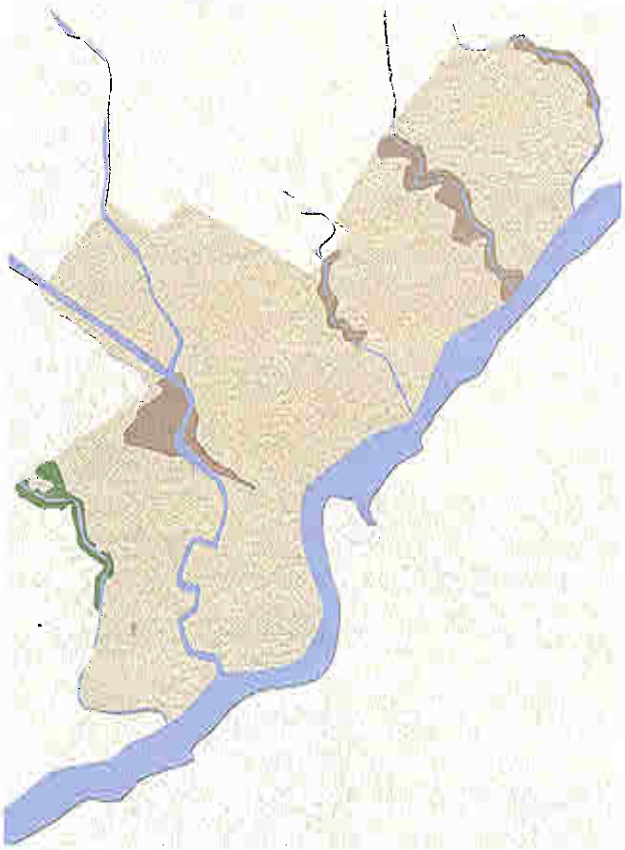
Natural Lands Restoration and Environmental Education Program

Trail Master Plan for

COBBS CREEK PARK



A Guide to Renewal & Management



Trail Master Plan for Cobbs Creek Park

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Prepared For:

Fairmount Park Commission
Natural Lands Restoration and
Environmental Education Program
April 2001

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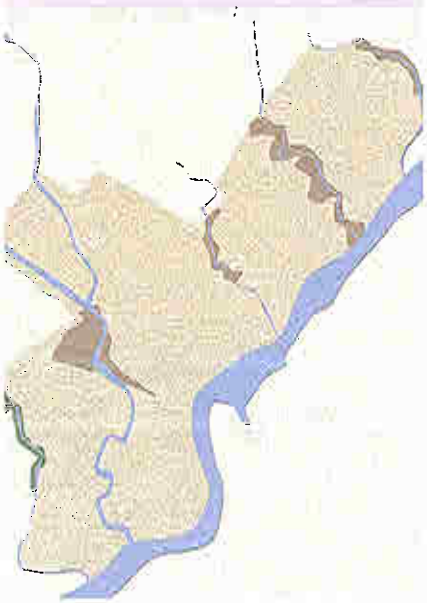

Acknowledgements

We would like to extend our special thanks to the Park staff, interested parties, community members and park users who actively participated in many meetings and workshops held during the preparation of this Trail Master Plan. Despite occasional frustration and exasperation, you remained focused and provided valuable information. You are why this plan has a chance to succeed.

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Community Resources

For more information about the Cobbs Creek Park
Trail Master Plan,
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Executive Summary
Cobbs Creek Park

The role of the Trail Master Plan is to develop an appropriate vision of the park trail system that acknowledges and confronts today's realities by reconciling the most serious problems faced by these landscapes in the future. A trail system that works enables the user to access the landscape with as few negative impacts as possible. Good trails both protect and reveal the landscape. They introduce the user to the history of a place as well as link the community and the natural landscape. A successful trail system is a synthesis of history, ecology, contemporary use, management and maintenance.

An important benefit of park revitalization through trail development is the contribution to community revitalization efforts. Throughout the study, workshop participants emphasized the relationship between quality of the parks and quality of urban life. The renewal of the parks and their trail systems is an integral piece of local economic renewal.

This report has as its foundation the protection and restoration of the environmental resources of the Fairmount Park system and is one of five Trail Master Plans commissioned by the Fairmount Park Commission, through its Natural Lands Restoration and Environmental Education Program (NLREEP), for five park areas - Cobbs Creek, Tacony Creek, Pennypack, Poquessing Creek and Fairmount (East/West) Park. Because these areas represent a diversity of park types, the goal was to develop policies and approaches that could be applied system-wide to the trails in addition to specific plans for each park.

Current Status

A significant focus of this study was to achieve an accord regarding the management philosophy of the trail system. This requires that we actually see the present deterioration of the landscape, recognize the impacts of the urban environment and understand the park as part of a larger system. The unique characteristics of urban parks are important in the development of a management philosophy. Regardless of how diverse their environments, urban parks share many of the same characteristics:

- The parks are heavily used for recreation while providing scarce, yet vital, natural lands within the city.
- The natural systems are under severe stress due to the impacts of the urban environment.
- ANY off-trail use is damaging to the natural systems. The parks are too small and too fragile to allow all-terrain vehicle (ATV) use. ATVs are illegal to use on public property in the City of Philadelphia.
- A chronic decline in funding results in continuously deferred trail maintenance needs. At the same time, there is no long-term dedicated funding to manage the natural areas.

Areas of Cobbs Creek Park have been taken over by ATVs, dirt bikes, abandoned car sites, fire and dumping sites, excluding almost all legitimate use. Despite these problems, Cobbs Creek Park has an actively involved community and potentially vibrant park edges.

The park provides a critical riparian buffer for the Cobbs Creek watershed. Over the years, erosion of the soils from stormwater runoff, constant disturbance to the soil surface due to off-trail use of vehicles, the proliferation of exotic plant species and deferred maintenance has led to spiraling levels of damage to the natural areas throughout the park. Restoration of the infrastructure in this park is a prerequisite to restoring the landscape.

Key Findings

The Trail Master Plan team conducted a comprehensive inventory of the parks and gathered information from various sources including field surveys, site reviews, user and staff interviews and workshops. This process allowed the team to identify with park staff and the community their concerns regarding trail use and trail development. The key findings of this phase include the following:

- **Changing Use Patterns**
  Park usage has both intensified and changed in character with the dramatic increase in the popularity of both mountain bikes and ATVs. The unpaved trails were never designed for this purpose nor do they have adequate surface or drainage structures to handle wheeled traffic.
- **Proliferation of Rogue Trails**
  User created rogue trails are damaging to the natural areas. Over 7.98 miles of rogue trails were identified in Cobbs Creek Park that represent 35% of the total trail miles in the park.
- **Stormwater Mismanagement**
  Stormwater runoff both generated and funneled to the park erodes trails and damages trail infrastructure, especially where trails are poorly maintained or badly sited. Damage from stormwater is typically inseparable from the level of use and condition of the trail.
- **All-Terrain Vehicle Use (ATV)**
  Illegal operation of all-terrain vehicles (ATVs) on public land in the City of Philadelphia poses serious impacts to the natural areas, as well as the trail infrastructure, of the Fairmount Park System. Over 58 acres of parkland in Cobbs Creek Park have been severely damaged by ATV and dirt bike use.
- **Poor Enforcement and Perceived Insecurity**
  Trail users report feeling safe most of the time, however, there are many potential users who stay out of the park because of perceived insecurity. The most consistent request from the public during this planning phase was for an increased Park Ranger presence.
- **Lack of Signage and User Information**
  Enforcement of park rules and signage go hand in hand. Without good maps and information on park rules, even a well-intentioned user will have difficulty being a responsible user.
- **Diminished hiking experience**
  The most dissatisfied user is the hiker who seeks a quiet walking experience close to nature. This problem is intensified where courtesy and rules of the trail are not observed.
- **Too much of a good thing**
  The trails network is too dense to achieve the restoration and protection goals for the natural areas.

Key Recommendations

Trail System Management

The Fairmount Park Commission must achieve a substantive change in the management of trails. The primary aim of management is to confine the impacts of the trail to the trail. This requires that users stay on the trail, which requires good design and adequate infrastructure, as well as user compliance with the rules.

Schematic trail plans presented in workshops and at public meetings helped to set the guidelines for trail development. Review and assessment of the work in progress allowed for the development of goals that were agreed to and supported by constituents. Three basic goals were agreed to at the outset:

- Be fair and inclusive of all park users, with the exception of illegal uses such as all-terrain vehicles (ATVs).
- Ensure the protection of natural resources of the parks.
- Include recommendations for appropriate standards for infrastructure and maintenance to ensure that recreational use can be adequately accommodated.

A User-Based Trails Management Program is proposed as the primary vehicle for achieving these goals. If most users follow the rules of the trail, the park system will be able to accommodate a wide array of different users without damaging the resource. The following strategies are at the core of this program to bring user accountability to trails management:

- Develop a highly participatory trail management program that educates, integrates and relies upon the users to become more responsible.
- Document the process fully to provide substantive information to lessen unfounded claims in the ongoing dialogue about user conflicts.
- Create stable funding for trail management.
- Provide security and enforcement of park rules.

Prioritizing Trail Restoration, Completion and Closure

The closure of trails must proceed hand in hand with trail restoration. At the same time volunteer recruitment is needed, as well as staff expansion to support volunteers. The plan proposes two levels of priority.

First priority projects and activities that should be initiated by NLREEP during the initial grant funding period that concludes in June 2002 include:

- **Phase One Demonstration Project**
  For every park a special project is designated to initiate the restoration of the parks trail system. The proposed project represents a very visible place that integrates restoration, environmental education and community revitalization.
- **Completion of Permanent Trail Closures**
  These first-priority trail closures include immediate safety hazards and environmentally disruptive trails.
- **Ongoing Rogue Trail Closure**
  New rogue trails must be closed as soon as they are opened.
- **Expansion of the Permit and Donation Program Systemwide**
  The success of the permit program in Wissahickon Valley Park merits its expansion systemwide. The permit program is especially important for reaching the regional user.

- **Trail Naming Project**
  This project is an important step toward developing new maps as well as a locator access system. It is also an opportunity to engage new community members in trail renewal and reward long term volunteers for their efforts.
- **ATV Control**
  Effective control of illegal uses - especially ATVs - along with Police support are necessary first steps.
- **Temporary Trail Closure Program**
  Temporary trail closure should be initiated based on weather and trail conditions.

Second priority projects and activities should be completed within the next five years under the City's capital budget process.

- **Completion of proposed paved multi-use trails**
- **Completion of proposed gateways and trailheads**
- **Initiation of Locator Access System**

Renewing Trails in Cobbs Creek Park

The primary goal of the Cobbs Creek Trail Master Plan is to restore the use of the park to the community of legitimate users. The central feature of the plan is the restoration of the Cobbs Creek Parkway as a vibrant community edge, linking the local residences and businesses to the diverse natural communities of the park. Recommendations include:

- Establish controlled access to the park to protect the park from misuse, abuse and vandalism in the park.
- Create hiking only unpaved trails with controlled access points in environmentally sensitive areas.
- Provide additional parking areas at key activity zones.
- Define the parkway perimeter with pedestrian-scale lighting and street trees to increase the safety, environmental value and identity of the parkway.
- Establish new trails to create links to adjacent neighborhoods.
- Create sidewalk connections that provide neighborhood access points to trail heads.
- Create gateways at key locations that mark access to the park.
- Improve trailheads with orientation signs, trail markers, interpretive signs and acceptable sight lines.

Implementing the Trail Master Plan

The difficult question to confront is how the Fairmount Park Commission will implement the Trail Master Plan. The unprecedented grant that supports NLREEP has allowed a level of monitoring and planning that has not occurred in the park system since 1983. Concurrent natural area restorations will complement trail projects. Volunteer participation has never been higher and volunteer and user groups are working together as never before. But without improved security, in particular controlling ATVs, this Trail Master Plan will fail, even though the parks are generally very safe areas.

Cobbs Creek Park provides important recreational facilities for the surrounding neighborhoods with recreational facilities, picnic areas and the addition of a new Environmental Education Center. Proximity to a well-maintained park and trail system could have an economic benefit for the surrounding neighborhoods. Recent volunteer restoration efforts in the park have been very successful, building new skills and local expertise, positive use and a well-informed constituency within the community.

Opinion of Cost for Cobbs Creek Park Trail Recommendations

The Opinion of Cost for trail recommendations included in this study assume the work to be done by outside contractors on a competitive bid basis. The cost of improvement may vary if done by Fairmount Park staff, volunteers, or a combination thereof.

- Repair, Stabilize and Close Rogue Trails
  Includes repair for severe erosion to natural areas totaling over 58 acres.
  Estimated Cost: $3,471,200.

- Existing Trail Rehabilitation
  Includes rehabilitation, stabilization and realignment of unpaved trails and the rehabilitation of paved trails.
  Estimated Cost: $363,900.

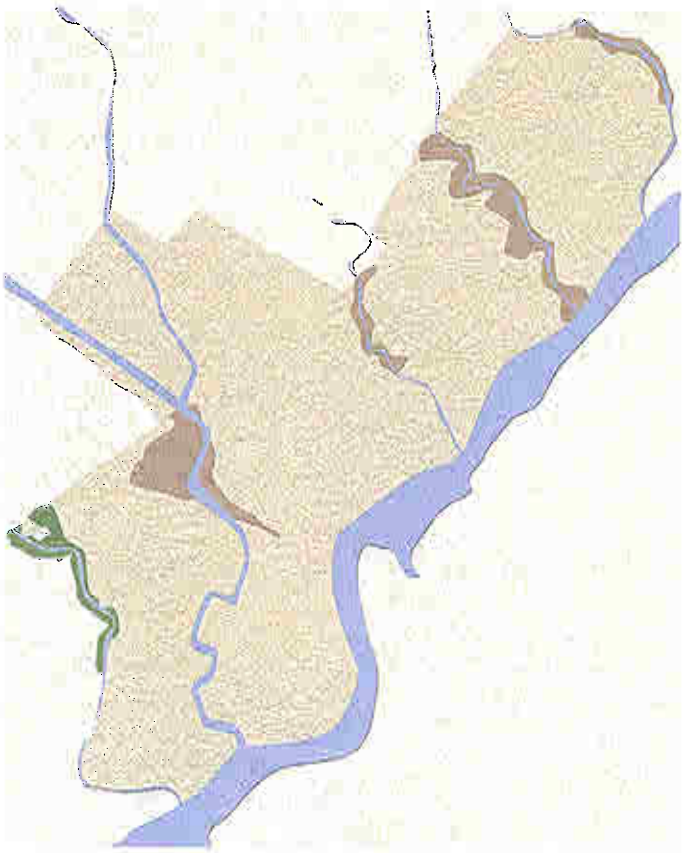
- Proposed New Trails
  Includes construction of paved, unpaved trails and sidewalk connection.
  Estimated Cost: $458,900.

- Related Projects
  Includes related projects such as neighborhood promenades, lighting, parking improvements, underpass improvements, gateway and trailhead construction and stream crossings.
  Estimated Cost: $1,432,500.

Subtotal Total Opinion of Cost:	**$5,726,500.**
Contingency (10%) and Design Fees (12%):	**$1,260,000.**
Total Opinion of Cost for Cobbs Creek Park:	**$6,986,500.**

Section I

Introduction



Unpaved trail overlooking Cobbs Creek.

What is NLREEP?

Philadelphia's Fairmount Park is a unique urban park system comprising over 8,900 acres of diverse neighborhood and regional parks that encompasses one-tenth of the land in Philadelphia. Over half of the park system is comprised of natural areas – stream corridors, woodlands, meadows and wetlands that serve as islands of wilderness in the midst of one of America's most populous cites. These natural areas present unique opportunities for urban ecological restoration, education and stewardship.

Unfortunately, these natural areas have been deteriorating for decades due to urban pressures such as stormwater run-off, pollution, the dominance of invasive exotic vegetation, animal overbrowsing, the loss of plant and animal species, soil compaction and park overuse and abuse. At the beginning of the 21st century, the balanced mix of native plant and animal species necessary for healthy urban ecosystems can only be accomplished with human intervention. In order to work towards the goal of healthy ecosystems, the Fairmount Park Commission's Natural Lands Restoration and Environmental Education Program (NLREEP) was established in 1997 through a five-year, $26.6 million grant from the William Penn Foundation.

NLREEP is working to restore the natural areas in seven watershed and estuary parks throughout the city, and build a constituency for the Park's protection through environmental education public stewardship. The seven parks that are included in the program are: Franklin Delano Roosevelt (FDR), Cobbs Creek, Fairmount (East/West), Tacony Creek, Pennypack, Poquessing Creek and Wissahickon Valley.

The restoration component of the grant includes the preparation of Natural Lands Restoration Master Plans for each of the seven parks and Trail Master Plans for five parks. The natural lands restoration plans were prepared by the Patrick Center for Environmental Research at the Academy of Natural Sciences of Philadelphia (ANSP) in consultation with park staff and interested community members. The plans contain restoration goals and guiding principles, assess existing conditions and provide recommendations for a total of 452

high priority restoration sites and actions. Based on these master plans, NLREEP staff works with consultants to prepare and implement site-specific restoration plans. This Trail Master Plan takes a similar comprehensive overview of existing trail conditions and contains recommendations for physical improvements, management and maintenance techniques.

The environmental education component provides for new construction, expansion and renovation of the Park's three environmental centers, as well as additional staff and resources needed to provide a range of programming. Summer environmental camps, after-school programming and outreach lessons to schools are all products of the grant program.

The public stewardship component has strengthened the Park's ties to local communities and has expanded the constituency for natural lands restoration, while continuing to work hand-in-hand with existing volunteers. Working with trained Volunteer Coordinators, individuals and groups are encouraged to take direct steps to protect and improve urban ecosystems through volunteerism.

The scope of NLREEP is ambitious and includes one of the most diverse and aggressive programs of urban ecological restoration, education and stewardship currently underway in the United States.

Trail Master Plan Scope and Methodology

The trail system is at the heart of every park. It determines the nature of our experience and how we see the landscapes and features of each place. A trail system that works enables the user to access the landscape with as few negative impacts as possible. Good trails both protect and reveal the landscape. They introduce the user to the history of a place as well as link the community and the natural landscape.

This Trail Master Plan is one component of a larger study for five parks in the Fairmount Park system including Cobbs Creek Park, Pennypack Park, Fairmount (East/West) Park, Tacony Creek Park, and Poquessing Park. Because these parks represent a diversity of park types, the goal was to develop policies and approaches that could be applied to the trails system-wide in addition to specific plans for each park.

The study was divided into three phases.

Phase One: Consolidation and Review of Existing Information Consensus of Key Issues Related to Trail Development

In this phase, a comprehensive inventory of the existing trail system of each park was conducted that provided an important base-line of information for each park. This system review illustrated how each park functioned from an integrated natural, historical and social perspective and is organized in such a way that the larger picture and the key issues for trail development emerge.

At the start, an extensive field survey was conducted by team members from Andropogon Associates, Campbell Thomas & Company and Hunt Engineering. Field survey and photo log sheets were used by the team to document trail conditions, surface type, trail erosion, views, safety, signage and structures. The collected field data was then verified with the Geographic Information System (GIS) data that was compiled during the Fairmount Park Cultural Resource Inventory. All of this data was mapped by the team and served as the base maps for the workshops, interviews and public meetings with the community and park staff.

The workshops, meetings and interviews with Fairmount Park staff, NLREEP staff, neighborhood community groups and other key informants were an important component of the planning process.

All of the parks have established user and Friends groups. Community participation in the workshops and interviews over the course of the entire project enriched the base-line information and provided opportunities for identifying and airing user conflicts.

Phase Two: Program Development – Consensus on Planning Goals and Guidelines

The goal of this phase was to clarify a unique vision for each park and to establish development guidelines that match the needs of the larger community. The development of trail systems for each one of these valuable public landscapes should be a blend of history, ecology, contemporary use, management and maintenance. Effective action to implement change will come from the development of a clear consensus on appropriate policies and procedures.

In this second phase, the trail master plan team met again with the community and park staff in workshops, interviews and public meetings. The focus of these meetings was to review schematic trail plans and to set priorities for trail development. Review and assessment of the work in progress allowed for the development of a plan that was agreed to and supported by its constituents. The second focus of these discussions was to achieve an accord regarding the stewardship and management philosophy for the trail systems. An understanding of the unique characteristics of an urban park is important in the development of a management philosophy.

Phase Three: Creating the Trail Master Plan Report

In this phase, the trail master plan team developed a Trail Master Plan strategy for each park based upon the agreed philosophical and programmatic guidelines developed in Phase Two. These plans were presented to the community in a third public meeting. Graphic documentation of the trail treatment and development plan, design standards and land management guidelines are all included in this report. Projects that can be immediately implemented and completed prior to the conclusion of the initial grant period in June 2002 have been identified with recommendations for immediate action.

The parks included in the Trail Master Plan study vary widely in character and represent the range of conditions found in the Fairmount Park system. They also share many common concerns. They are all watershed parks with riparian corridors and streamside trails. The overall objective of the Trail Master Plan is to realize the potential of a great trail system in several of the City's most important parks and natural areas. The Trail Master Plan is intended to:

- Provide an equitable trail system that accommodates the different recreational needs of the community.
- Provide a sense of local and regional connection in the urban environment with the natural lands.
- Provide interpretive and educational opportunities for the diverse ecological settings of each park.
- Create a trail system that encourages purposeful and beneficial change in the management of natural lands.
- Provide maximum support and development of positive volunteer, educational and restoration efforts already in place.

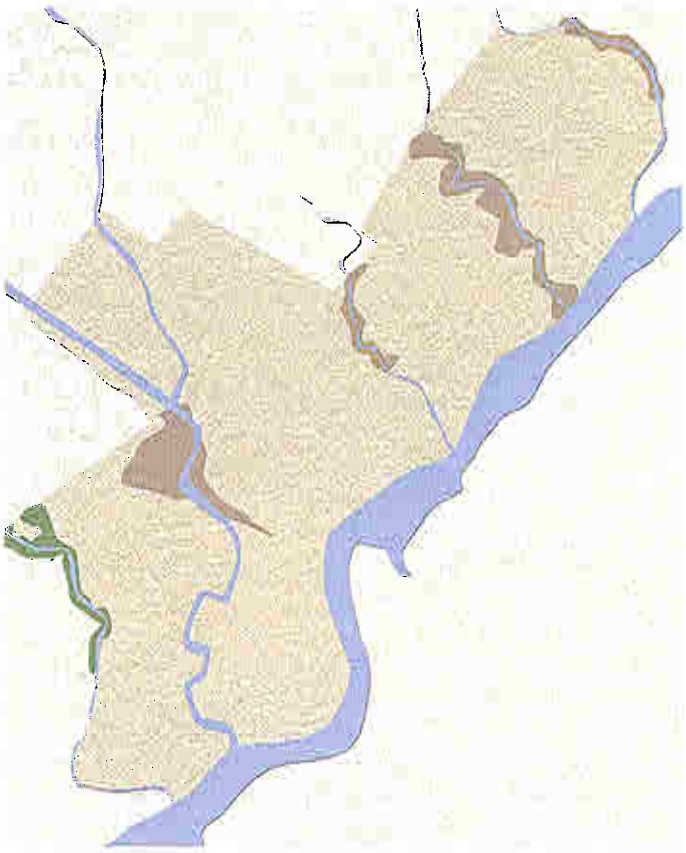
Trail Master Plan Team

Field work was conducted from August to October 1999, with a slight interruption by Hurricane Floyd, by team members from Andropogon Associates, Campbell Thomas & Company, and Hunt Engineering. Field survey and photo log sheets were created to document trail conditions in the five watershed parks. The survey logs corresponded to trail segment numbers that were assigned to trails located on the 1983 Master Plan maps of the parks. The survey log addressed issues of trail use, surface type, trail condition, views, safety, structures, signage and trail and stream bank erosion. In addition, the team members were asked to identify trail use and restoration recommendations. The collected field data was then verified with the collected Geographic Information System (GIS) data that was compiled under the Fairmount Park Cultural Resource Inventory.

A series of public workshops and interviews were also held at each phase of the study. Three public meetings and two workshops were conducted for each park. This venue gave the community the opportunity to have input and participate in the planning process and to identify their primary areas of concern in the Trail Master Plan. This process yielded key trail issues for each park as well as system wide issues and concerns.

Section II

Park History and Trail Development



Existing low-head dam in Cobbs Creek Park at Woodland Avenue.

Typical rock outcrop in Cobbs Creek Park

Fairmount Park System

The historic inventory was a key component of the master planning process. These parks and trails share a long history with the city. All have changed dramatically over time. Many historic features remain, although they may be at present interrupted and overgrown. Unlike rogue trails, the historic journeys were usually designated with great care. These journeys were often sited and constructed. The historic journeys bring the park visitor to the historic places which in turn enrich the trail experience.

For many years, regional planning efforts for an interconnected system of parks and parkways has taken place. Philadelphia was in the forefront of park planning as noted by the Park and Public Reservations Committee of the Regional Planning Federation of the Philadelphia Tri-State District in its 1928 report, "Meadow Forest and Stream for Play Profit and Pure Water" and its 1930 report "Nature's Plan for Parks and Parkways-Recreational Lands".

The river and creeks of the present park system were important in the 17th, 18th and 19th centuries for their contribution to water powered industry. Presently, these watershed and stream valley parks extend into the surrounding suburban counties of Montgomery, Bucks and Delaware, thus leading to a potential regional interconnection of parks and parkways.

The following sections include a brief history of Cobbs Creek Park and the historic sites and features to be linked and interpreted by the trail system. In addition, this section summarizes the regional trail network and its relationship to the trails of the Fairmount Park system.

Woodland Avenue bridge at the southern end of Cobbs Creek Park, erected in 1909, in disrepair.

Brief History of Cobbs Creek Park

In the 17th and 18th century, mill sites dotted the banks of Cobbs Creek and the valley developed out of the importance of water-powered industries. In 1643, Pennsylvania's first gristmill was constructed at the site where the Blue Bell Tavern now stands. Also, the dams along the creek are thought to be among the first in Pennsylvania. The Seller's Burnside Mills, circa 1700, dominated the Cobbs Creek area from Cedar Street to Catherine Street and the surrounding land was acquired by the Sellers to provide for millworkers' housing. Cardington remains as an example of neighborhood development that was dependent upon Cobbs Creek milling. The industry of the mills also spawned adjacent development within neighborhoods such as Overbrook and Haddington.

The mills ceased operations with the development of new sources of power, and the city acquired and demolished many of the mills and row houses to develop the Cobbs Creek Parkway along the western edge of the city. The Market Street Elevated and the Subway/Surface lines opening in 1906 provided easy access for the continued growth of some of the remaining milling towns and the development of other West Philadelphia residential neighborhoods surrounding Cobbs Creek. By 1910, the Fairmount Park system had acquired 621 acres of parkland around Cobbs Creek for stream valley protection. In 1911, the Comprehensive City Plan called for an automobile parkway (the present day Cobbs Creek Parkway) that would be built in open space along the creek and would also serve as a site for parkland. The Cobbs Creek Automobile Suburb National Register District (designated 1990) became the first middle-class community whose connection with the surrounding region was planned via the car as well as public transportation.

The creation of Cobbs Creek Park in the early twentieth century was made possible by the city's acquisition of several abandoned mill sites along Cobbs Creek. Within the area of acquisition, some of the roads that once surrounded the mills were converted into walking paths as a part of the stream valley protection goals. Additionally, various equestrian trails evolved. By 1911, the Comprehensive City Plan called for an automobile parkway (Cobbs Creek Parkway) that would be built in open space along the creek. This parkway still exists as an auto route along the creek. Although many of the historic mill roads and early twentieth century paths are currently overgrown, they offer great potential as a part of the park trail system. Today many former linear trails are lost and the park functions as a series of local parks and golf courses.

Blue Bell Tavern — Historic photo circa 1930 showing the 1801 addition to the right.

Blue Bell Tavern current photo.

Historic Sites to be Linked and Interpreted by Trails

Blue Bell Tavern

On this site, prior to the Blue Bell Tavern (below), the first water powered gristmill in Pennsylvania once stood, built in 1646 by Swedish Governor Printz. In 1766, a two-story tavern was constructed with coursed rough-hewn fieldstone. A three and a half story rubble addition was built in 1801 and later demolished in 1941. As a southern gateway to the city, the tavern served as a resting place for George Washington on several of his trips to Philadelphia. The picket guard of the Revolutionary Army was also stationed here in 1777. The Fairmount Park Commission acquired the building in 1913. Today, the Friends of the Blue Bell Tavern care for the tavern, which is open to the public.

Blue Bell Tavern current photo.

New Cobbs Creek Guard House

This Georgian colonial guardhouse was designed by Herman Miller, a Work Progress Administration (WPA) architect and was built by WPA workmen. The gray stone used for constructing the guard-house was taken from a nearby abandoned mill demolished by WPA labor. The central portion of the building was used by the Fairmount Park Guard as a private office. The north wing served as a tool shop and blacksmith forge for park maintenance staff and the south wing housed the stable for the guard horses.

Old Cobbs Creek Guard House

Built in the early 1800s, the Old Guard House just south of Marshall Road Bridge originally housed the offices of the Henry Paper Mill.

Stable Building

Located at 63rd and Catherine Streets, this formerly abandoned stone stable building is undergoing renovation as the new Cobbs Creek Community Environmental Education Center. The Cobbs Creek Stable, located at 63rd and Catherine Streets, is a Works Progress Administration (WPA) project that was built in 1939. It was once the home of the Fairmount Guard; the parks mounted police unit. By October 2001, the Cobbs Creek Stable will be transformed into the new Cobbs Creek Education Center, which will include meeting rooms, classrooms, administrative offices and exhibition space open to the public.

The Cobbs Creek Stable Site for the Cobbs Creek Community Environmental Education Center.

The Stable Building undergoing renovations as the new Cobbs Creek Community Environmental Education Center.

Sellers' Burnside Mills

Developed by John Sellers in the 1700s, the mills were located between Cedar and Catherine Streets along the Creek. One of the largest mill producers in the Cobbs Creek area, Mr. Sellers owned the Angora Mills further down the creek as well. His estate covered the area from Cobbs Creek to 59th Street to Cedar Street and part of Wharton Street. This area was later used to construct housing for his millworkers. The city demolished the mills in the early twentieth century to create a greenway of trees and parkland.

Millworkers Houses

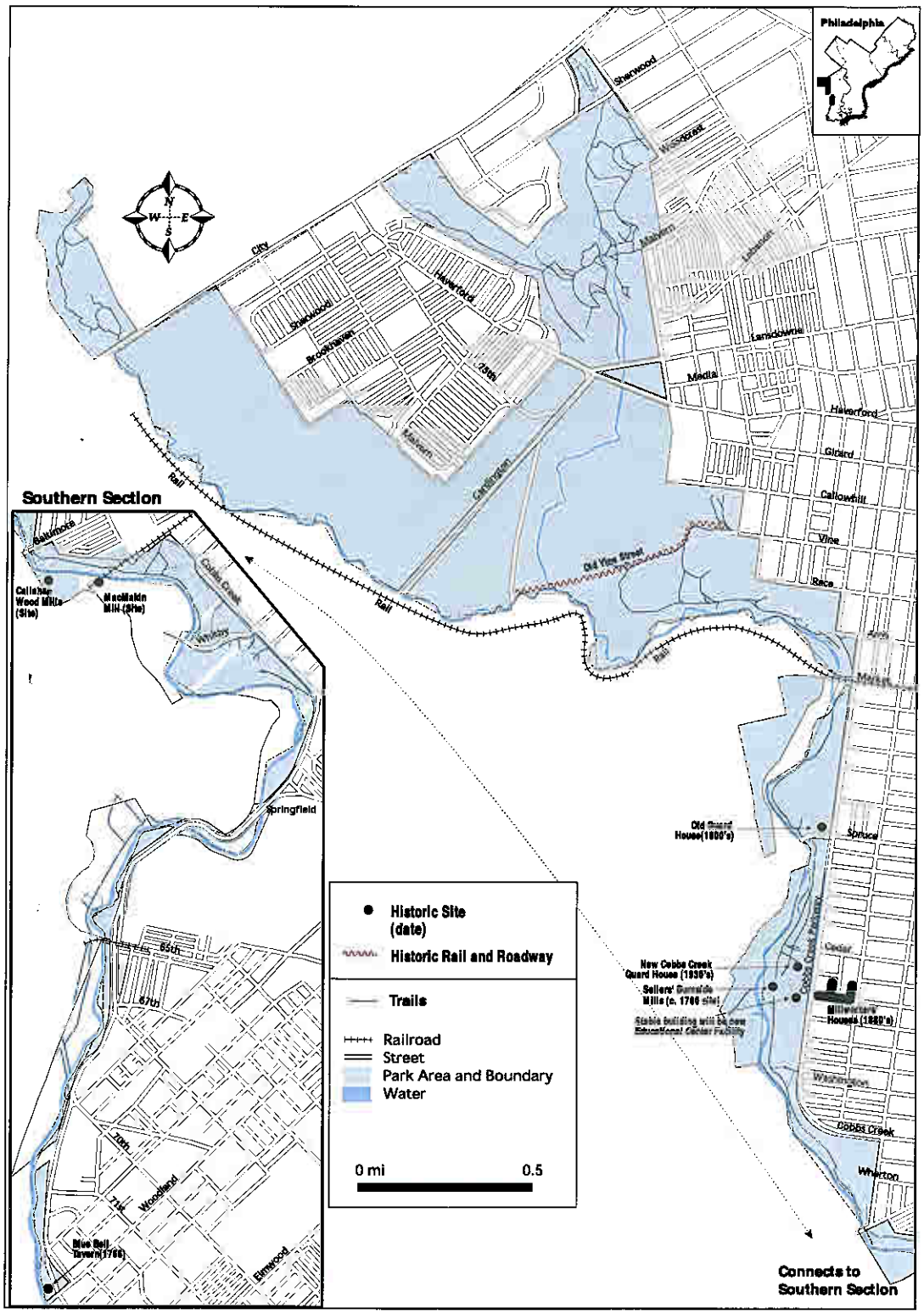
The Sellers family purchased the land surrounding the Sellers' Burnside Mills to develop housing for millworkers. When the mill site expanded for the last time in the 1880s, the vacant land of the 6200 block of Catherine Street was developed with row and twin houses for the millworkers. Some of these houses, along with others on 63rd and Felton Streets, still survive today and represent the typical Philadelphia mill housing of the industrial period. Early twentieth century developers adapted these houses to incorporate the automobile, thus producing Philadelphia's first middle-class, automobile-centered neighborhood. At this time, the millworkers houses on the west side of Cobbs Creek Parkway were demolished for the creation of Cobbs Creek Parkway.

Callahan Wood Mills

Attracted to the efficient means of waterpower, the Callahan Wood Mills were built south of Baltimore Avenue along Cobbs Creek. This small mill was eventually surpassed by the improved early twentieth century industrial standards and the business was purchased by the City for its park and parkway creation.

MacMakin Mill

Bernard MacMakin, like John Sellers, purchased vacant land along and to the west of Cobbs Creek for the future expansion of his mill works. MacMakin and Sellers were the largest mill operators of the Cobbs Creek area. MacMakin owned much of the land south of Baltimore Avenue and established his mill works on the Pennsylvania Railroad. He also developed housing surrounding his mill works for the millworkers. Changes in industry and the growth of suburban development in the early 1900s, led to the demolition of these buildings in the 1920s, to make way for new automobile-based housing.



COBBS CREEK PARK
TRAIL MASTER PLAN
HISTORIC SITES AND BUILDINGS

Historic Roads, Railroads and Towpaths

Transportation routes that either follow streams or made a great effort to cross over them have a rich collection of historic roads, railroad beds, and towpaths. Below are some of the key routes that have potential for interpretation and for development or redevelopment in Cobbs Creek Park.

Vine Street

Vine Street at one time continued through to Cardington Road. The roadbed, which is still visible, could be used as a trail.

Cobbs Creek Parkway

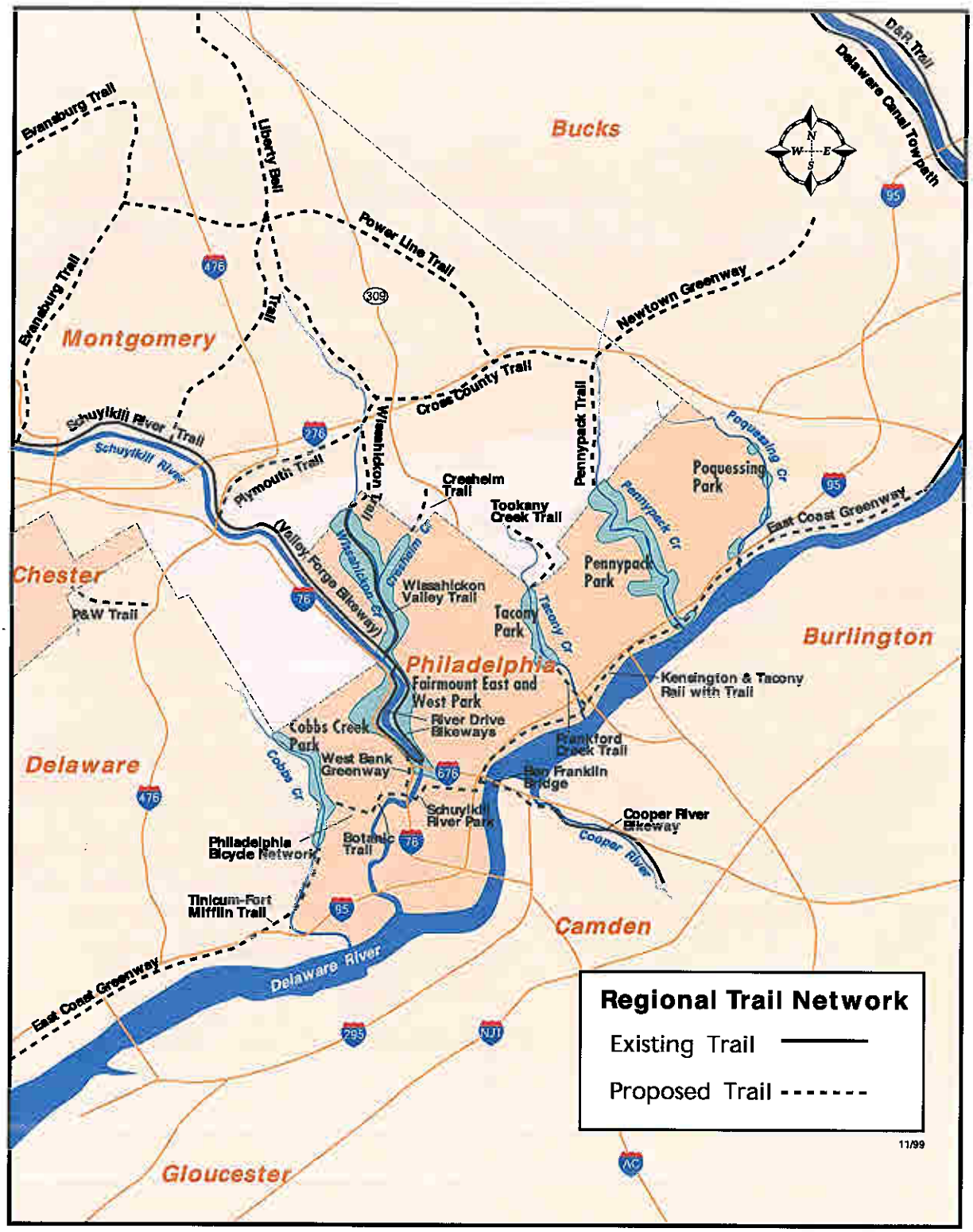
Many of the historic roads surrounding Cobbs Creek were destroyed for the creation of the park and parkway. In the early twentieth century, the city acquired several abandoned mills along the western edge of the city to develop the Cobbs Creek Parkway, thus linking urban infrastructure with transportation and open space planning. The Parks Association Plan, later adopted by the Department of Public Works and renamed the Comprehensive City Plan of 1911, called for automobile parkways that would be built along the rivers and creeks in the city of Philadelphia. The Cobbs Creek Parkway was one of the peripheral parkways of the plan linking Market Street with Baltimore Avenue and later Lancaster Avenue and City Line Avenue on the north and Woodland Avenue on the south. The progress was rapid and by 1911 most of the plan had been complete. As automobiles entered the area, the creation of suburban neighborhood roads and developments engulfed the remaining old mill communities. In 1998, the National Register District of Cobbs Creek Automobile Suburb was created as a reminder to this timeline of "improved" transportation options and the effect on suburban growth and the abandonment of old milling communities.

The Philadelphia Baltimore and Washington Railroad

Only one railroad line offered a means of long distance travel for the early milling settlers. The Philadelphia, Baltimore, and Washington Railroad, later a subsidiary of the Pennsylvania Railroad and still later a part of Conrail, ran through the Cobbs Creek area just below Baltimore Avenue. The Angora Station on this line was the milling communities' only link to other areas of Philadelphia. This station still offers access close to the park.

The Market Street Elevated

The small communities of the early mill towns along Cobbs Creek were quite removed from their fellow city dwellers. Most of these milling sites declined before the introduction of the Market Street Elevated in the early twentieth century. The Market Street Elevated gained its prominence while spurring the development of suburban housing. This line continues to offer public transportation near the northern section of the park.


Bucks
Montgomery
Chester
Delaware
Philadelphia
Burlington
Camden
Gloucester
Evansburg Trail
Liberty Bell Trail
Power Line Trail
Newtown Greenway
D&R Trail
Delaware Canal Towpath
Cross County Trail
Schuylkill River Trail
Schuylkill River
Plymouth Trail
Wissahickon Trail
Creshelm Trail
Tookany Creek Trail
Pennypack Trail
Poquessing Park
Poquessing Cr
East Coast Greenway
Pennypack Park
Pennypack Cr
Valley Forge Bikeway
Wissahickon Cr
Creshelm Cr
Wissahickon Valley Trail
Tacony Park
Tacony Cr
P&W Trail
Fairmount East and West Park
River Drive Bikeways
Kensington & Tacony Rail with Trail
Cobbs Creek Park
West Bank Greenway
Cobbs Cr
Frankford Creek Trail
Ben Franklin Bridge
Schuylkill River Park
Cooper River Bikeway
Cooper River
Philadelphia Bicycle Network
Botanic Trail
Tinicum-Fort Mifflin Trail
Delaware River
Regional Trail Network
Existing Trail
Proposed Trail
11/99

Fairmount Park System and Links to the Regional Trail Network

Philadelphia is blessed not only with one of the largest city park systems in the world, but with a system of stream valley parks that are connected to the regional trail and greenway system. This interconnecting system of bikeways, hiking trails, and protected valleys extends into the surrounding suburbs and countryside, and even hundreds of miles from Philadelphia via such internationally known trails as the Appalachian Trail.

As an example, it is possible today to leave the Philadelphia Museum of Art, follow the Schuylkill River Trail through Fairmount Park, along the Manayunk Canal and Towpath, and then the Valley Forge Bikeway. At Valley Forge one could then follow the Horse-Shoe Trail all the way to the Appalachian Trail north of Harrisburg, and then follow the Blue Ridge north or south up and down the eastern United States.

While few people will ever take such a long adventure, the possibility for connecting communities, parks, and points of interest in Philadelphia and the surrounding counties is unusually good. Many trail links already exist (although information and knowledge of them is often scarce) and numerous other trails are planned or are under development.

Coordination with surrounding county and township trail initiatives and development of trail signs, maps and brochures that indicate links to regional trails, will help the Fairmount Park system become part of a much larger system of parks and trails. More park goers from outside the city could come to enjoy the Philadelphia park system and Philadelphia residents could in turn more fully enjoy the beauty and recreation that the regional trail network has to offer.

Here are some of the existing and planned major trails, which link with, or travel through, Philadelphia, with notes on how they connect with Cobbs Creek Park.

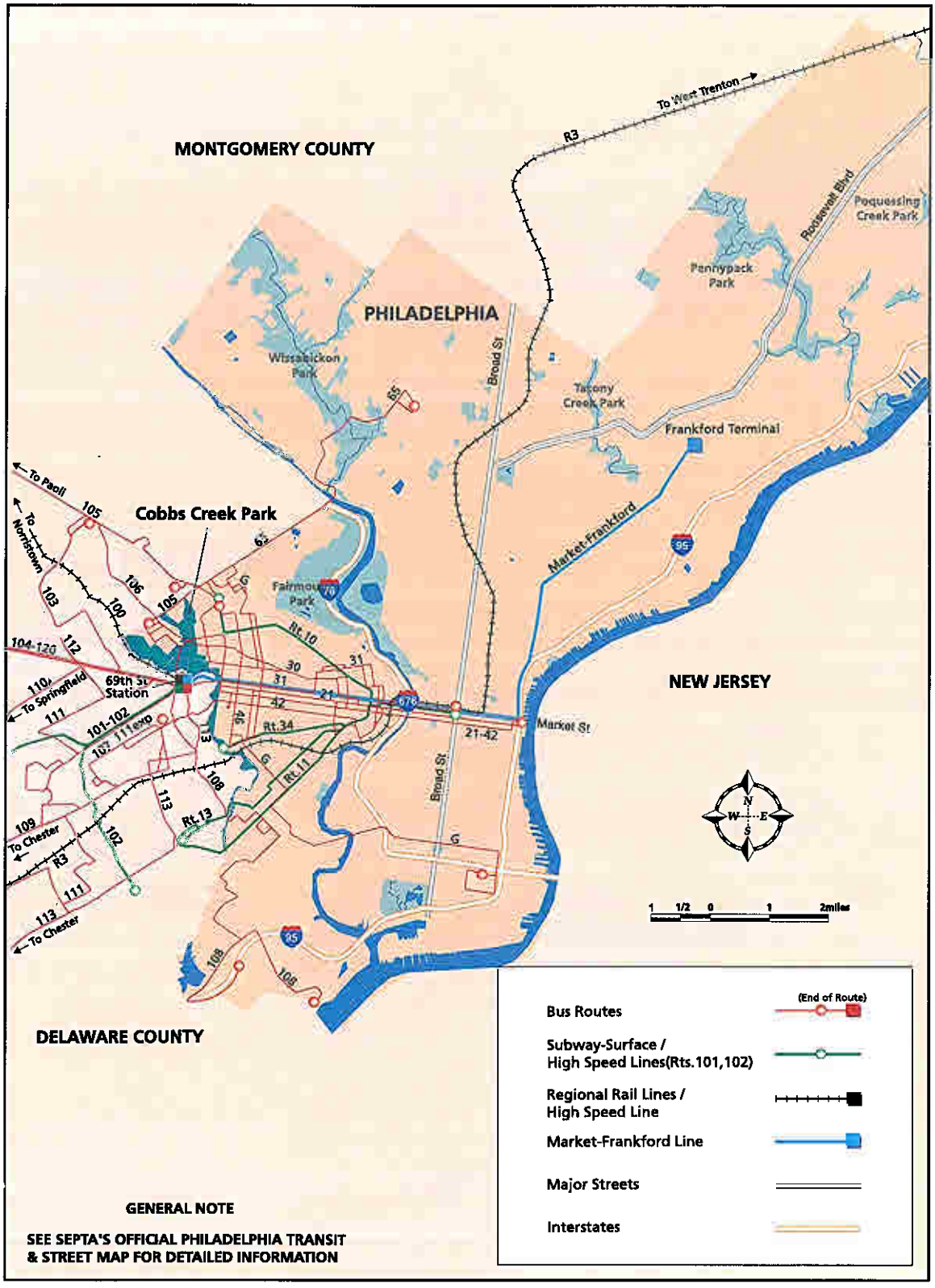
East Coast Greenway (ECG)

The ECG is being developed along the entire east coast of the United States as "a trail linking cities." The East Coast Greenway Alliance is a private non-profit organization spurring the development of the entire trail, tying together many existing and planned trails.

In the Philadelphia region, the ECG will come north from Wilmington, DE along the Delaware River, entering Pennsylvania at Marcus Hook. It will follow the proposed side-path bikeway being planned by the Delaware County Planning Commission on Route 291 along the county's entire Delaware River waterfront. The ECG will probably enter Philadelphia via the proposed Tinicum-Fort Mifflin Trail, using existing and enhanced trails in the John Heinz National Wildlife Refuge. This trail will follow Darby Creek and Cobbs Creek and will enter Cobbs Creek Park at its southern end at Woodland Avenue.

The ECG will exit Cobbs Creek Park in the vicinity of Springfield Avenue and then use the Philadelphia Bicycle Network on-street improvements to reach Historic Bartram's Garden at the Schuylkill River. From here the ECG will follow the proposed Botanic Trail and then Schuylkill River Park (now under development) to Center City Philadelphia. Schuylkill River Park links at its northern end with Fairmount Park at the Water Works, providing numerous connections.

A traverse of Center City via on-street-bike lanes and quaint alleys and courtyards will bring the ECG to Penn's Landing. From here the ECG will follow the Delaware River to Bristol using a pro-



COBBS CREEK PARK
TRAIL MASTER PLAN
ACCESS TO PARK BY PUBLIC TRANSIT

Andropogon Associates Ltd.
CT&C Campbell Thomas & Co.
Steve Spindler Cartography

posed series of greenways being planned, including the Kensington and Tacony Rail-with-Trail of the Philadelphia Industrial Development Corporation. Along the Delaware River are proposed connections with Tacony Creek Park via the possible extension of the park along Frankford Creek to its mouth at the Delaware, and with Pennypack Park, which was recently extended to its mouth. In fact, a portion of new bikeway along the river will become part of the ECG.

Should a Poquessing Creek Park be made continuous along the length of the creek, this park will link as well with the ECG at Torresdale. North of Bristol the ECG will follow the existing towpath of the Delaware Canal State Park to Morrisville, from there it will cross the Delaware River on the historic Calhoun Street Bridge which formed part of the Lincoln Highway.

P&W Trail

A section of this rail-trail is now under development in Radnor Township. From Villanova to City Line Avenue, this interurban railroad is still active, but in many areas the right-of-way was developed for four tracks, but only two are in use. A possible rail-with trail has been proposed which would link with Karakung Golf Course and Cobbs Creek Park, giving a continuous trail across the Main Line all the way to the Philadelphia International Airport.

Cobbs Creek Park and Links to Public Transportation

In spite of the incursion of the automobile, Philadelphia and its surrounding counties retain one of the most extensive public transportation systems in the United States. It is no surprise to find that all portions of the Fairmount Park system are generally well served by a variety of trains, busses and streetcars.

What is unfortunate is that little written material exists about these links for residents and visitors. It would appear that most of the Southeastern Pennsylvania Transportation Authority (SEPTA's) efforts are geared toward regular commuters and special events. Until the 1950s, transit companies more actively sought off-peak and weekend passengers heading to the parks and even published trail maps and guides showing passengers how to enjoy the pleasures of the park system — while utilizing the untapped off-peak capacity of the transit system.

The Market-Frankford Elevated line at Cobbs Creek Parkway.

Rail Transit

Rail transit, consisting of two regional rail lines, the Norristown High Speed line, and the Market Frankford Elevated line, provide service to Cobbs Creek Park from Center City, North Philadelphia and the surrounding western suburbs. This rail transit runs either through or adjacent to the park with only two stops which provide direct access to the park. These stops, located in the northeast and center of the park, are not coincidental with signed trailheads. Several other stops or stations exist, but access to the park is either blocked by development or obscured by distance from the park boundary and lack of signs directing travelers to the park. One such station is a major rail transit hub at 69th Street Terminal, located less than 1/4 mile away from the park. No signs or maps are posted indicating the proximity of the terminal to the park.

Bus and Streetcar Service

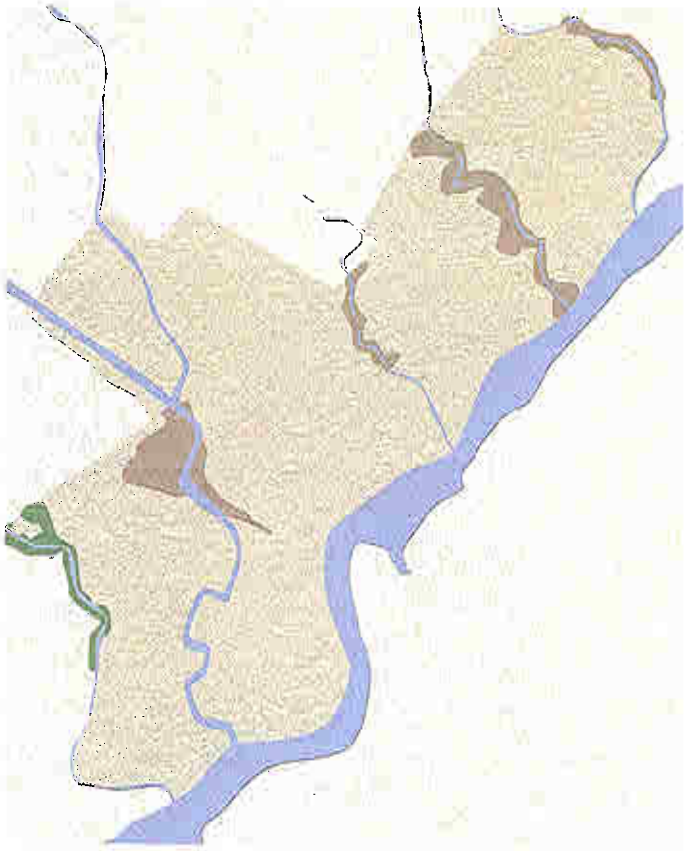
Three streetcar and nine bus lines run through or adjacent to the park with several stops that provide direct access. Public transit stops for the most part do not coincide with signed trailheads. In addition, 69th Street Terminal, a bus hub as well as a rail hub, is not signed to direct travelers to the park.

Existing Service Limitations

Public transit to Cobbs Creek Park is fairly extensive. However, not all rail stations provide direct access to the park and bus stops and rail stations are not signed indicating their proximity to the park. Published trail maps and guides showing public transportation users how to enjoy the pleasures of the park system are not available as they were several decades ago.

Section III

The Character of the Urban Park



Lessons Learned Within the Park System

The urban park is the city dwellers' backyard and the suburbanites' regional park system. Urban parks are both beloved and abused by their community. Regardless of how diverse their environments, urban park systems share many of the same characteristics:

- Security and enforcement of park rules are of paramount concern.
- A chronic decline in funding results in continuously deferred maintenance need. At the same time there is no consistent public funding to manage natural areas.
- Strong community volunteer participation is vital to the success of the park.
- The environmental health of the park is vital to sustaining the community's health.
- The natural systems are under severe stress due to the impacts of both outside land use and specific park use.
- The park is heavily used for recreation while providing scarce, yet vital, natural lands within the city. Impacts from current recreational use exceed the capacity to maintain healthy, natural lands as well as the existing trails.
- ANY off-trail use is damaging to the natural systems.
- The urban park is heavily utilized by a diversity of people with conflicting uses.
- Use conflicts and recreational/environmental conflicts are interrelated and difficult to separate.
- The trail system is largely unplanned. The majority of trails have evolved from rogue trails and changing user patterns.
- The park is public land. Policies regarding use should be equitable. However, the park is too small and too fragile to allow for all terrain vehicle (ATV) use. ATVs cannot be accommodated.

Vandalized and collapsing picnic shelter in Cobbs Creek Park.

Volunteer activity in Cobbs Creek Park.

The workshops, interviews and public meetings conducted during this master planning process informed the study about the system-wide use of the trails in these urban parks and formed the basis of the recommendations made in this report. In this way, the trail master plan process provided another opportunity in the ongoing dialogue between users and managers that has been growing in the past two decades. This report is not the only trail master plan in the Fairmount Park system; it is simply the current trail master plan. The recommendations of this plan benefit from the work undertaken in Wissahickon Valley Park. That park has experienced a sudden and dramatic increase in the use of mountain bikes with serious conflicts of use. The Wissahickon Trails Master Plan was completed in March 1996 by the firm of Simone, Jaffe, Collins Landscape Architects. The implementation of a permit and donation program as well as major restoration and rehabilitation of some of the most disturbed sections of trail followed this plan. The Wissahickon also has active volunteer groups, including the Friends of the Wissahickon and the Wissahickon Restoration Volunteers, who undertake trail repair and maintenance, along with the staff of Park District #3.

The successes and the failures of the Wissahickon plan provided invaluable input to this report. The strongest lesson is that the parks are at present unprepared to deal with changing uses. There is a lot of work to be done to nurture responsible park users and stewards. The users who participated in meetings during this project were also aware of the conflicts that arose in the Wissahickon and approached this current effort with the desire to make progress in good relations with each other and with the natural landscapes of the parks.

Lessons Learned in Cobbs Creek and Tacony Creek Parks

Tacony Creek and Cobbs Creek parks are both seriously impacted by illegal all-terrain vehicle (ATV) use that has eliminated many other users. These parks demonstrate what happens when an effort is, or is not, made to address this issue. Uncontrolled use leads to uncontrolled destruction.

- Activities such as dumping and ATV use are damaging and eliminate most legitimate users. To date, only police patrols on dirt bikes have effectively controlled illegal ATV use.
- Security is of paramount importance. Community surveillance is an important component of security in public landscapes.
- Uninformed users endanger themselves, for example, by swimming in the streams or diving from bridges.

Lessons Learned in Wissahickon Valley Park

- Seriously eroded trails can be rehabilitated successfully with a combination of outside contractors, Park staff and volunteers.
- Intensely used trails require more infrastructure. Do not minimize on infrastructure, especially drainage structures.
- Large-scale water structures such as reverse grade rolling dips are superior for multi-use trails to waterbars, which require more maintenance.
- Maintenance is always less than necessary and less than is required. Do not rely on regular maintenance. Rather achieve a high degree of finish on each project.
- Peer patrols offer the most promising approach for managing recreational users.

Lessons Learned in Pennypack Park

Pennypack Park also benefits from an active Friends group and volunteer trail maintenance. The users, especially hikers and mountain bikers, have been working closely with each other and the Park staff and volunteers. Although the Pennypack has not experienced the same dramatic increase in mountain bike use as in the Wissahickon Valley Park, conflicts have occurred with changing use and foster a sense of urgency.

- Shared trail use engenders more positive feelings than separated trail use which fosters competition between users.
- Recreational users broaden their perspective when they work on volunteer trail maintenance.
- Shared use is manageable with moderate levels of use.
- Courtesy and rules of the trail are vital to the success of shared use.

Lessons Learned in Fairmount (East/West) and Poquessing Creek Parks

- Pedestrian journeys have been sacrificed to the automobile's needs and there is a need for special crossings and traffic calming devices in order to restore a functional trails system.
- Fragmented journeys do not afford good recreational experiences.
- Illegal activities are carried out with impunity, especially at the edges of the parks.

Burned-out car hulks and illegal dumping are frequent sites in Cobbs Creek Park.

System Wide Trail Issues

In the workshops, interviews and public meetings conducted during the course of this study, the issues of trail use and the relationship to trail condition and degradation were often raised. Any kind of use can damage a poorly sited or unmanaged trail and every example of that can be found in the parks. Mountain bike users have damaged some trails while horses and all-terrain vehicles (ATVs) have damaged others. Elsewhere, pedestrians alone or all uses combined account for the damage done. The bottom line is that matters of use are inseparable from the questions of trail suitability and maintenance. Beyond that, the user must use the trail responsibly or environmental damage and user conflicts are inevitable.

Cobbs Creek Park Trail Issues

- Abandoned trails throughout the park.
- Rogue trails and ATV damage.
- Illegal dumping and abandoned cars.
- Increasing deer browse.
- Need to support and expand Dirt Bike Police Unit.
- Limited parking and access/poor control of parking.
- Positive volunteer maintenance effort on trails.
- Lack of trail amenities.

Trail Use Patterns

Changing Use Patterns

Much of the unpaved trail system in the parks is user created and has evolved over time. Trails open and close as uses shift over time. Recently, park usage has both intensified and changed in character with the dramatic increase in the popularity of both mountain bikes and all-terrain vehicles (ATVs). Many trails that once were narrow with hiking as the major use now carry heavy mountain bike usage. They were never designed for this purpose and are not wide enough for mixed use, nor do they have adequate surface or drainage structures to handle wheeled traffic. Increased use also has dispersed users more evenly throughout the landscape and increased pressure on previously less used trails on steeper and more fragile slopes. Illegal ATV use has preempted extensive areas of parkland from legitimate uses and has led to serious environmental degradation. Wherever very different kinds of users share trail facilities, it is important to recognize and accommodate their differing needs or conflicts of use. Mountain bikers easily startle horses, for example, creating potentially dangerous situations. Walkers and wildlife may also be startled by bikes. Walkers slowing suddenly may pose hazards to bikers. The conflicts are inherent in mixed use and cannot be reconciled by trail design alone.

Trail widening, vegetation disturbance, soil compaction and evidence of heavy ATV use.

Proliferation of Rogue Trails

All of the parks in this study have, like the Wissahickon Valley Park, experienced a proliferation of user-created trails since the 1983 Fairmount Park System Master Plan. Most of the new rogue trails are poorly sited and damaging to the park system's natural areas. A common condition is a new trail cut straight down a steep slope which may show, in a matter of weeks, the level of wear and erosion that would take years to generate on flatter terrain. The heaviest use on these rogue trails is by mountain bikes and ATVs based on the wear patterns observed in the field.

Trail Widening

In addition to creating new trails, the changing use patterns in the parks have also resulted in significant trail widening. The problem was first evident in the Wissahickon, but now is widespread with the intensification of use, especially by mountain bikes. Except in Fairmount (East/West) Park where more current trails were once roads, many of the trails in the parks were, until recently, much narrower foot paths or bridle paths. Many of the side trails were once almost single-file, creating a three foot wide gap in the forest or meadow. Multiple uses of the creek side trails have increased, which in some cases were relatively recently paved to better accommodate wheeled vehicles. Where walkers and cyclists once rarely encountered each other on the trails, today most of these trails are widening incrementally as two way traffic is gradually accommodated. Unfortunately, these user-widened trails continue to be erosion problems and do not meet adequate trail design standards. They have also resulted in a significant loss of habitat throughout the park system.

Ponding and widening resulting from vehicular use.

Rogue trail and gully erosion at stream access point jeopardizes trails and water quality of the stream.

Stormwater Management

The continued increase in stormwater runoff both generated and funnelled to urban park streams degrades the habitat value and water quality of park streams as well as erodes trails and damages trail infrastructure, especially where trails are poorly maintained or badly sited. Damage from stormwater is typically inseparable from the level of use and condition of the trail. A rutted trail, for example, concentrates runoff and increases its velocity and erosive force. A widened trail generates more runoff than before. The streamside unpaved trails that are located along most major park creeks have been especially impacted.

Erosion from excessive run-off represents one of the most ubiquitous and costly sources of damage to urban natural areas. Many of the stormwater problems observed in Cobbs Creek Park originate off site. This presents a difficult problem for park management and requires complicated negotiation with adjacent landowners and public regulatory agencies and constant monitoring to confront problems off-site. Stormwater should be treated as close to the source as possible, that is not by riprapping the banks of the streams in the parks, but rather on the property of the development where the excess run-off begins.

Beyond the visible damage to slopes, trail surfaces and stream channels, poor stormwater management also alters the natural hydrologic regime. Water that previously infiltrated into the soils now runs off, failing to replenish groundwater. Streams, which once ran year round, become flashier, subject to periods of drying out. Dropping groundwater levels, which reduce the base flow of streams, may also severely impact vegetation. Many species, such as beech and oak, are dependent upon closeness to the water table in order to weather times of drought, and cannot survive continued lowered water table conditions. If adequate levels of recharge are not sustained over time, even larger changes in vegetation are likely.

Volunteer and park staff using bio-engineering techniques to repair stream bank erosion. (Photo by Joseph Caesar)

Water quantity and water quality problems are both issues of concern in Cobbs Creek Park. Combined sewer overflows (CSOs) contribute untreated wastewater to the creek during storm events (ANSP 1999). During the fieldwork for this study, strong sewer odor was noted at several trail locations and severe erosion has exposed a sewer line south of Marshall Road.

Resource protection benefits the whole community. All of the watershed parks in this study were first established to protect the functions of a stream corridor: flood retention, pollution reduction and plant and animal habitat. The engineered infrastructure for handling stormwater with the practice of shunting everything to the stream, however, is dismantling the natural infrastructure of the stream corridor. Stormwater design often focuses on flooding only and outlet structures may not provide any detention of the smaller but very frequent one or two year storm which travels through the pipe at high velocities. Conventional practice has redefined stream function, as the capacity to convey water has gradually transformed and constricted the floodplains of these urban parks, especially Cobbs Creek Park, to become steep-sided stream channels with no real floodplain corridor left at all.

All-Terrain Vehicle (ATV) Use

It is illegal to use ATVs on public property and streets in the City of Philadelphia. However, the dramatic increase in the illegal operation of ATVs in the Fairmount Park system has had the most serious impact to the natural areas of the parks as well as to the trail infrastructure. Where ATVs operate on existing trails, virtually all other legitimate users are excluded and the trail surface is completely eroded in a very short period of time. Wherever ATV use occurs, extensive new trails are created, typically in a dense maze-like pattern that completely fragments the natural landscape. Damage is so widespread throughout these areas that the restabilization and restoration costs in this Master Plan budget are calculated in acres of the area impacted rather than linear feet of trail created. No other use, illegal or legal, poses such a threat to the park's trails as well as to other infrastructure and natural areas.

Poor Enforcement and Perceived Insecurity

Most of those who use the park trails report feeling safe most of the time, however there are many potential users who stay out of the park because of perceived insecurity. No other issue came up as often in the workshops and public meetings that were held during the planning process. The greatest source of fear in the parks is the illegal use of ATVs. The failure of police to control this problem and other illegal activities is interpreted as a sign of general lawlessness in those areas where it occurs. Illegal dumping also impacts general use and enjoyment of each park, as well as its more immediate area. The design standards of the trail system must discourage access by ATVs and short dumping to complement a program of enhanced enforcement. The most consistent request from the public during the planning phase was for Fairmount Park Rangers to be stationed in each park.

Lack of Signage and User Information

Enforcement and signage go hand in hand. Without good maps and information on park rules, even a well-intentioned user will have difficulty being a responsible user. Good signage enriches the park experience and the diversity of community users. Most of the park system is minimally signed at this time and only the Wissahickon Valley and Pennypack parks have good trail maps available.

Conflicts with Traffic

Conflicts with traffic have escalated, almost since the park system's formation. Once grand park drives and trails, such as those in Fairmount (East /West) Park, have been fragmented or taken over by city traffic. Kelly and West River Drives, as well as the Schuylkill Expressway, severely limit access to the Schuylkill River. Roosevelt Boulevard virtually defines separate enclaves of Tacony Creek Park. Poquessing Creek Park was bifurcated by roads and development long before efforts began to create a linear park. This guarantees that a trail system in this area will need to incorporate both private and quasi-public lands as well as roadsides to complete trail links.

Diminished Hiking Experience

The most dissatisfied user in the park system today is the hiker who seeks a quiet walking experience close to nature. Once a predominant user, many walkers at the public meetings noted how completely disrupted their experience is by increased mountain bike traffic, especially by groups of cyclists. This problem is intensified where courtesy and rules of the trail are not observed. Security is especially important to walkers, many of whom feel more vulnerable than other users. The walking experience has also been diminished by automobile traffic, especially in Fairmount (East/West) Park where historic journeys are now crisscrossed by vehicular traffic and access restrictions such as new fencing. Comments from walkers at workshops held during this project all too often began with "We used to walk here long ago before.....".

Too Much of a Good Thing

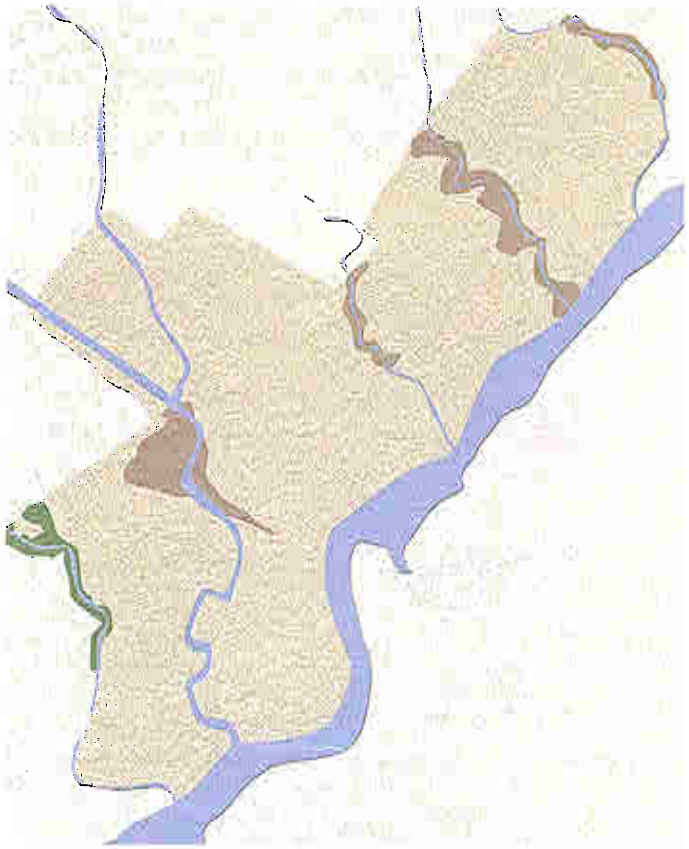
The trail network in most of the parks is too dense to achieve the restoration and natural areas protection goals of the Fairmount Park Commission and the community of users. With the widening of official trails and the proliferation of rogue trails, this problem is worsening. Cobbs Creek Park, for example, has almost 8 miles of rogue trails. There is no area in any of the five parks studied in this report where wildlife is relatively free of high speed disturbance that is wider than 470 feet. The trail network has resulted in a landscape that is nearly all edge condition. From the perspective of habitat, this means that there is very little interior-type habitat upon which many of the indigenous species are dependent and almost no area that can be described as relatively undisturbed.

Typical example of illegal activities along trails.

An unmarked trailhead in Cobbs Creek Park.

Section IV

Trail Inventory and Analysis for Cobbs Creek Park



An unmarked trailhead in Cobbs Creek Park.

Small wetland area adjacent to trail south of Baltimore Avenue.

The Character of the Landscape

Woodland Avenue to Baltimore Avenue

Cobbs Creek Park has been described as funnel-shaped, with the narrowest point at the southern tip where Woodland Avenue crosses the stream. There are no trails in this area, except for the sidewalk along Cobbs Creek Parkway. At this point the bed of Cobbs Creek is extensively littered with trash and debris washed down from upstream. The riparian buffer at this point of the stream is narrow with mown areas maintained along the perimeters of the park.

North of 70th Street, the steep slopes of the stream valley are primarily forested with invasive species dominating the canopy gaps. Several small tributaries and wetlands emerge from the western side of the stream bank up to Whitby Avenue. There are also rogue trails on the west side of the stream. After 65th Street the rogue trails increase with multiple trail openings from the adjacent neighborhoods. These rogue trails run straight down the steep slopes to the stream and show the erosive signs of ATV activity. Approaching the Mt. Moriah cemetery, the trail along the stream becomes overgrown with Japanese knotweed (Polygonum cuspidatum), preventing access to the Cobbs Creek Parkway and essentially isolating the trail. Large areas of invasive species at the steam edge are a common site throughout the park. Stream bank erosion is evident here, as it is in many portions of the Cobbs Creek stream corridor.

On the eastern side of the stream there are no defined trails until 59th Street, where an unpaved trail leads down to the floodplain. Easy access from the parkway has allowed extensive dumping and abandoned vehicles were observed in the streambed. This overgrown trail leads north to an open mowed area with an old basketball court. Here the creek meanders allowing for a wider floodplain area. It is possible to access the Whitby Avenue picnic areas from here by crossing the field. Presently, there is no safe pedestrian crossing at Whitby Avenue where short sight distances and high-speed vehicles pose a hazard. Burned out, abandoned vehicles again blight the landscape at this location. This is a popular area for tailgate picnics, with people parking their cars on the grassy areas. This activity has caused compaction, erosion and run-off problems.

North of Whitby Avenue and west of Cobbs Creek Parkway, the trail closely follows the stream. The steep slopes are wooded, but extensive slope and gully erosion can be seen from the top of the banks, over the trail and down to the creek. Aside from the severe slope erosion and short dumping along the trail, the trail surface is in fair condition. A nice surprise is a small wetland area found adjacent to this trail. There is a dramatic view of the railroad trestle as the trail passes under the bridge south of Baltimore Avenue.

The trail ends at a playground in a well-used recreational area where an existing concrete barrier has been pushed aside allowing vehicular access and facilitating the dumping of tires and construction debris along the trail.

Baltimore Avenue to Market Street

Throughout this section, the park boundaries remain narrow with steep slopes leading down to open floodplain. This area is an activity cluster for the neighborhood with existing recreational facilities. The new Environmental Education Center is a welcome addition to this area that will be a nucleus of positive recreational and volunteer activity and programs that will reinforce the focus on restoration efforts in the area. The Cobbs Creek Parkway is a prominent feature here as it presents a long straight park perimeter and park access to the facing neighborhoods.

An existing trail connects the pool and athletic fields north of Marshall Road to other trails south of Marshall Road. This trail runs under the Marshall Road Bridge and provides an alternate route to crossing Marshall Road at the intersection of Cobbs Creek Parkway.

The trail approach to the bridge is in fair condition, with a 4-6' wide surface of crushed stone or earth. Several concrete barriers are located south of Marshall Road, providing a barrier to vehicular access and a large obstacle to bicycle traffic.

Under the bridge, the trail surface is earth, with some standing water. It appears that rubble and fill material has been placed under the bridge to provide a 12' wide trail surface approximately 15' above the water level. This fill is eroding due to the steep slope and lack of vegetative cover. No fence or handrail exists along the edge of the trail, and there is a steep drop-off down to Cobbs Creek. At the south end of bridge, the trail narrows and is very close to the drop-off.

Market Street to Haverford Road

At Market Street the main stem of Cobbs Creek bends to the west and the parkland widens out. This area, known as the Bocce Court Woods, is the largest contiguous tract of woods in the park and contains a scenic boulder site along the stream. The area also contains numerous restoration sites that are well documented and described in the Natural Lands Restoration Master Plan, including wetlands, tributary and floodplain forest restoration, dam and culvert removal. Between Market and Vine streets a mazelike network of abandoned, rogue and designated trails presents a confusing system for the user. Illegal activity again mars the landscape with dumping, abandoned cars and evidence of ATV activity. This maze of trails is not apparent from the park perimeter and remains an underutilized resource for positive use of the area.

Heading west from the Bocce Court Woods towards Lansdowne and City Line avenues, two golf courses are situated within the park boundary, extending to City Line Avenue. The Natural Lands Restoration Master Plan has outlined recommendations for environmental management of these golf courses. The recommendations include creating better transition areas between the natural areas and the managed lands, such as meadows and widening and improving the riparian corridors which could also accommodate a trail right-of way to provide a trail connection to Carroll Park.

Haverford Road to City Line Avenue

This northernmost portion of the park is Y-shaped as it follows the course of Indian Creek on the east side and Indian Run on the west. These wooded tributary ravines are the largest that drain into the main stem of Cobbs Creek. Indian Run is the site of a scenic waterfall. As they are throughout the park, the impacts of urban development and man are evident. In some areas there is a strong sewage odor. The forested land gives way to athletic fields and playgrounds that dominate the landscape between Oxford and Lansdowne Avenues.

There is a maze of unpaved trails in this area that are primarily in poor condition with many rogue trails and evidence of ATV activity. An extensive dumpsite has developed between Indian Run and Indian Creek.

North of City Line Avenue

This is an isolated forested portion of the park, known as Carroll Park, with unpaved trails situated primarily in the floodplain of Cobbs Creek, which is dominated by Japanese knotweed. Extensive trail erosion damage and sedimentation were observed in this area after Hurricane Floyd.

Major Trail Features of the Park as the Public Sees Them

At two workshops, in three public meetings, in numerous interviews and on the project website over the course of this study, the team recorded the ideas and concerns of trail users and the park staff about the existing trail system. In this way, those directly involved with the parks provided first hand information regarding the major features of the park related to trails use, treatment, development and management.

- Unpaved trails provide access to what is perceived as a wild area through mature woodlands, meadows, wetland areas, dramatic rock outcroppings and the Cobbs Creek stream valley.
- The trail system provides access and views of some of the historic remnants in the park such as dams, millraces and stone bridges.
- Proximity to a well-maintained park and trail system could have an economic benefit for the surrounding neighborhoods.
- Recent volunteer restoration efforts in the park have been very successful, building new skills and local expertise, positive use and a well-informed constituency within the community.
- The park provides important recreational facilities for the surrounding neighborhoods. The area from Market Street to Catherine Street is a major center of activity with recreational facilities, picnic areas and the addition of the new Environmental Education Center.

Typical gravel surface trail.

Natural Areas and Restoration Sites

The focus of this study was not to provide a detailed inventory and analysis of the natural areas. The Academy of Natural Sciences of Philadelphia (ANSP) Lands Restoration Master Plan prepared for the Fairmount Park Commission has already provided this vital baseline for evaluating biological changes in the landscape. The task of this study was to determine where the interpretive and educational opportunities for trail development exist and how the trail system can be managed in concert with the restoration goals for the parks.

A key objective was to design trails in light of the overall site systems – to minimize conflicts and maximize the extent to which sustaining functioning natural systems, such as hydrology, can reduce the need for long-term maintenance and/or enhance the functioning of natural systems. This approach will ensure that the whole site is addressed, not simply those areas where more conventional maintenance is carried out. This park has a large number of high priority restoration sites covering one hundred and twenty-four acres that have been outlined by the ANSP. Specific trail improvement sites recommended by the ANSP study and recognized by this Trail Master Plan include:

- Morris Park/Indian Run
- Cobbs Creek Parkway and Thomas Avenue
- West of Bocce Courts at Vine and Daggett
- North-facing slopes on the east bank of Cobbs Creek at Manoa Road
- Cobbs Creek Parkway and Thomas Avenue, left bank of Cobbs Creek

Soils, Slopes and Floodplains

Analysis of the natural resources is important to an understanding of the compatible human use of an area. Slope analysis of the park reveals that over 11.53 miles of trails presently lie in steep slope areas, representing 51% of the present trail system. While these trails may follow the contours of the land, many segments exceed the recommended design standards for longitudinal and cross-slope grades. An unpaved trail should ascend in the landscape gradually and should not exceed an eight-percent slope. Cross slope on a trail is important to insure that water drains properly and generally is recommended at a two-percent slope. Unpaved trails, with or without regular maintenance, that exceed these standards can become quickly degraded and exhibit degrees of gully, erosion and trail widening that is exacerbated by trail use. In this park, ATV and dirt bike activity have caused considerable damage on unpaved trails, where the preferred routes appear to be in the more difficult terrain and steep slope areas.

Soil is an important structural factor, especially on an unpaved trail. In Cobbs Creek Park, soils that have high erosion potential are found on the steep slopes. These include soils primarily from the Manor soils series as described in the 1975 Soil Survey for Bucks and Philadelphia Counties. This soil series has the characteristic of both rapid runoff and high erosion, both of which can pose problems for trail development and maintenance. The surface layer of these soils is thin and does not form a cohesive surface. Runoff speeds erosion and exposes the underlying subsurface which is very stony and coarse. Vegetation adjacent to the trails is jeopardized as the sloped sides erode and tree roots become exposed.

The combination of high erosion potential and poor drainage also poses constraints for trail development. Trails intercept and channel overland flow from rainstorms. Water channeled by a trail will erode the trail and create gully areas where it leaves the trail. Water trapped on a trail will create

Trail and slope erosion in Cobbs Creek Park.

mud holes that grow wider as traffic tries to get around them. This condition is not good for the trail or the surrounding land. Where a trail is gullied, or muddy or hard to follow, traffic will find its own way; which increases erosion, enlarges mud holes and spreads the effects of trampling.

Degraded, rogue and redundant trails along the stream edge contribute to the impacts on water quality when trail erosion, areas of barren vegetation and trail widening degrade stream banks. The zone of vegetation along the stream edge serves to slow down and reduce runoff, which reduces downstream flooding. Consequently, this vegetative buffer zone assists in removing pollutants that travel with runoff. Trees, shrubs and vegetation provide shade, which reduces stream temperature, creating a healthier habitat. Where deep tree roots are absent, the bank will scour, undercut or slump, depositing sediments into the channel where they smother the existing stream substrate. These depositions also change the cross section of the stream channel thus setting up a cycle of new and possibly more severe bank erosion.

In this park, one contributing factor to the problems of flooding and erosion is that too little land has been left to natural patterns. South of Vine Street, the park becomes a steep-sided channel with a constricted floodplain surrounded by urban development. Restoration and management in this floodplain area will be dependent on providing appropriate access to the landscape, so that visitors and managers may engage in positive use of the site and do not contribute to the degradation of the resource.

Existing Trail System

Cobbs Creek Park functions as several parks. Morris Park to the north is an almost entirely separate entity. The Cobbs Creek and Karakung golf courses, which total over two hundred and five acres, prevent a continuous streamside trail link at this time. Other areas of the park have been taken over by ATVs and dirt bikes, abandoned car sites, fire and dumping sites, excluding almost all legitimate use. Elsewhere, lack of adequate sightlines, overgrown trails and poor surveillance also discourage desired users. Despite these problems, Cobbs Creek Park has an actively involved community and potentially vibrant park edges. The mature woodlands, rock formations and stream cascades offer dramatic natural experiences to the visitor.

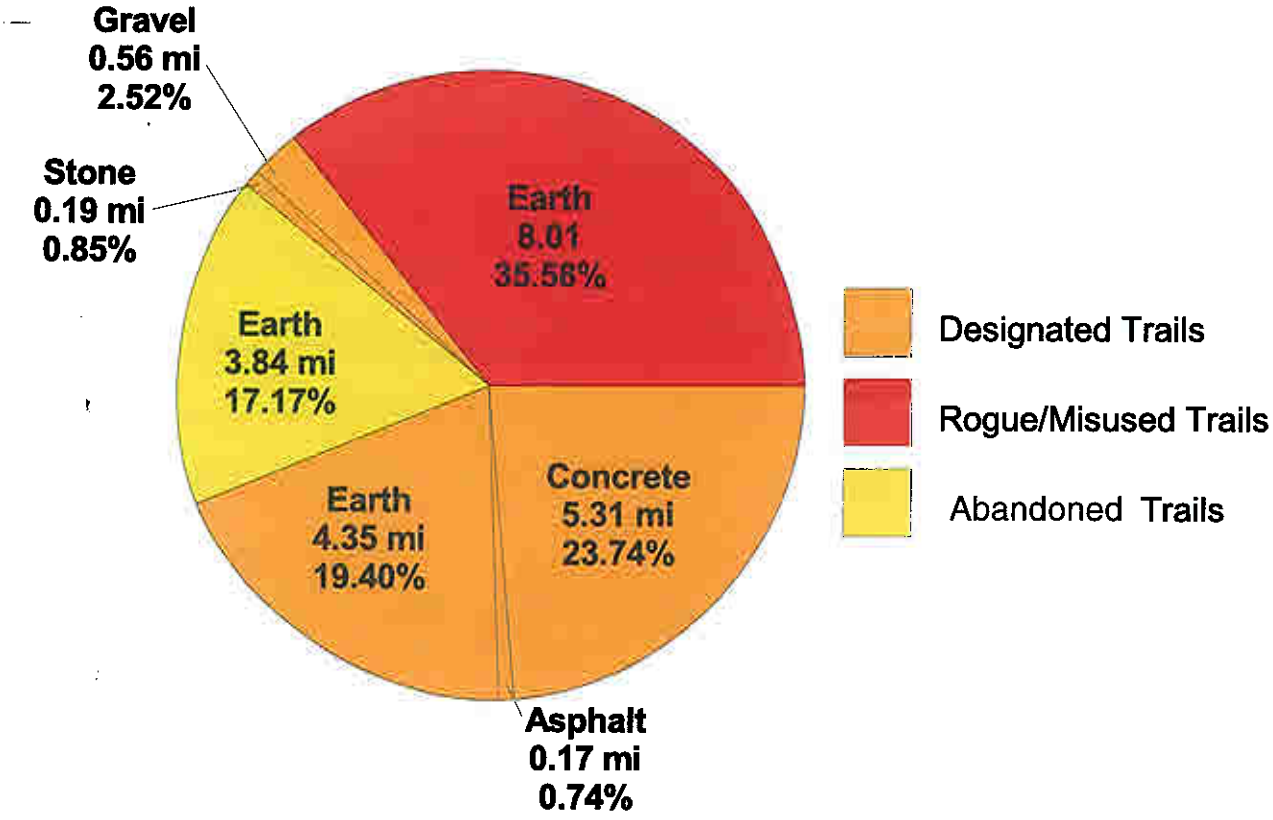
Cobbs Creek Park consists of over 829 acres of land with 22.43 miles of trails. Although 430 acres of the park is woodland that provides a critical riparian buffer for the Cobbs Creek watershed, this is a fragmented landscape that has suffered all of the impacts of the urban environment that surround the park. Over time, erosion of the soils from stormwater runoff, constant disturbance to the soil surface due to off-trail use of vehicles, the proliferation of exotic plant species and deferred maintenance has led to spiraling levels of damage to the natural areas throughout the park. Restoration of the infrastructure in this park is a prerequisite to restoring the landscape.

There are no clear trail configurations in this park. Starting at the southern end of the park, at Woodland Avenue to Market Street, the trail configuration is a discontinuous, linear journey. In the northern end of the park, above Vine Street, where the parkland widens, the proliferation of rogue trails has blurred any discernable pattern. Over eight miles of trails were identified in this study as rogue trails. Seventy-two percent of the trails in this park have a surface of bare soil, which often makes it difficult to distinguish between a designated and a rogue trail. When bare soil is visible anywhere in a park, people feel free to trample far more casually. This study reveals that over thirty-seven percent of the trails are in poor condition with severe trail surface and gully erosion. Whole areas north of Lansdowne Avenue and south of Vine Street, totaling over fifty-eight acres, require extensive trail reconstruction, slope stabilization, trail closure and revegetation of barren areas. (See Trail Closure Strategy Map, page 151)

Existing Trail System for Cobbs Creek Park

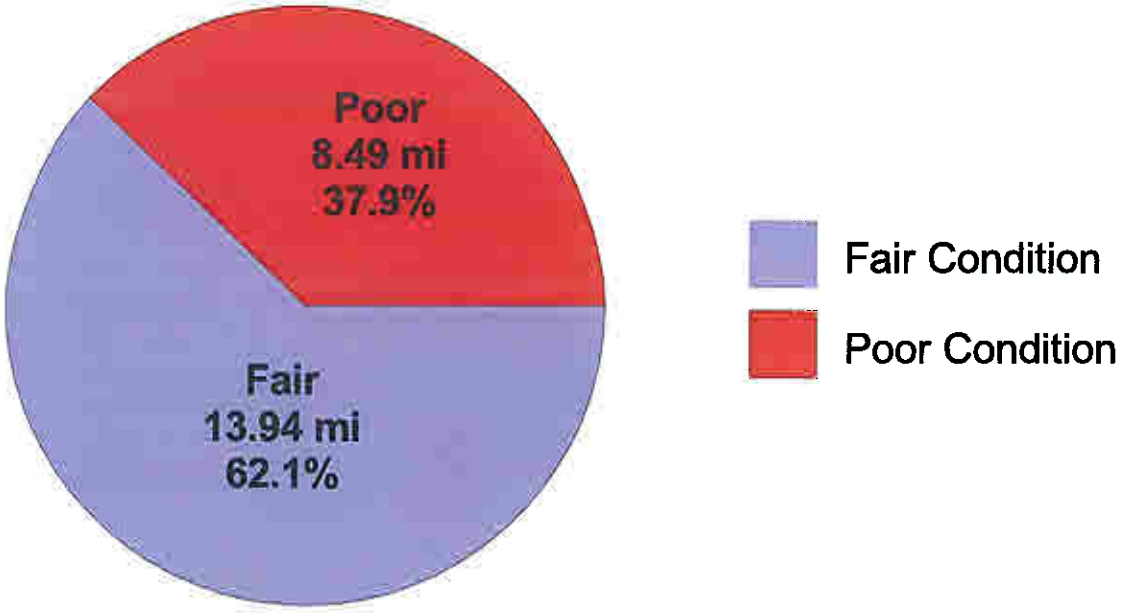
Total Area [acres]	829
Woodland Area [acres]	430
Recreational Area [acres]	270 (incl. 205 acres golf)
Vehicular [miles]	1.98
Trail Description/Use	*Existing Trails*
Multi-use - Paved (miles)*	5.48
Multi-Use - Unpaved (miles)	5.10
Abandoned Trails (miles)	3.84
Rogue/Degraded/Redundant (miles)	8.01
Total Trail System [miles]	22.43
Other Pathways	
Bike Lane [miles]	-
**The total for paved trails includes sidewalks*	

Trail Materials in Cobbs Creek Park



Total Trail Length: 22.43 miles (includes existing sidewalk)

Trail Conditions in Cobbs Creek Park



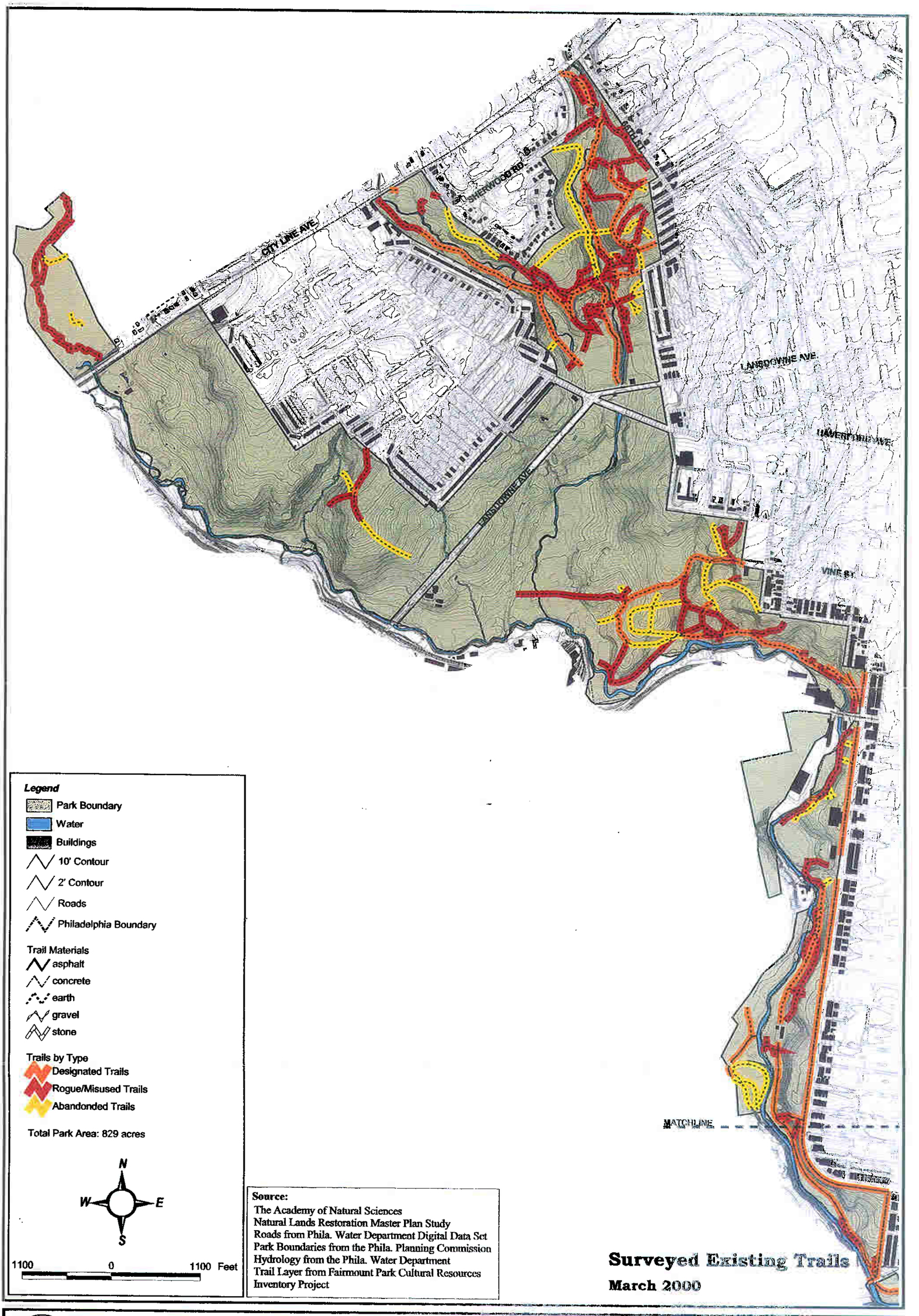
Total Trail Length: 22.43 miles (includes existing sidewalk)

To assess existing trail surface conditions, the following criteria was adopted by the team conducting the field work for the Trail Master Plan.

Good Condition
- Minor erosion of trail surface

Fair Condition
- Moderate erosion of trail surface - under 2' in depth
- Moderate gully erosion
- Moderate sheet/slope erosion adjacent to trail

Poor Condition
- Severe erosion of trail surface - over 2' in depth
- Severe gully erosion
- Severe sheet/slope erosion adjacent to trail



Legend

- Park Boundary
- Water
- Buildings
- 10' Contour
- 2' Contour
- Roads
- Philadelphia Boundary

Trail Materials

- asphalt
- concrete
- earth
- gravel
- stone

Trails by Type

- Designated Trails
- Rogue/Misused Trails
- Abandonded Trails

Total Park Area: 829 acres

N W E S

1100 0 1100 Feet

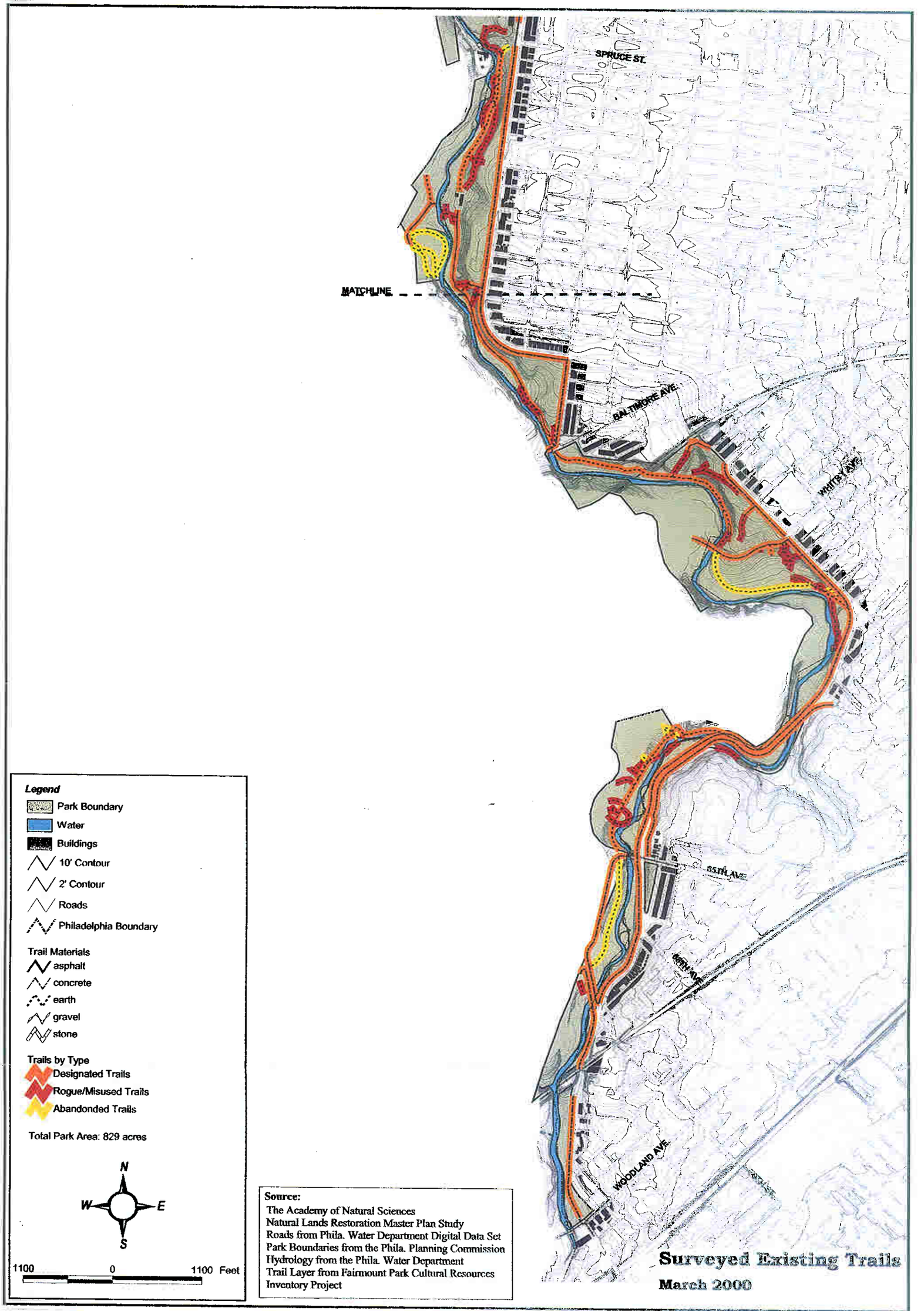
Source:
The Academy of Natural Sciences
Natural Lands Restoration Master Plan Study
Roads from Phila. Water Department Digital Data Set
Park Boundaries from the Phila. Planning Commission
Hydrology from the Phila. Water Department
Trail Layer from Fairmount Park Cultural Resources Inventory Project

Surveyed Existing Trails
March 2000

FAIRMOUNT PARK COMMISSION

COBBS CREEK PARK (NORTH)
Trail Master Plan

Andropogon Associates Ltd.
CT &C Campbell Thomas & Co.
Steve Spindler Cartography



FAIRMOUNT PARK COMMISSION

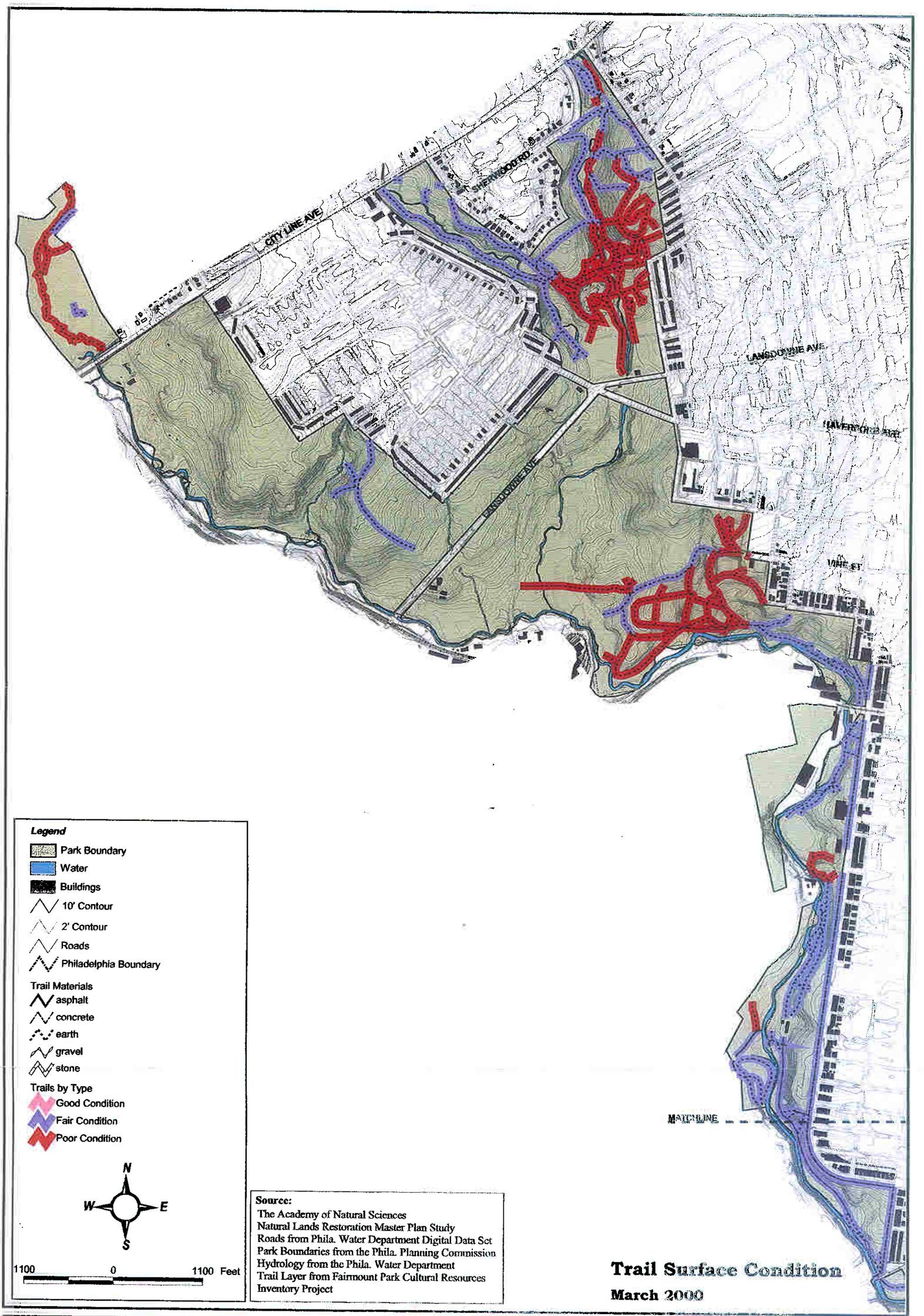
COBBS CREEK PARK (SOUTH)

Trail Master Plan

Andropogon Associates Ltd

CT &C Campbell Thomas & Co.

Steve Spindler Cartography



Source:
The Academy of Natural Sciences
Natural Lands Restoration Master Plan Study
Roads from Phila. Water Department Digital Data Set
Park Boundaries from the Phila. Planning Commission
Hydrology from the Phila. Water Department
Trail Layer from Fairmount Park Cultural Resources Inventory Project

Trail Surface Condition
March 2000

FAIRMOUNT PARK COMMISSION

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Trail Master Plan

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CT & C Campbell Thomas & Co.
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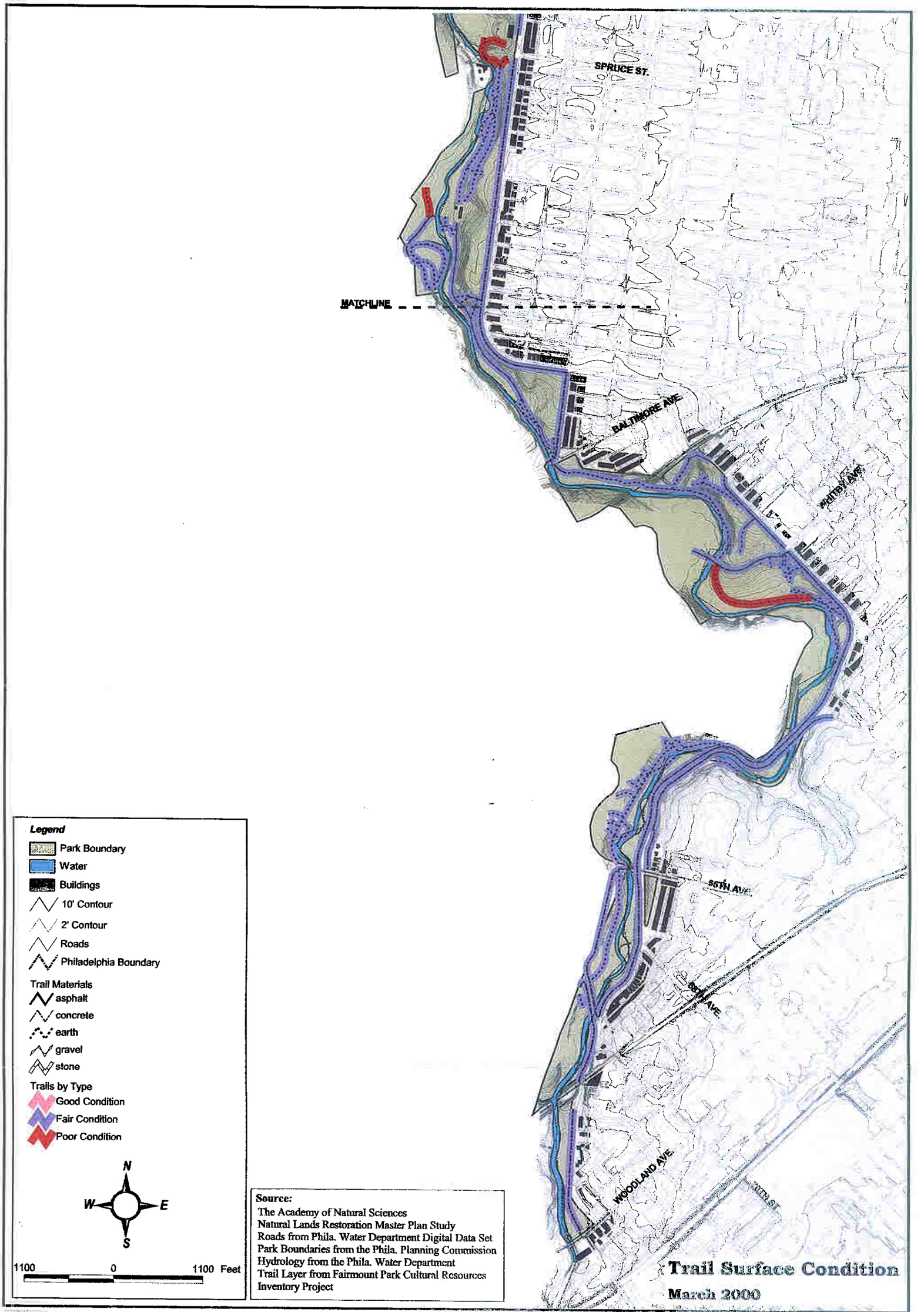

FAIRMOUNT PARK COMMISSION

COBBS CREEK PARK (SOUTH)

Trail Master Plan

Andropogon Associates Ltd.

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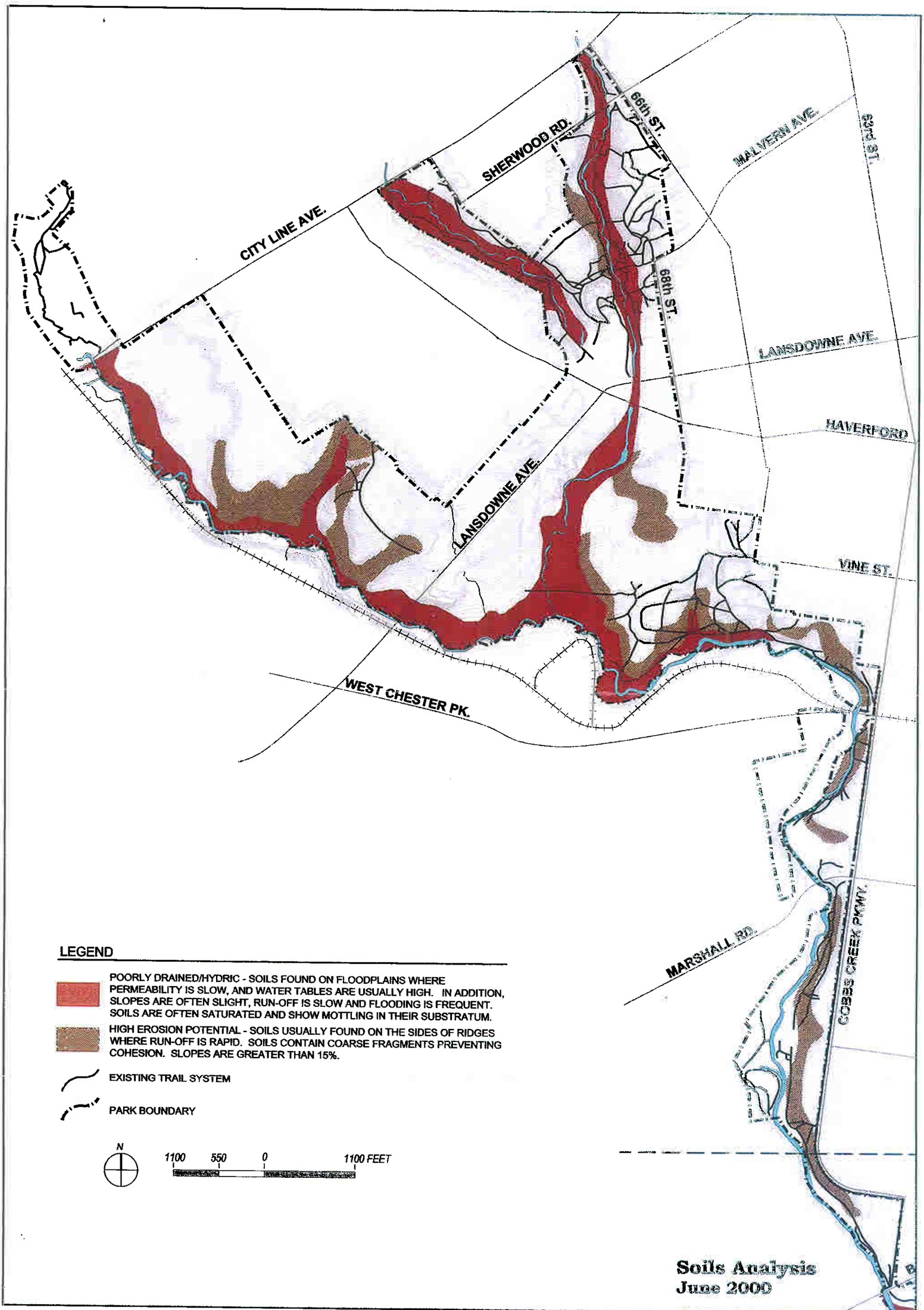
Steve Spindler Cartography



FAIRMOUNT P·A·R·K COMMISSION

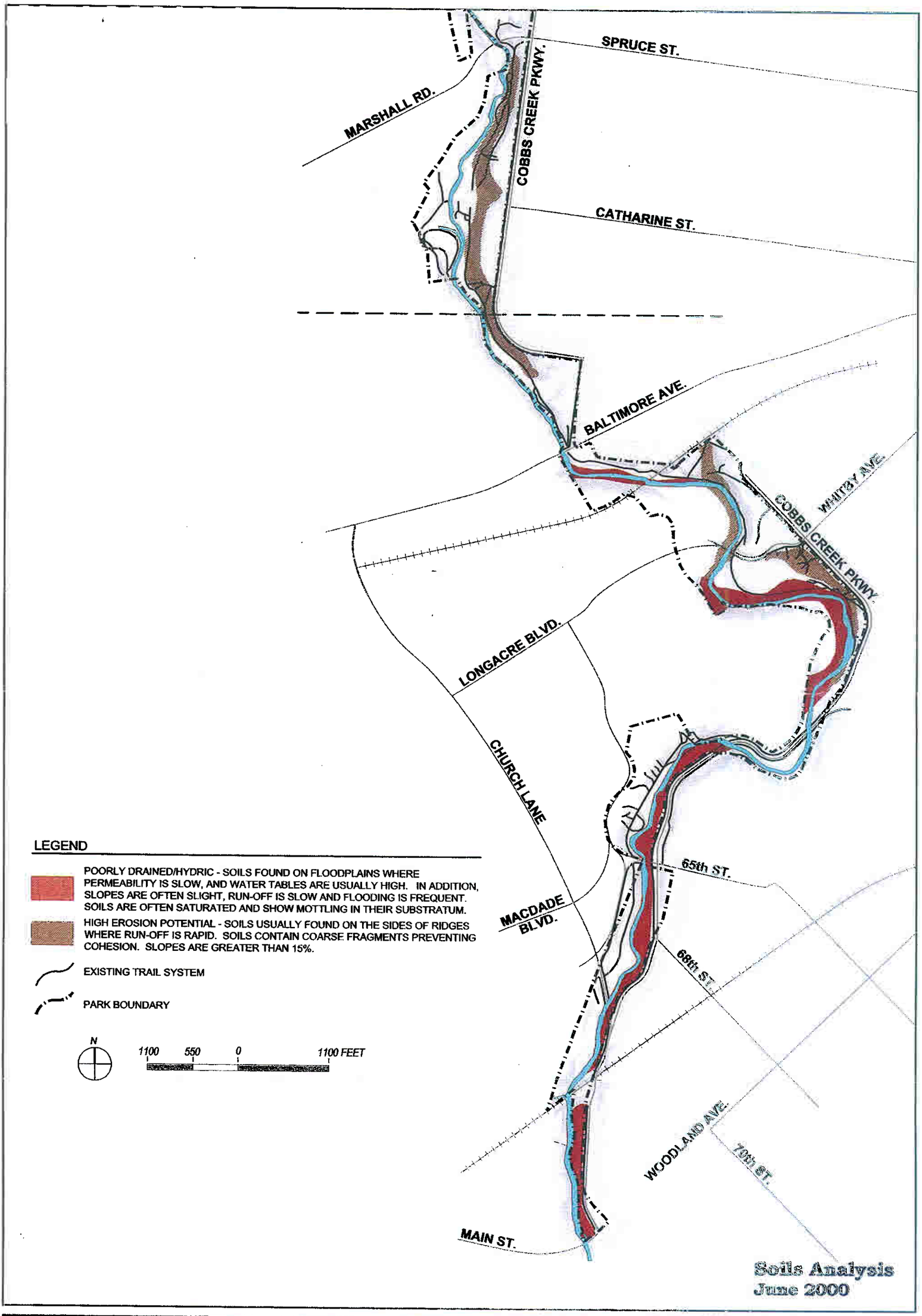
COBBS CREEK PARK (NORTH)

Trail Master Plan

Anthropogen Associates Ltd.

CT &C Campbell Thomas & Co.

Steve Spindler Cartography



COBBS CREEK PARK (SOUTH)

Trail Master Plan

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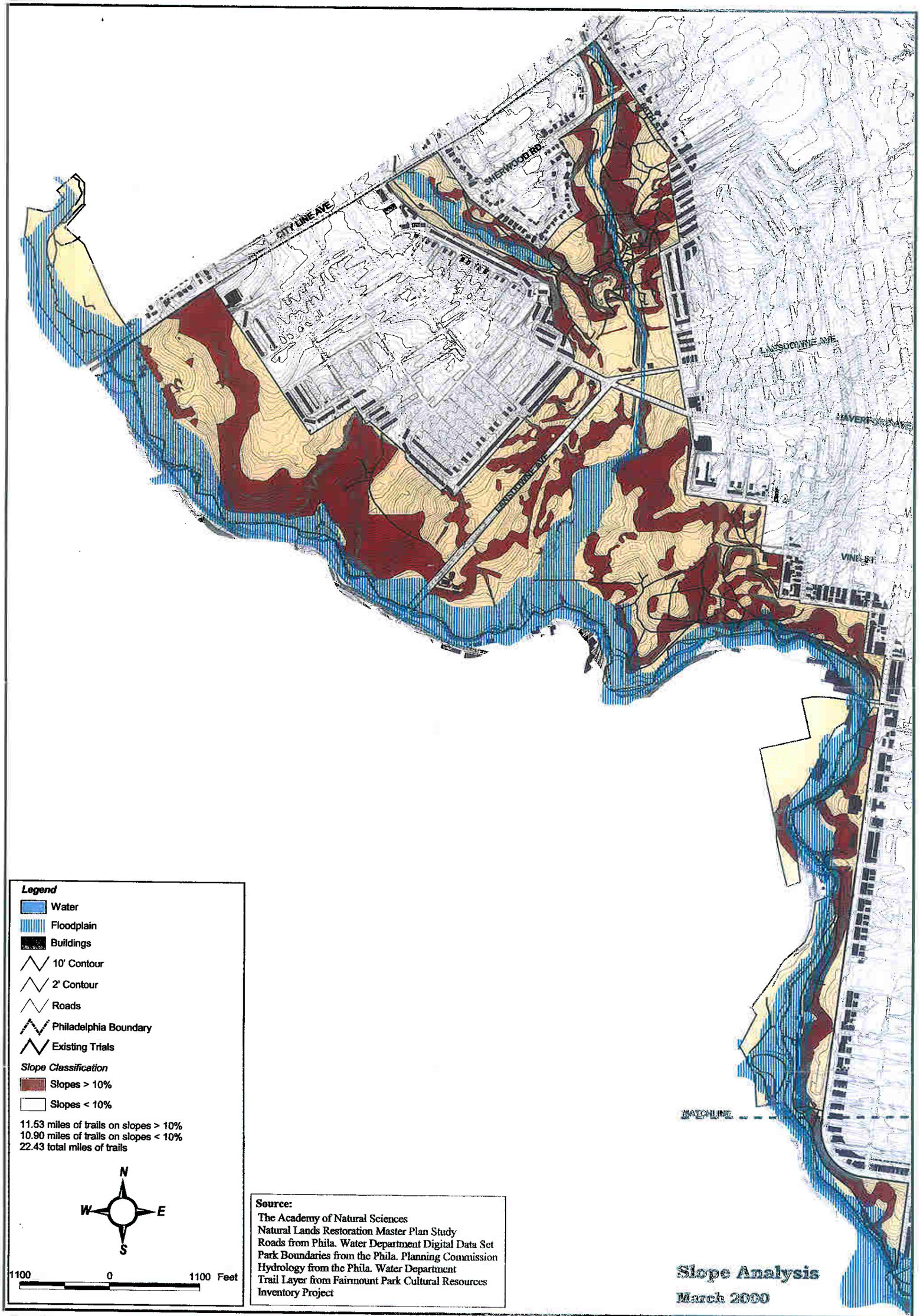
CT&C Campbell Thomas & Co.

Steve Spindler Cartography



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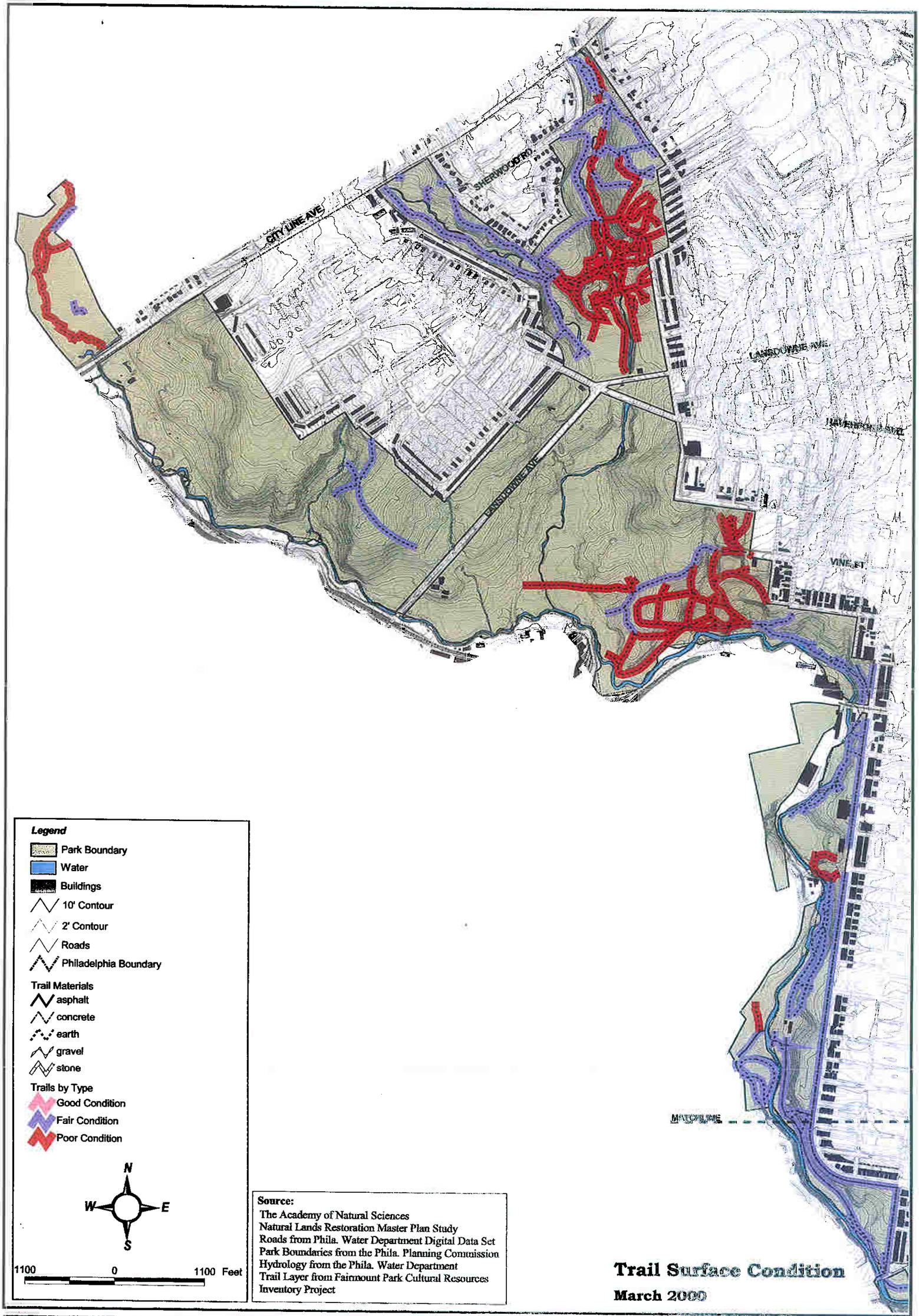

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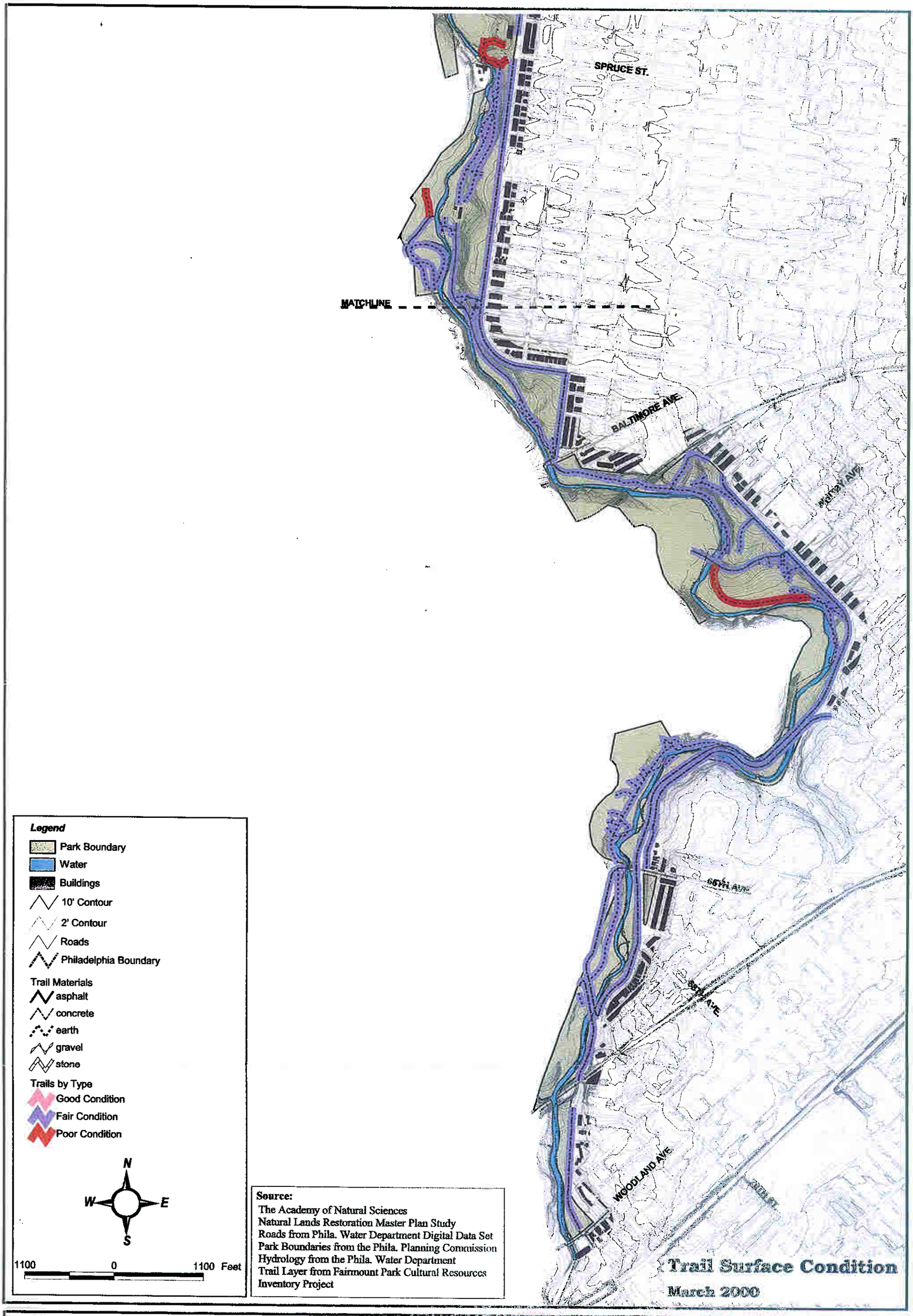

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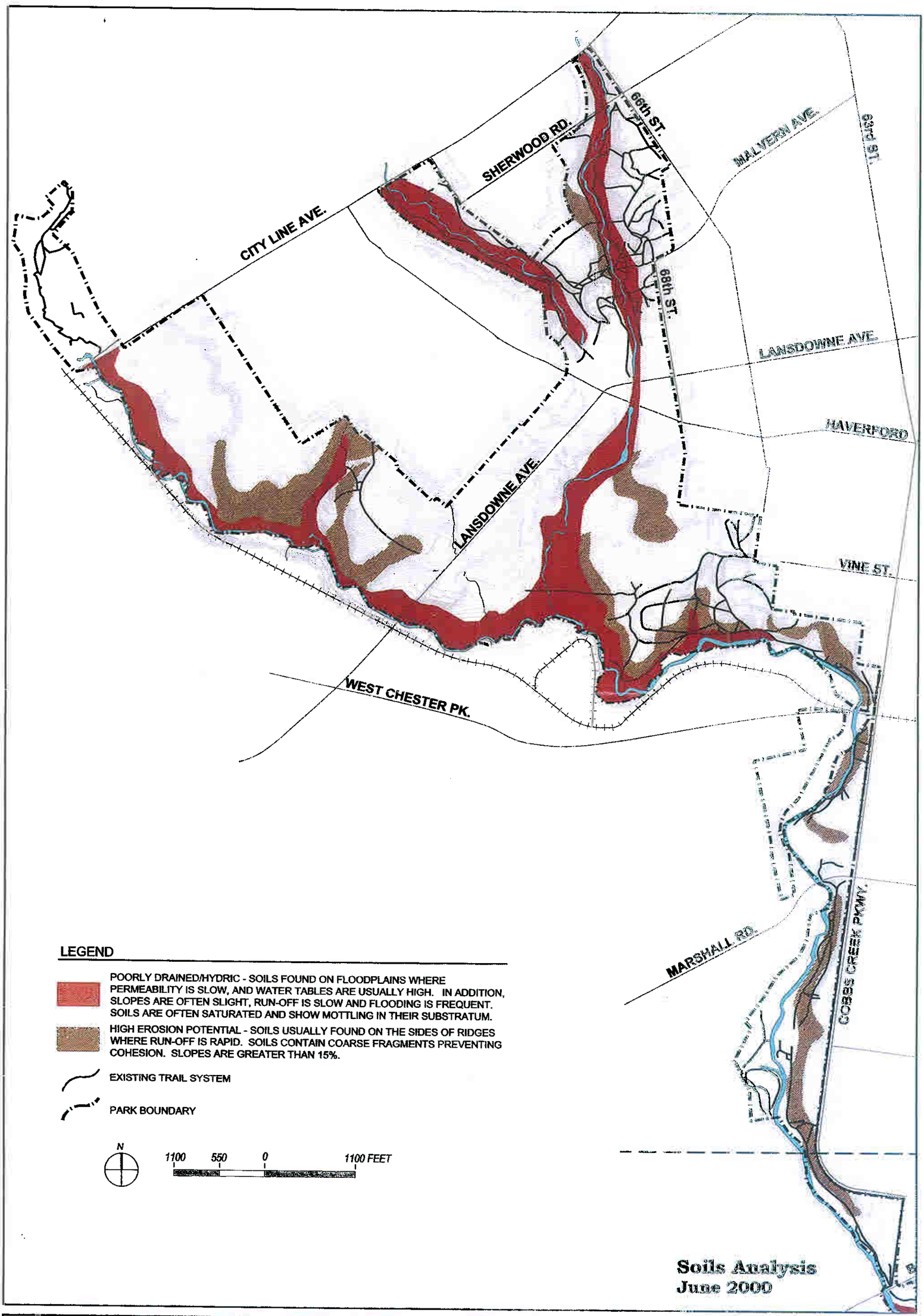

FAIRMOUNT P·A·R·K COMMISSION

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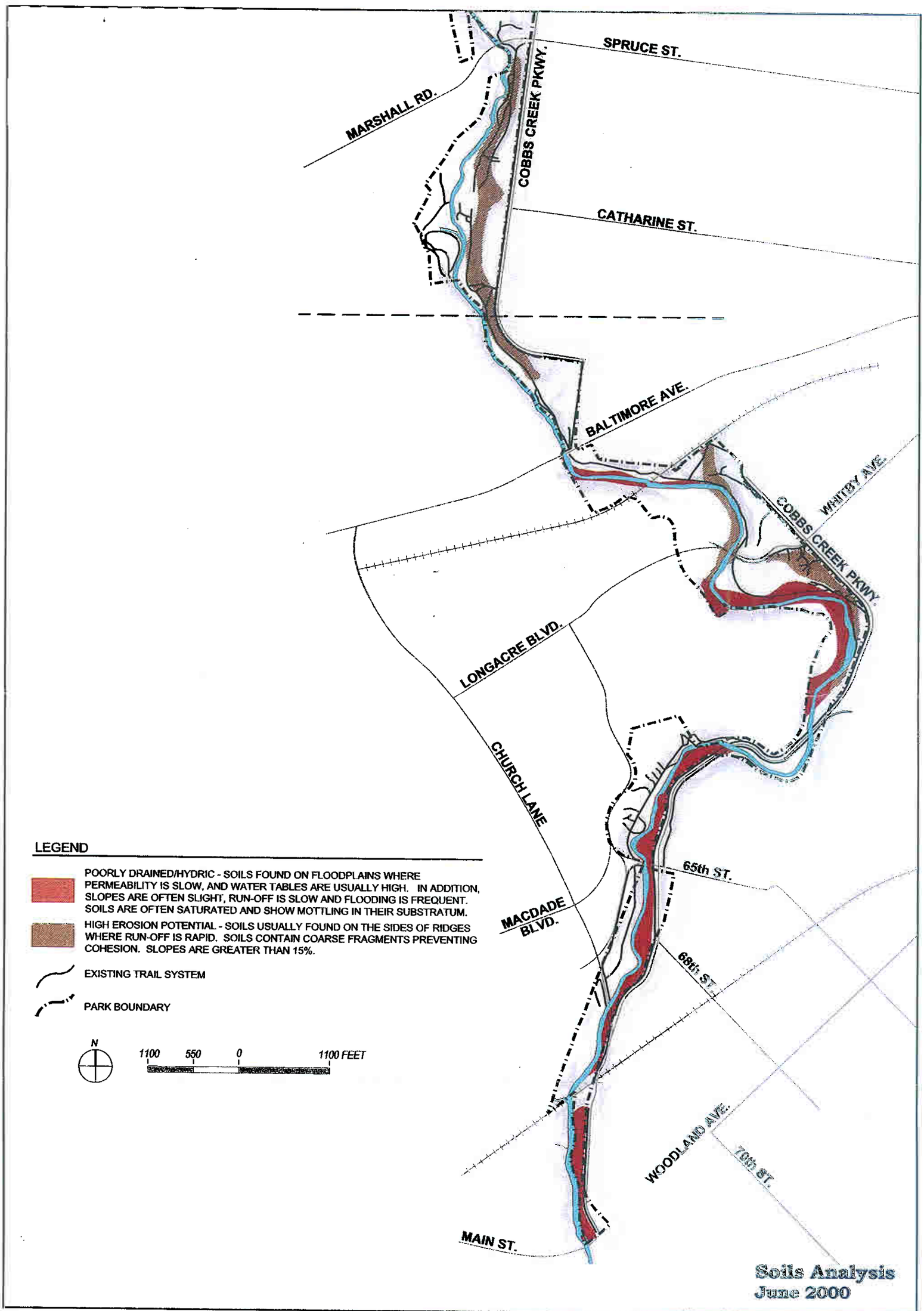

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Trail Master Plan

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CJ & C Campbell Thomas & Co.

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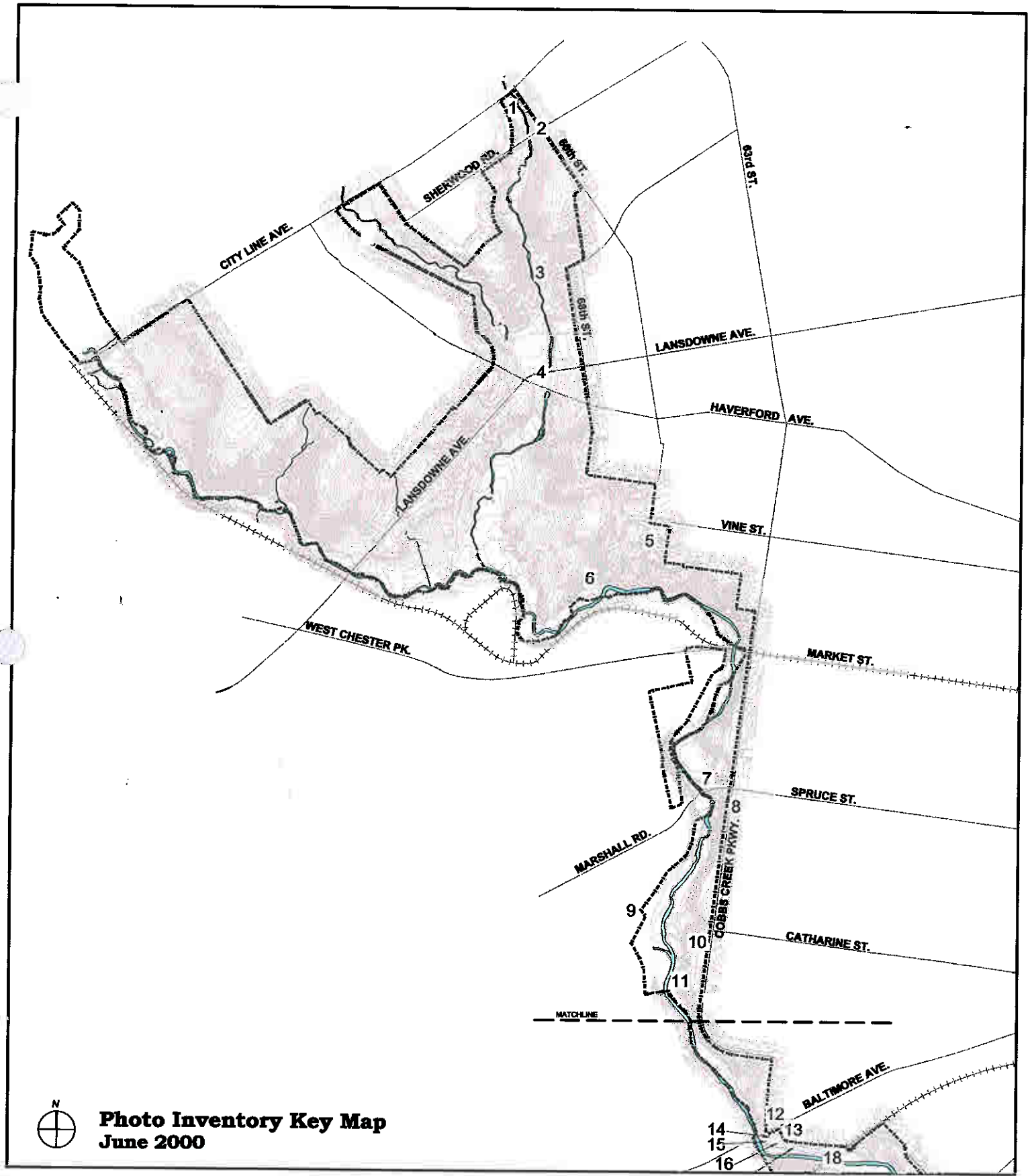


Photo Inventory Key Map
June 2000

COBBS CREEK PARK (NORTH)
Trail Master Plan

FAIRMOUNT PARK COMMISSION

Andropogon Associates, Ltd.

CT&C Campbell Thomas & Co.

Steve Spindler Cartography

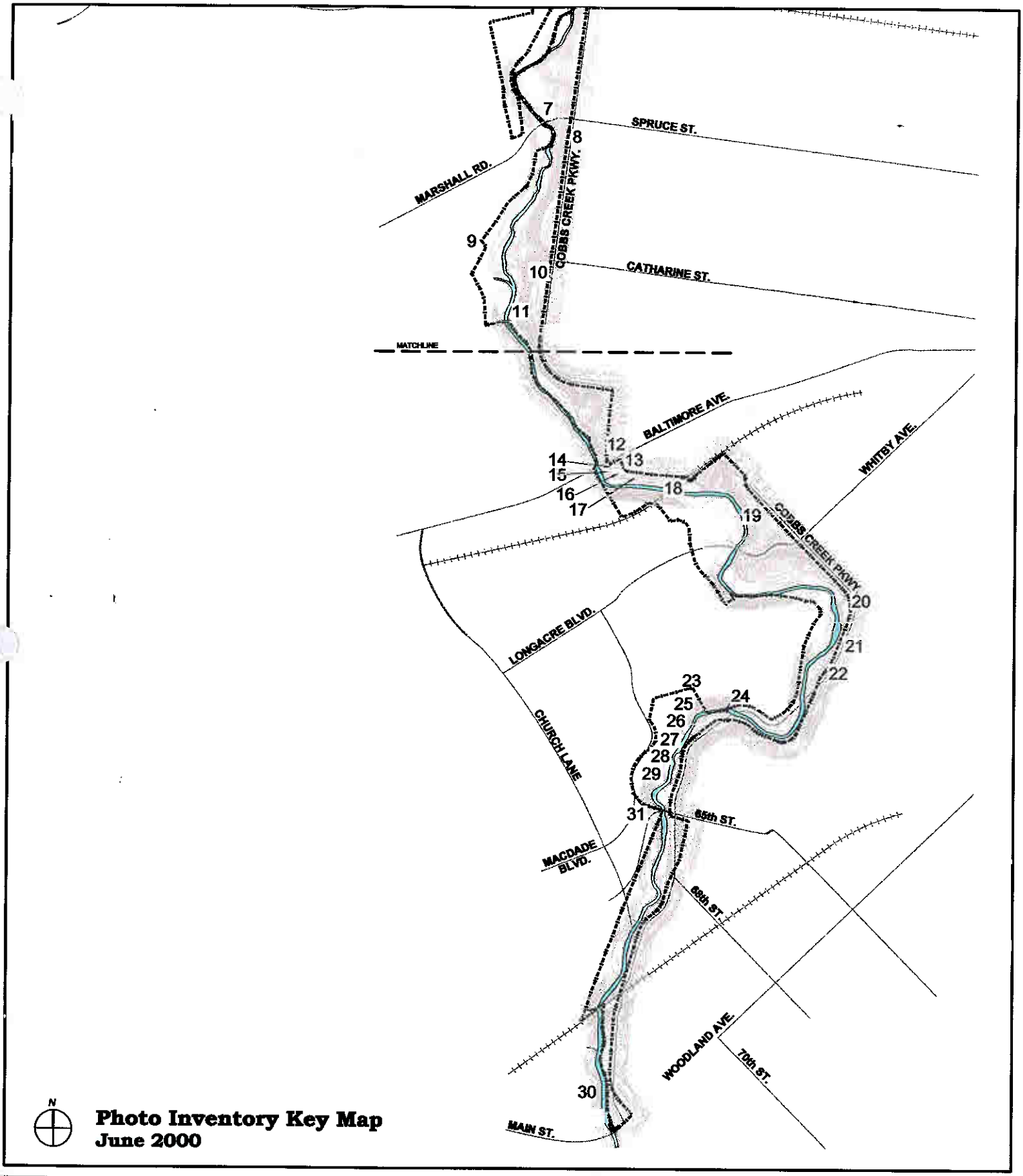


Photo Inventory Key Map
June 2000

COBBS CREEK PARK (SOUTH)
Trail Master Plan

Anthropology Associates Inc.

CT & C Campbell Thomas & Co.

Steve Spindler Cartography

Photo Inventory

1. Eroding steps along trail. (These steps have been removed and the area regraded during the course of this study.)

2. Dangerous footbridge. Note eroding steps in background. (This bridge was repaired during the course of this study).

3. Typical rogue trail parallel to stream.

4. Vandalized and collapsing picnic shelter.

5. Canopy gap smothered by invasive plants.

6. Burned-out car hulks. Evidence of unobstructed vehicle access and illegal activity.

7. Severe streambank undercutting at Marshall Road bridge underpass jeopardizes trail.

8. Slope erosion remediation along trail.

9. Undeveloped and neglected trailhead.

10. Site for the Cobbs Creek Community Environmental Education Center.

11. Short dumping along trail.

12. Trailhead/park entrance at Baltimore Avenue with no signage or gateway experience; redundant trails.

13. Playground, basketball court, and trailhead/park entrance.

14. Undeveloped trailhead. Lack of signage.

15. Drop off into stream at trail edge. Broken safety fence.

16. Typical dumping along trail

17. Poor trail drainage and muddy, soft surface.

18. View of railroad bridge from trail.

19. Severe erosion, exposed tree roots, compacted soil, disturbed vegetation.

20. Concrete barriers at rogue trail entrance.

21. Car dumping in Cobbs Creek. Note invasive plants blanketing streambanks.

22. Ponding and widening resulting from heavy vehicular use.

23. Typical example of illegal activities along trails. Site of burning and dumping.

24. Desirable view in need of enhancement.

25. Severe slope erosion; exposed roots, compacted soil, vegetation disturbance. Typical example of a trail traversing a steep slope.

26. Trail widening, vegetation disturbance, and soil compaction. Evidence of heavy ATV use.

27. Trail gully erosion, exposed roots, soil compaction. Evidence of heavy ATV use.

28. Excessive stream channel erosion jeopardizes trail and stream water quality.

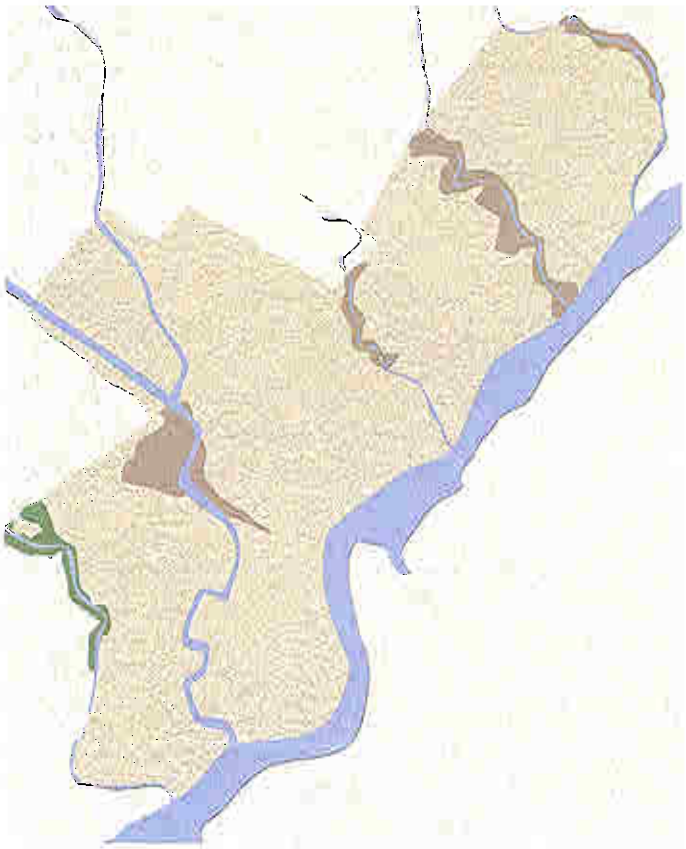
29. Gully erosion into stream channel.

30. Existing low-head dam north of Woodland Avenue.

31. Typical rogue trail intersection with designated trail.

Section V

Trail Master Plan Objectives and Strategies



Projects and Programs Suggested by the Public

The Trail Master Plan must achieve a substantive change in the management of trails which are at present increasing in land area and disturbance and continuously degrading. The primary goal of management is to confine the impacts of the trail to the trail. This goal also requires that users stay on the trails which requires good design and adequate infrastructure as well as user compliance with the rules of the trail. The strategies to accomplish that are both physical, such as infrastructure, as well as programmatic, such as a permit program. This Trail Master Plan must also meet the goals of NLREEP and has the added mission of reestablishing a sanctuary in every park where natural habitats are only minimally disturbed by user activities. Despite the very complex nature of the problems facing urban parks in general and the Fairmount Park system in particular, the proposed guidelines for managing the park and the trail system are fairly simple:

- Create well-defined trail heads that have good transit and regional connections.
- Provide access points/gateways to adjacent neighborhoods.
- Provide for adequate parking and controlled access to the trails to eliminate/reduce the likelihood of trails as entrance points for motorized vehicles (particularly ATVs and abandoned autos).

Community participation and communication have played significant roles in the development of the Trail Master Plan. Friends of the park and residents of the area were engaged in many ways, including public meetings, public workshops, park walks, interviews, questionnaires and the development of a website to track the progress of the master plan. In addition, the team conducted over one hundred interviews with key park staff, representatives of Friends groups, representatives of user groups and representatives of police districts. A total of three public meetings and two community workshops were held for the park over the course of the study. What follows is the wide range of ideas and concerns that were captured in these meetings:

- Provide maximum support for outstanding volunteer efforts already in place.
- Promote responsible trail sharing philosophy on paved and unpaved trails throughout the park. Emphasize courtesy and rules of the trail over separation. Provide better signage and information.
- Allow for separation of trail use in environmentally sensitive areas, such as wetlands and areas with special educational programs.
- Eliminate redundant and problematic trails.
- Provide maintenance strategies and restoration solutions for eroded and degraded trails that will continue to be used.
- Provide interpretive opportunities for the diverse ecological settings of the park.
- Minimize user safety hazards. Provide for safe pedestrian crossings.
- Provide monitoring of use: increase the Park Ranger presence in the park. Many users remember and lament the loss of the Park Guard and would like to see them return to the park.
- Create well-defined trail heads that have good transit and regional connections.
- Provide access points/gateways to adjacent neighborhoods.
- Provide for adequate parking and controlled access to the trails to eliminate/reduce the likelihood of trails as entrance points for motorized vehicles (particularly ATVs and abandoned autos).

Volunteer groups in Cobbs Creek Park.

Donations for Permits

The groups and individuals expressed willingness to extend the permit program that has been in place in Wissahickon Valley Park to the whole park system. Based on their experience, they recommended some improvements. In particular they urged that other users such as hikers, dog walkers and fishermen be included in this program. Secondly, they noted that improvements are needed in the administration of the program, including more timely turnaround of permits. They also suggested that a type of 'annual report' that explains how the funds from donations were being used would encourage broader participation.

Coordination with Fairmount Park Commission and Friends Groups

The Volunteer Coordinator positions in the parks have clearly proven successful as a liaison to users. Participants in the trail workshops strongly endorsed continuation of this program and expressed a willingness to participate more in volunteer efforts as the trail master plan and program progress. There is consensus that working closely with Friends groups and other users was an important part of broadening the awareness and knowledge base of all users.

Trail Closure

Meeting participants recognized the need for some trail closures, both permanent and temporary. They endorsed this step as needed to protect the environmental health of the park.

Volunteer groups receiving instruction from park staff. (photo by Joseph Caesar)

Trail Maps

The participants is trail workshops emphasized the need for better maps of the park including the trails as well as park features, environs and entry points.

The Walking Experience

The participants discussed at length the need for areas where hikers can have a tranquil walking experience that is not disrupted by other users. This is especially important from the perspective of those users, including many elderly walkers and families with small children, who feel excluded from areas with heavy bicycle use. The group agreed that designating 'hikers only' zones in each park would address this concern as well as the need to provide areas for wildlife species that are sensitive to fast movement. Ideally these areas would coincide with more valuable natural sites and/or be in proximity to environmental education centers.

Safety

Safety concerns were raised continually. Mountain bikers noted that while they generally feel safe, they feel that compliance with rules of the trail is greatly enhanced by a security presence. They propose peer patrols as the primary enforcement tactic, supported by police assistance to control illegal ATV use. Park Rangers are generally regarded as creating the safest environment and valued for their educational activities. Since 1995, the Rangers have been allowed to issue citations that go to the Bureau of Adjudication for violations of park rules. They issued a total of 343 citations in 1999. The rangers are the eyes and ears of many parks and work closely with the Philadelphia Police.

Other User Impacts

The cyclists noted that other users such as fishermen and women can have seasonally severe impacts to both trails and streambanks. (NLREEP noted that all park users are being involved in park planning and programming).

Staffing

Even with effective volunteer coordination, the participants noted the need for additional park staff, especially for monitoring use and safety issues as well as for trail maintenance and management.

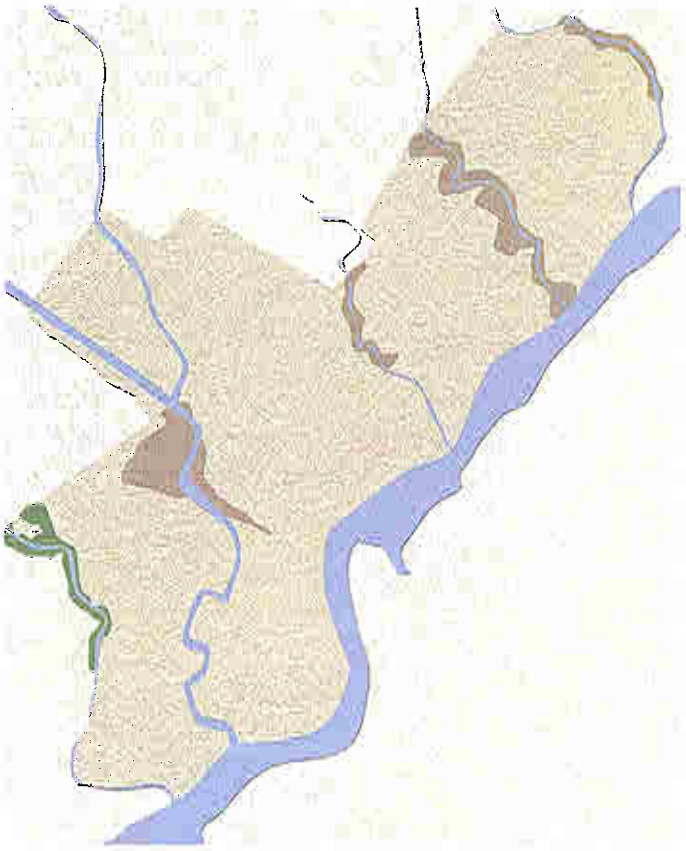
Acquisitions

The participants urged the park and city to consider additional parkland acquisition, especially of the remaining natural areas near the parks that are very vulnerable to development. A recent study prepared by the Natural Lands Trust (Fairmount Park Adjoining Lands Study, December 1999) identified five parcels of land that would connect Cobbs Creek Park with the John Heinz National Wildlife Refuge at Tinicum. This 1,200 federal wildlife refuge encompasses the largest remaining freshwater tidal marsh in Pennsylvania and is a part of the flyway for bird migration along the Atlantic Coast. Three of these parcels are already owned by the City and it is recommended that they be transferred to the FPC. Seven other land parcels vulnerable to development adjacent to Cobbs Creek Park are also recommended for protection and management through either fee or easement acquisition by the FPC.

Volunteer groups removing invasive plant species and replanting native plant species.

Section VI

User-Based Trail Programs



A group of school children in Cobbs Creek Park. The park provides a living laboratory for teachers to introduce students to a field based study of the Cobbs Creek watershed.

User-Based Trail Programs

To achieve the objectives of the Trail Master Plan, user-based programs are proposed as the primary vehicle. The following strategies are at the core of these programs to bring accountability to trail management.

- Develop a highly participatory trail management program that educates, integrates and relies upon the users themselves to become more responsible.
- Document the process fully to provide substantive information to diminish the roles of unfounded claims in the ongoing dialogue about trail use.
- Create stable funding sources for trail management.
- Provide enforcement support where needed.

The primary purpose of user-based programs is to create informed and responsible users. An urban forest depends upon its users to care knowingly to be good stewards. Unlike a museum where every treasure may be within sight of a guard or a camera, an urban natural area offers the special privilege of unsupervised enjoyment. The user must manage his or her own behavior. If most users follow the rules of the trail, the park system will be able to accommodate a wide array of different users without damaging the resource.

Almost every user expresses an appreciation for the park and a willingness to participate in its restoration at some level. Most of the discussion centers on differences in perception about who or what causes the damage and its severity. The Natural Lands Restoration Master Plans prepared for the Fairmount Park Commission provide a vital baseline for evaluating biological changes in the landscape. The inventory of trails conditions completed in this Trail Master Plan provides a similar baseline for comparisons of trail management over time.

When a mixed-use program is adopted for trails, other than low intensity or environmentally sensitive trails, it eliminates the problem created when one user group is held responsible for damage and excluded from the trail. Under the recommended programs, a trail would be closed to all users if environmental damage were occurring until it is repaired. The users themselves can foster reopening and preserving open trails by participating in trail maintenance and by following rules of the trail.

Engage Users in Monitoring and Management

Engaging users in monitoring and management of trails is the only effective route to achieving compliance. Intrusive design and coercive management do not work and do not make for a good user experience. Effective management requires that the users be knowledgeable about appropriate trail use and cooperative about management goals. Self-monitoring is enlightening and informative. The permit program in Wissahickon Valley Park has already informed us that mountain bike use has stabilized and is no longer on the steady increase.

Users need to participate directly in management decisions as they did during development of the the Trail Master Plan. They will need to help determine when it is necessary to close a trail, or to reopen it. The system must be responsive and change with time based on new destinations and new recreational trends. If use intensifies, crowding worsens and conflicts increase, the user experience will deteriorate. Management tools must be in place to deal with such concerns. Users also provide valuable information on issues such as trail safety, sight lines and potential areas of conflict.

Engage Users in Responsible Trail Use and Enforcement

The idea of users volunteering to patrol trails has been growing throughout the region and is generally supported by users as well as caretakers. Volunteer mountain bike patrols are being implemented in Wissahickon Valley Park. These groups could be formed in all of the parks and represent an underutilized volunteer resource.

Organized users also represent a vocal constituency that can use its influence to put pressure on politicians and police for more effective control of illegal uses, including ATVs, dumping, chop shops and prostitution. These uses have been tolerated by the police for many years, especially in areas where other threats are perceived to be more serious. However, time has proven that legitimate users who are fearful shun once safe areas after illegal uses have taken over. Threats and intimidation, by some ATV users for example, have compounded this problem. Police awareness of the seriousness of these issues is paramount and the users themselves should contact their elected representatives to press for enforcement.

Engage Users in Maintenance and Restoration

By maintaining and repairing trails, the users are making themselves accountable for their actions. As the Park Commission is ultimately responsible for providing an adequate infrastructure, the users can and should provide for maintenance due to their use. This approach also includes non-residents in this effort in ways that local taxation does not. A skilled user group can be developed using training workshops and by working with Friends groups in the various parks. The Volunteer Coordinators can choreograph these integrated efforts using programs such as Preserve Your Park and Adopt-a-Trail to do active trail maintenance and restoration.

Implement a Permitting Program with Voluntary Donations

The permitting program in Wissahickon Valley Park provided an opportunity to assess this approach. The permitting program provides a database for the park staff to communicate with the users. This is especially important for reaching the regional user who may be less in touch with the city. The voluntary aspect of the donation does not exclude anyone. Participation is high and most users choose to make a donation. Users of the current program suggest it could be improved by more timely turnaround of paperwork and an annual report with information on how the funds are spent. There was general agreement that all users should be encouraged to participate. Bicycle bells as a possible program giveaway should be considered.

Implement a Comprehensive Signage and Communication Program

Communication is at the core of a user-based effort. Only an informed user can be a responsible user. Since its inception, NLREEP has expanded communication with the community of park users. Every workshop and public meeting has become an opportunity to expand the database of users. An expanded permitting program in the parks and a website would be other communication tools. Two next steps are critical— the development of new trail maps and comprehensive signage that enables the user to understand the trail system and its linkages.

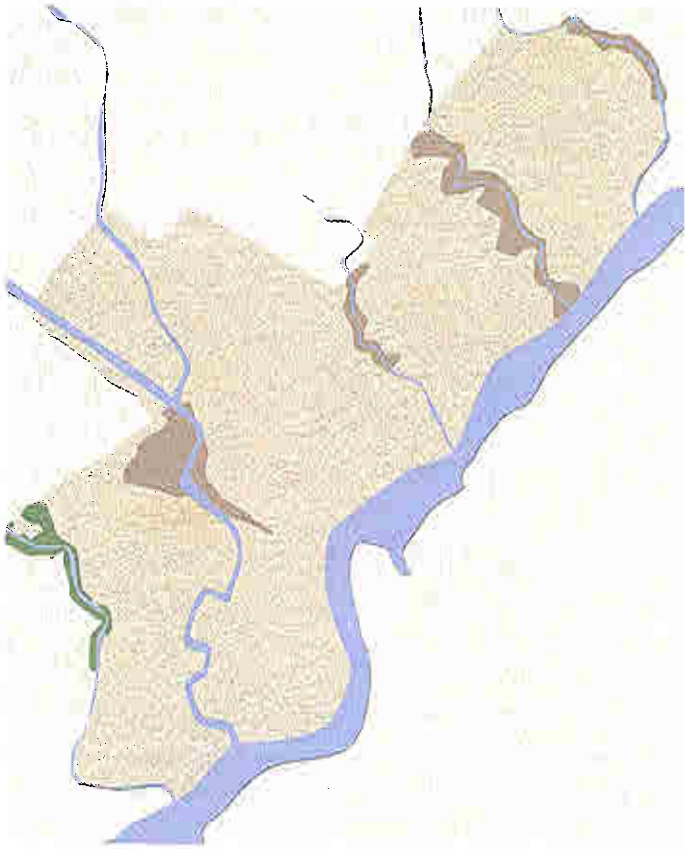
Signage is also a necessary component of enforcement. It is difficult to issue a citation if the park rules are not visibly posted. Signage is also a key aspect of interpretation and enables users to find and appreciate the historic features, regional transportation and trail connections.

Volunteer group removing fallen trees from trail.

Volunteer group repairing severe gully erosion an steep slope.

Section VII

Proposed Features of the Trail System



Components of the Trail System

A great trail is memorable and worth returning to year after year, season after season. The most successful trails in the parks are those that were purposely planned to foster a rich visitor experience, such as the multi-use trails along the river drives. The well-maintained trail is especially successful. The least successful are the rogue trails created by a few individual users.

The park is never far from city neighborhoods. The Trail Master Plan recommends the development of a variety of trail types and features to create a trail system that successfully accommodates park use and integrates the park edge and community use.

Responsible use depends upon an adequate infrastructure. The trail and associated features comprise a system that affords access and influences the nature of the visitor's experience. The trail types and features proposed are intended to be suitable throughout the Fairmount Park system.

Named Trails

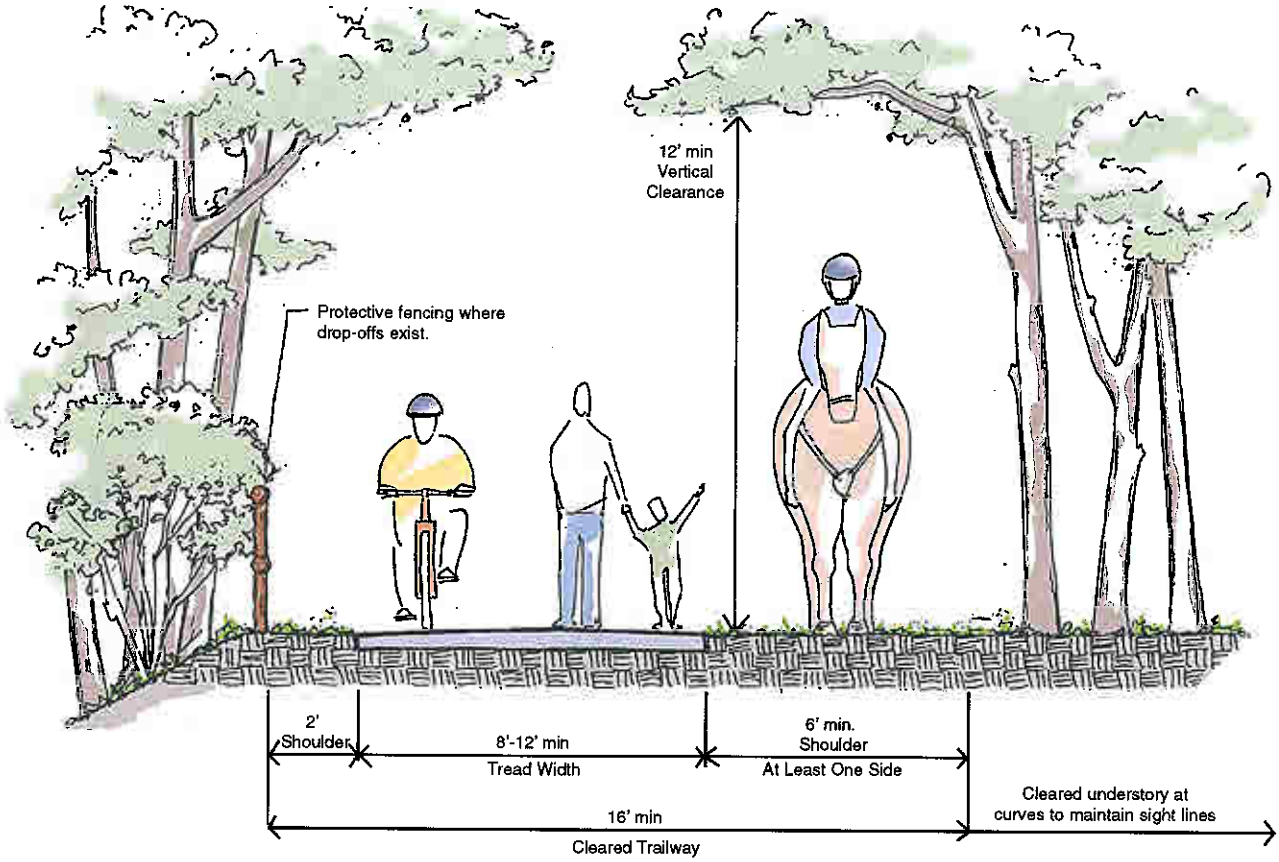
Naming a place gives a sense of identity and ownership. Local names of park features and trails like "Little City" in Pennypack and the "Cliffs Trail" in East Park are important historic and cultural aspects of the trail experience. New names like "Collarbone Creek", in deference to the bikers' broken bones, are equally colorful. Place naming is also important to wayfinding and encourages exploration when accompanied by good maps and signage. A community familiar with place names is also able to provide useful information when needed for security and rescue purposes. The names themselves should come from the community. Consider naming contests and opportunities for volunteers, park staff, and Preserve Your Park organizations to participate in trail naming.

Trail Features

The proposed trail features include gateways, trailheads, signage and maps and rest room facilities.

- Gateways are the key park entrances. The trail master plan concentrates visitor information and use at these entrances to the park that link to area transportation facilities. The gateways also offer opportunities to direct the visitor to local businesses and historic and cultural features near the park.
- Trailheads occur at every trail intersection and provide information about use and destinations.
- Signage and maps reach beyond the boundaries of the park to facilitate responsible park use. Proposed signage extends into the community.
- Rest room facilities are important but require adequate surveillance. Isolated facilities often create difficult security conditions and require a disproportionate level of maintenance. Where no park facilities occur, cooperative relationships with area businesses and institutions are proposed wherever possible. Where such opportunities do not exist the seasonal use of portable facilities is recommended in fixed locations with permanent platforms so that the units can be securely anchored.

PAVED MULTI-USE TRAILS

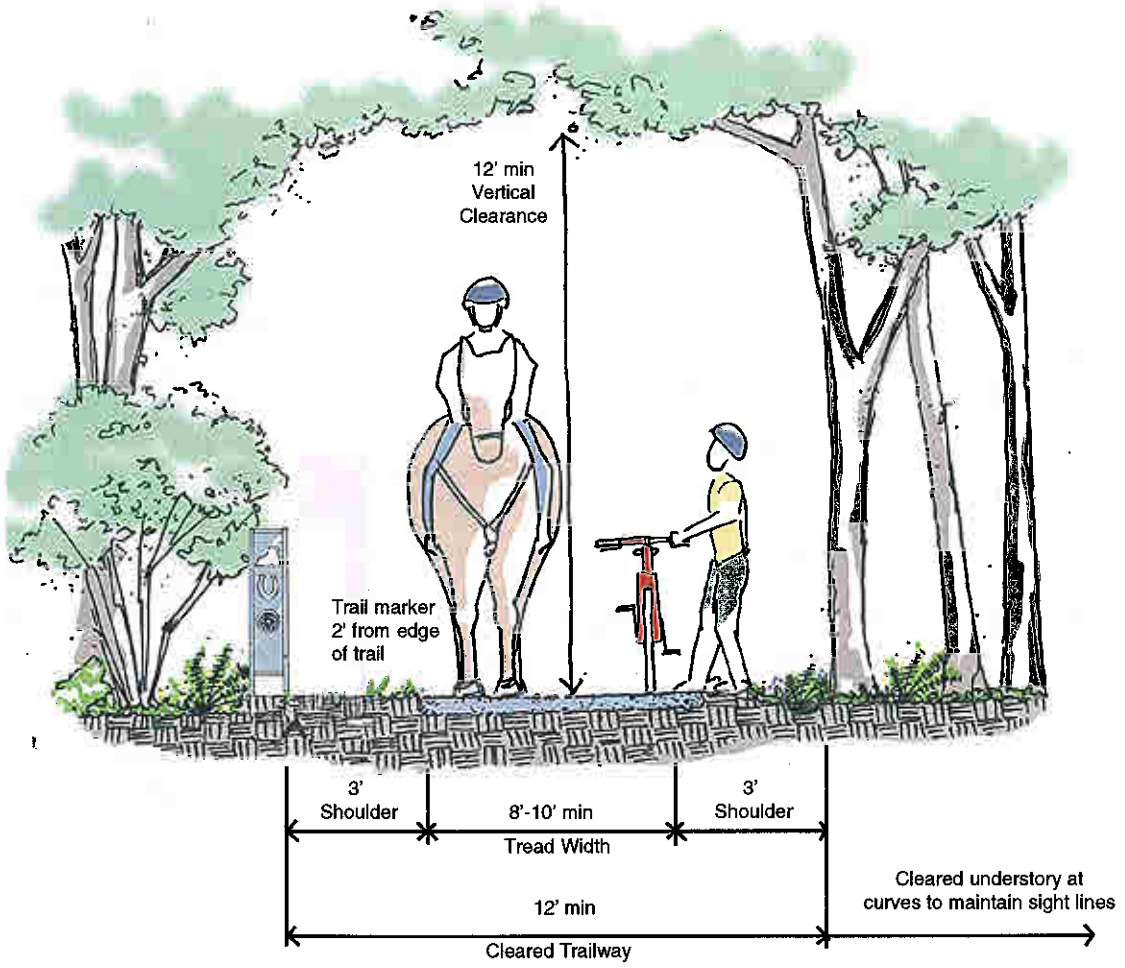


Trail Types

Seven major trail types are proposed for the park trail system:

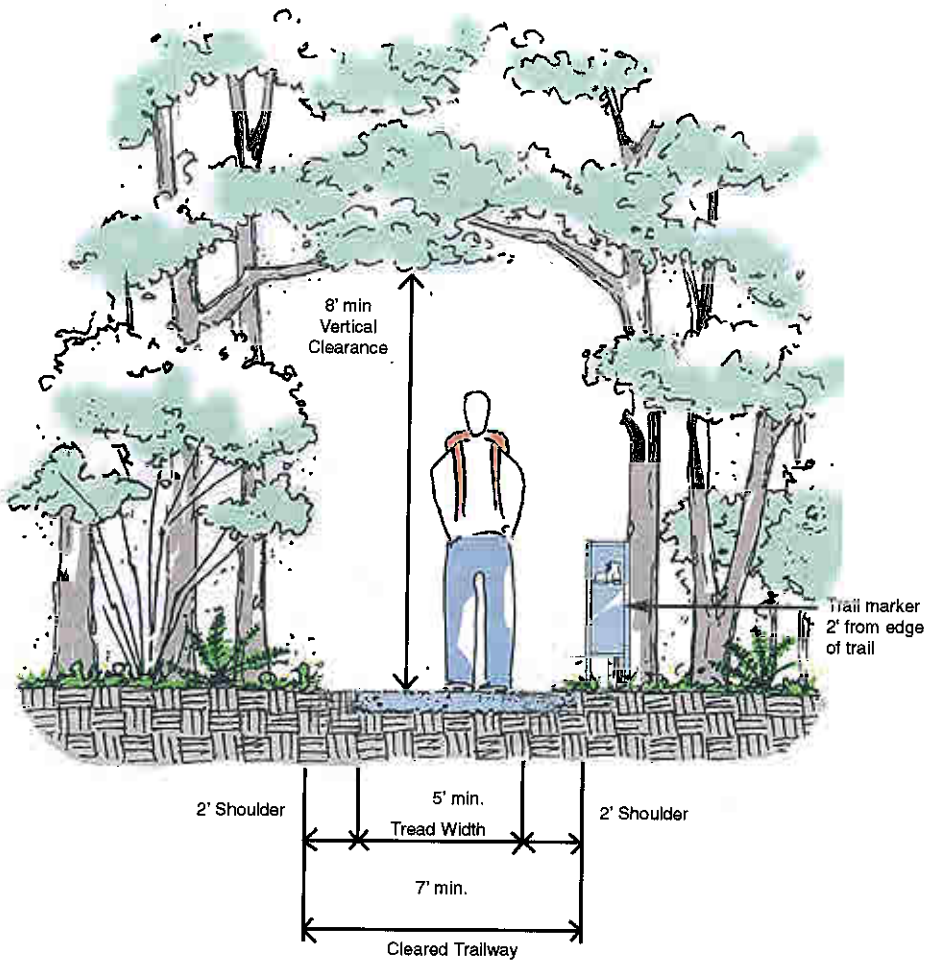
- **Paved multi-use trails** occur in every park and provide access for the widest diversity of users and accommodate the most intense use. They often link to regional trails and link multiple parks and places. Interpretive information is concentrated along these trails. The paved trails provide all-weather access and support intense use.
- **Sidewalks** often complete trail journeys.
- **Shared street multi-use lanes** provide critical linkages to regional trail systems and complete missing links where necessary.

UNPAVED MULTI-USE TRAIL



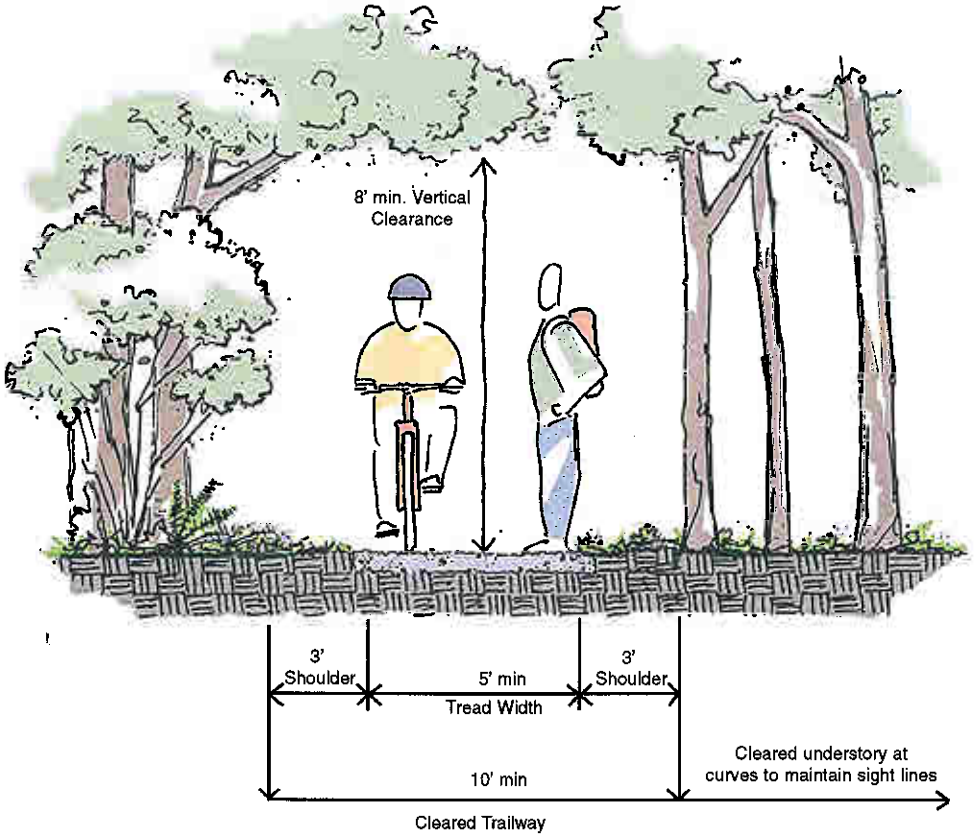
- **Unpaved two-lane multi-use trails** provide a secondary trail system that accommodates a moderate level of use and extends the trail experience to a wider range of environments.
- **Unpaved one lane multi-use trails** accommodate a relatively low level of use. Provisions are made for allowing one user to pass another on the shoulder only. These trails often include access to areas of steeper terrain.

UNPAVED HIKING ONLY



- **Narrow low-use multi-use trails** are very low use trails that at present do not need to be upgraded due to limited use. If greater use occurs they should be upgraded to unpaved one lane multi-use trails.
- **Hiking-only trails** are designed for pedestrian use only and occur in the vicinity of the environmental centers and in the most sensitive ecological areas. In a few instances where no other access is available, bicycles and horses are temporarily allowed passage at a walk and low speed.

UNPAVED, MULTI-USE, SINGLE-TRACK TRAIL



Priority Projects for Cobbs Creek Park

The primary goal of the Cobbs Creek Trail Master Plan is to restore the use of the park to the community of legitimate users. The central feature of the plan is the restoration of the Cobbs Creek Parkway as a vibrant community edge, linking the local residences and businesses to the diverse natural communities of the park. The Trail Master Plan includes the addition of perimeter lighting, gateways and trail signage to the promenade along the Cobbs Creek Parkway, linked to the multi-use trail proposed to be constructed under the ISTEA grant. In the natural areas, trail recommendations focus on the Environmental Education Center, the mature woodlands and wetlands and the riparian corridor of Cobbs Creek. A crucial long-term goal is to restore continuous access and a continuous woodland corridor along Cobbs Creek. This will require careful coordination with the golf courses as they are managed and renewed over time.

A successful trail system in Cobbs Creek park depends completely on controlling illegal activities. The use of police patrols on dirt bikes has proven successful in controlling ATVs in the park north of Market Street. These patrols should be maintained and extended to include coverage of the entire park.

Proposed Trail System for Cobbs Creek Park

Total Area [acres]	829			
Woodland Area [acres]	430			
Recreational Area [acres]	270 (incl. 205 acres golf)			
Vehicular [miles]	1.98			
	Existing	*Existing to Remain*	*Existing to Remain - New Use*	*New Trail*
Trail Description/Use				
Multi-use - Paved [miles]	5.48	5.48	-	3.62
Multi-Use - Unpaved [miles]	5.10	3.60	-	2.97
Hiking Only - Unpaved [miles]	-	-	1.50	0.27
Abandoned (miles)	3.84	-	-	-
Rogue/Degraded/Redundant [miles]	8.10	-	-	-
Subtotal [miles]	22.43	9.08	1.50	6.86
Total Existing Trails [miles]	22.43			
Total Trails Proposed on Master Plan [miles]	17.44			
Percent of Proposed Trails System to Existing Condition	78%			
Acres of land in trails (10' over 1 mile = 1 acre)	14.92	7.64	0.60	5.51
Percent of Park in Trails	1.7%			
Other Pathways				
Bike Lane [miles]	-	-	-	1.23

Note: New Multi-use paved trail total includes the new ISTEA trail underway

1. **Close redundant and rogue trails that are contributing to the ecological decline of the natural areas.**

   In Cobbs Creek Park over eight miles, or thirty-five percent of the trails documented in this study are unpaved rogue trails. All of these rogue trails are contributing to the fragmentation of the natural areas, erosion and ecosystem damage. The existing trail system is very confusing for the user, who often cannot identify a rogue trail from a degraded designated trail, making it very difficult to enforce and encourage responsible trail use. In Cobbs Creek Park, there are two areas of very severe erosion where mazes of rogue trails are carved into the landscape. Both areas are north of Market Street, at 68th Street and at Vine Street. (See Trail Closure Strategy Map, Page 149) Together these two areas represent over 58 acres of highly disturbed woodland that requires extensive restoration.

2. **Rehabilitate unpaved, eroded and degraded existing trails to standards that will accommodate intended uses.**

   Over seventy-two percent of the trails, rogue or designated, in this park are presently unpaved trails. This plan recommends that over 2.5 miles, or about 40%, of the unpaved trails that are to remain open be rehabilitated to design standards that can accommodate the use of cyclists, equestrians and hikers. Over eleven miles of trails in the park are sited on slopes that exceed ten percent. These steep slope trails, if they are to remain open, will need to be realigned and/or constructed with switchbacks where possible to achieve a more acceptable grade.

   Beyond the restoration of the trail infrastructure, the trail system in this park would benefit from a visual indicator of a trail edge that would also provide a mark against which to measure disturbance. Low logs or rocks could be placed just beyond the trail shoulder that would help to define the designated trails for the user and discourage off-trail use. The placement of the edging must be sited and spaced so that the drainage of the trail is not impeded.

Volunteer group repairing gully erosion on steep slope.

3. **Create hiking only unpaved trails with controlled access points in environmentally sensitive areas.**
   - Establish an unpaved hiking only trail at 77th Street.
   - Establish an unpaved hiking only meadow loop south of Whitby Avenue and remove the abandoned basketball courts. This trail loop should be carefully integrated with the proposed disc golf course to prevent user conflicts and to also support the meadow restoration effort in this area.
   - Establish an unpaved hiking only trail on the west side of Cobbs Creek at 65th Street.

4. **Provide ADA access and parking for the Cobbs Creek Community Environmental Education Center.**

   Although it is outside of the scope of this trail master plan study, it is recommended that ADA access and parking for the Cobbs Creek Community Environmental Education Center be considered as a priority project. This parking area and access should be integrated with the gateway concept and the trailhead system proposed in this plan. The present entrance road to the facility at the intersection of Cobbs Creek Parkway and Catherine Street is presently too steep to meet ADA standards for pedestrian access.

   As a design principle, parking should be accommodated within the parks in the least obtrusive way possible, blended into the green landscape. Also, where possible, parking surfaces should be permeable for thorough drainage rather than requiring underground drainage structures. When the cars have left the landscape, the areas where they have been parked should ideally blend into the park environment, rather than appearing to be parking fields for a commercial district. Trees should be used in close proximity to parking areas and should be integrated into larger parking facility islands and medians to give a green canopy and some shade to the paved expanses of parking areas.

Existing driveway to the Cobbs Creek Community Environmental Education Center.

5. **Establish controlled access to the park.**

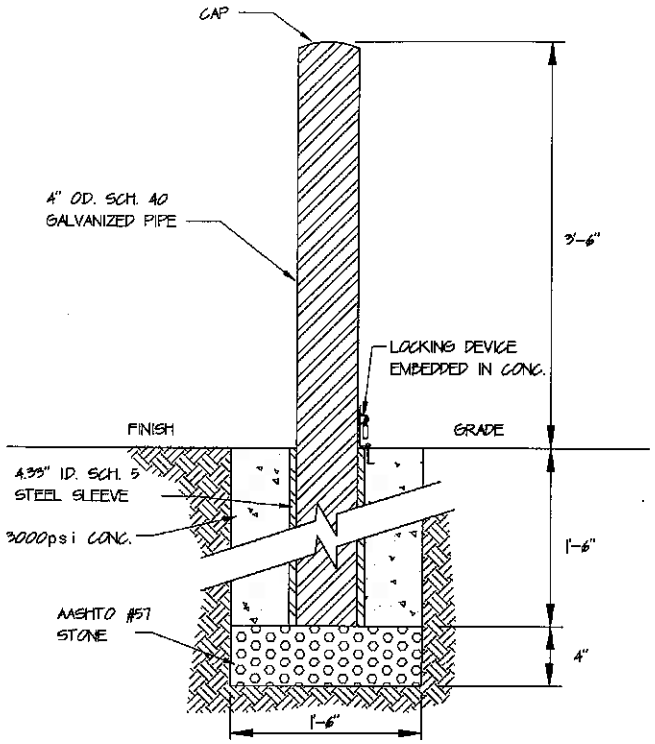
Misuse, abuse and vandalism are major problems in Cobbs Creek Park. In order to protect the park, vehicular access must be restricted as completely as possible. Gates, bollards and access gates should be used to control parking areas. In Pennypack Park, some of these measures have been successfully employed and can serve as a model for Cobbs Creek Park. In addition, access barriers are needed to protect the perimeter of the park. Areas that require emergency or maintenance vehicle access can be designed with removable bollards and gates. Two areas of the park are recommended for immediate perimeter access barriers:

1. The area of Morris Park that lies in the floodplain of the West Branch of Indian Creek.
2. The parkway perimeter south of Baltimore Avenue.

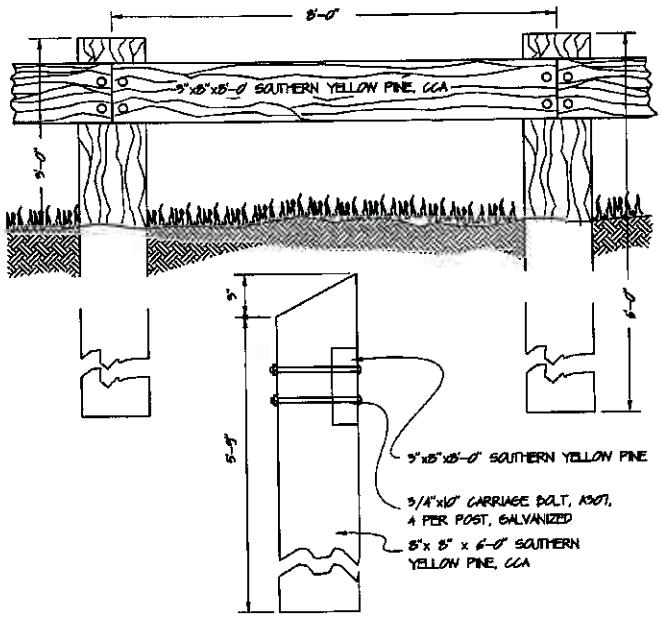
Wooden bollards restrict vehicular access in Pennypack Park.

Existing access gate at Rhawn Street in Pennypack Park parking area.

View of gated access at Rhawn Street parking area in Pennypack Park.



TYPICAL
REMOVABLE BOLLARD DETAIL
NOT TO SCALE



TYPICAL
WOODEN VEHICULAR ACCESS BARRIER
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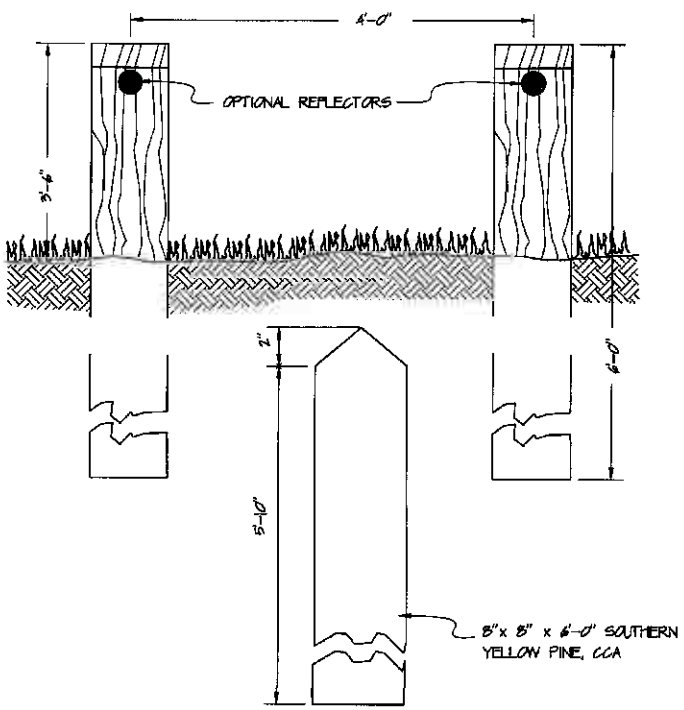
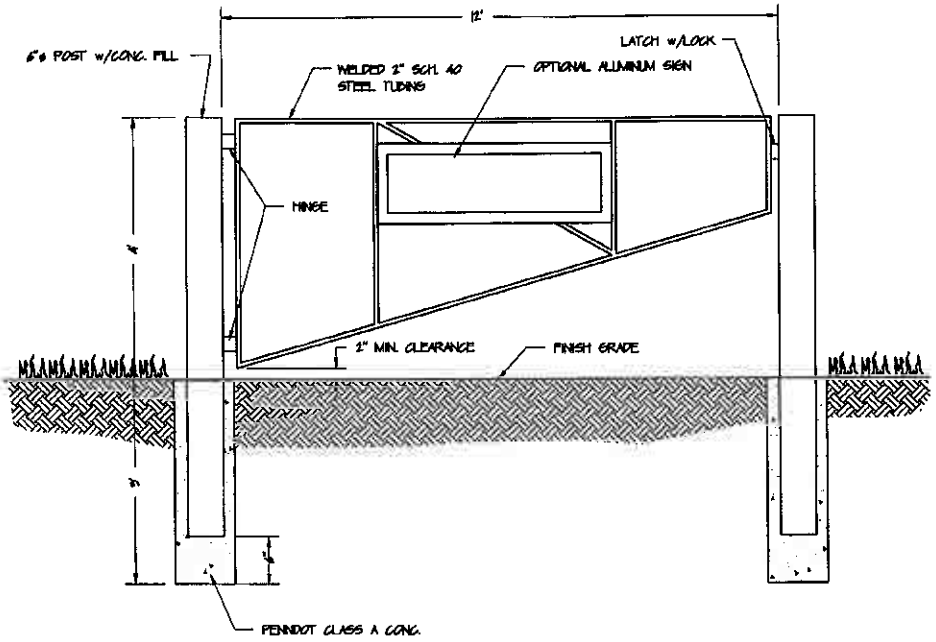


TYPICAL
WOODEN BOLLARD
NOT TO SCALE



TYPICAL
VEHICULAR ACCESS GATE
NOT TO SCALE

6. **Define the parkway perimeter with pedestrian-scale lighting and street trees from Market Street to Baltimore Avenue along Cobbs Creek Parkway.**

   Today, Cobbs Creek Parkway predominately serves as a vehicular corridor for traffic movement. The parkway can and should serve another function, as a linking feature of the park trail system. Some people don't know that the parkway actually leads to a trail system. Currently, pedestrians and cyclists are accommodated in a discontinuous way. The proposed multi-use trail funded under the T-21 legislation will improve the quality of the parkway experience and allow for a broader level of use.

   Pedestrian scale lighting, along with street trees, on this new trail will increase both the safety and the environmental value of this new linked corridor. In addition, lighting and street trees would help to create a strong identity for the parkway. While this treatment could be applied to the entire length of the parkway, it is recommended as a priority project for the area that extends from Market Street to Baltimore Avenue. This section of the park is gaining critical positive support and is widely used by the neighborhood for recreational activities. The lighting for this parkway trail could be modeled after the Kelly Drive multi-use paved trail, with the same light post and luminaries.

7. **Establish new non-paved trails to create links to adjacent neighborhoods between Haverford Avenue and City Line Avenue.**

   The area of the park between Haverford Avenue and City Line Avenue has many rogue and interconnected trails that need to be closed. The trail system in this area needs to be defined and clarified for the user. This requires establishing trail loops with links to well-spaced trailheads that will serve as access points for the adjacent neighborhoods.

8. **Create sidewalk connections that provide neighborhood access points to trail heads at two locations:**
   - Race Street between 63rd and Daggett Street.
   - Sherwood Road between 69th and 66th Street.

9. **Create gateways at seven proposed locations in the park.**

   Gateways may consist of vehicular signage, trailheads, pedestrian crosswalks, and seating and controlled access of vehicles to the trails where necessary. Not every location will require all of these components and it is not the intent of this plan to create a generic gateway that will serve all locations. Gateways should be unique to each park and should strive to define a distinct zone of the park. For example, a gateway located at an urban edge of the park would be distinct in design and scale from a neighborhood edge gateway. The proposed sites are key locations that mark the perimeter of the park and where vehicles and trail users enter the parks. The vehicular signage in these areas should have high visibility and provide orientation for vehicles.

   Another gateway feature is to provide landmarks for pedestrians that would incorporate maps, a kiosk, and interpretive or directional elements. These locations all have the same criteria in that they have good pedestrian visibility and are places where people can safely congregate.

   A special "Gateway Art Program" should be developed that would involve local artists and the larger community to participate in the design of the gateways. Outside funding should be sought and the success of the first projects will determine the success of the whole program. Each of the gateways has a different potential that should be compatible with the cultural and social realities of the urban park. These gateways should express the inherent vitality and diversity of the urban landscape, have a richness of purpose and explore innovative approaches to design. This approach will better serve the functions and needs of the residential communities that surround the park than a generic park design.

Recommended gateway locations include:

A. Sherwood Avenue and 66th Street

This proposed gateway location is recommended to announce the park to vehicular traffic at the northernmost end of the park. Elements of this gateway could include signage, emergency telephone, and seating/gathering space and bicycle racks.

B. Lansdowne Avenue and Haverford Avenue

This proposed gateway is central to recreational facilities in the park. This gateway can be integrated with a public transit stop and could include signage, emergency telephone, seating/gathering space and bicycle racks.

C. Lansdowne Avenue and Parkview Road

This proposed gateway location is recommended to announce the park to vehicular traffic as it crosses through the park. Should a trail right of way be established along the creek at the edge of the golf courses, safe pedestrian crosswalks and trailheads would need to be developed at this site.

Man sitting on a tree stump at proposed gateway location at Lansdowne Avenue and Parkview Road.

Proposed gateway treatment at Lansdowne Avenue and Parkview Road.

D. 63rd and Market Street

This proposed gateway location is recommended to announce the park and the parkway to vehicular traffic as it enters and exits the city. A trail map, emergency telephone and other information about the park could be incorporated into this gateway.

E. Cobbs Creek Parkway and Catherine Street

This proposed gateway location is recommended to announce the park and the Cobbs Creek Community Environmental Education Center. A trail map, emergency telephone and other information about the park could be incorporated into this gateway.

Views of Cobbs Creek Parkway at the entrance to the Cobbs Creek Community Environmental Education Center.

Existing driveway as it intersects the sidewalk on Cobbs Creek Parkway at the Cobbs Creek Community Environmental Education Center.

F. Cobbs Creek Parkway and 70th Street

This proposed gateway location is recommended to announce the park and the parkway. This location is the beginning of the paved multi-use trail along the parkway perimeter. A trail map, emergency telephone and other information about the park could be incorporated into this gateway.

G. Cobbs Creek Parkway and Woodland Avenue

This proposed gateway location is recommended to announce the park and the parkway to vehicular traffic as it enters and exits the city. A trail map, interpretive signage, emergency telephone and other information about the park could be incorporated into this gateway.

Proposed improvements along Cobbs Creek Parkway at the Catherine Street Gateway, to the Cobbs Creek Community Environmental Education Center.

10. Improve trailheads with orientation signs, trail markers, interpretive signs and acceptable sight lines.

Trail markers should be located as close to the intersections of trails as possible. Trail markers should provide information about orientation in the park, the name of the trail, and designate appropriate use. Trail markers should have good visibility from a distance of 10-20 feet and be readable from a distance of 1–4 feet. Locations for twenty (23) proposed trailheads are included in the plan. All trail markers should be located 2 feet from the edge of the trail.

There are several areas in Cobbs Creek Park that interpretive information could also be included. All existing historic mansions should at least have a brief text marker at the site or along the trail near the site. Preferably, we suggest that the text markers should be similar to the existing Direction Philadelphia signs in Fairmount (East/West) Park.

Locations for historical information markers:

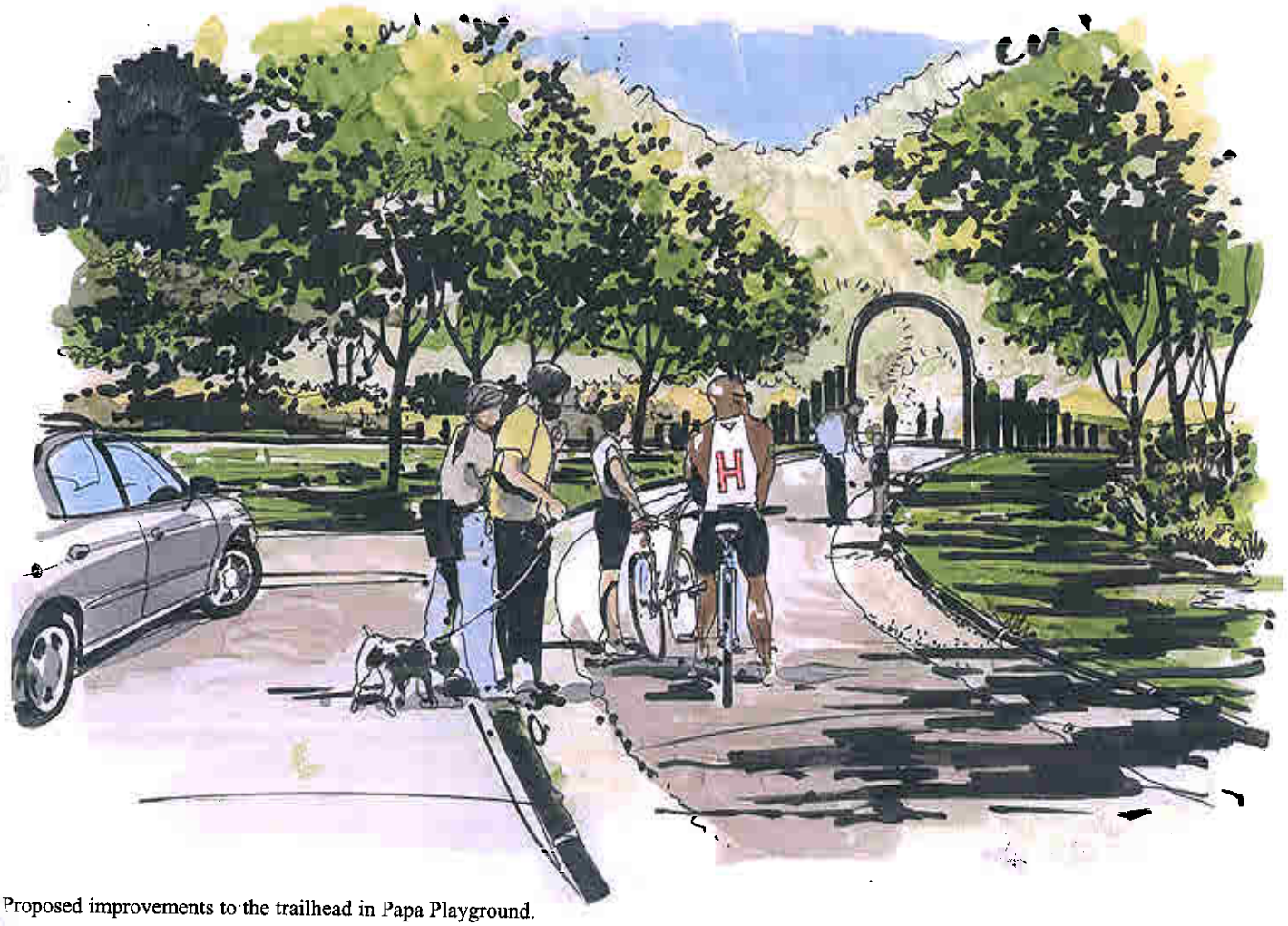
- Proposed Gateway at Cobbs Creek Parkway and Woodland Avenue – text and historic photo describing the history of the Blue Bell Tavern.
- Proposed Gateway at Cobbs Creek Parkway and Catherine Street – text describing the Sellers' Burnside Mills with reference to existing millworkers houses and Cobbs Creek Park Guardhouse.
- Proposed trailhead at Baltimore Avenue – text describing the MacMakin Mill site.

11. Construct a new parking area at Papa Playground.

The recreational activity in this area requires additional parking. The location for this proposed parking is an existing mown area at 68th Street, just north of Lebanon Avenue. This area would accommodate a 100' x 220' parking lot for approximately 15 cars. The construction of this parking area should be integrated with the proposed trailhead design using the same design principles that were described for the Cobbs Creek Community Environmental Education Center parking area.

Level area north of baseball field along 68th Street at Papa Playground. Possible location for parking lot.

Existing conditions at site of proposed trailhead in Papa Playground.



Proposed improvements to the trailhead in Papa Playground.

12. Restore the underpass connection at Marshall Road.

A proposed unpaved hiking only trail connects the pool and athletic fields north of Marshall Road to other trails south of Marshall Road. This trail runs under the Marshall Road Bridge and provides an alternate route to crossing Marshall Road at the intersection of Cobbs Creek Parkway.

The trail approaches to the bridge (approximately 250' each) are in fair condition, with a 4-6' wide surface of crushed stone or earth. Several concrete barriers are located south of Marshall Road, providing a barrier to vehicular access and a large obstacle to bicycle traffic.

Pool and baseball field north of Marshall Road Bridge from north end of existing trail under Marshall Road.

Trail south of Marshall Road from under bridge up to Cobbs Creek Parkway. Concrete barrier discourages vehicular access.

Under the bridge, the trail surface is earth, with some standing water. It appears that rubble and fill material has been placed under the bridge to provide a 12' wide trail surface approximately 15' above the water level. This fill is eroding due to the steep slope and lack of vegetative cover. No fence or handrail exists along the edge of the trail, and there is a steep drop-off down to Cobbs Creek. At the south end of bridge, the trail narrows and is very close to the drop-off.

Facing southwest from Marshall Road bridge abutment. Note eroded area and steep dropoff at trail edge.

Some of the fill material under the bridge could be removed to provide a gentler slope between the trail and the stream, which should be armored with engineered riprap. An 8' wide paved trail could be constructed under the bridge and within 20' of the bridge. South of the bridge where the trail narrows, a retaining wall may be needed along the creek to support the trail. A handrail should be provided along this section of trail due to the drop-off. The trail approach should be rehabilitated in accordance with the trail standards presented in the Trail Master Plan.

To improve the perception of security at this location, the vegetation should be managed at either side of the bridge to improve sight lines. Lighting could be provided under the bridge to further enhance security if night use of the trail is anticipated.

Trail south of Marshall Road bridge is narrow and has a steep dropoff.

13. **Create tributary crossings for trails at six locations using large boulders.**
Restoration and management require appropriate access to the landscape so that users can engage in positive use of the site without degrading the resource. The crossings that are recommended in this plan are all in tributary locations. Large well-placed flat stones and partially buried boulders can be used to create these crossings.

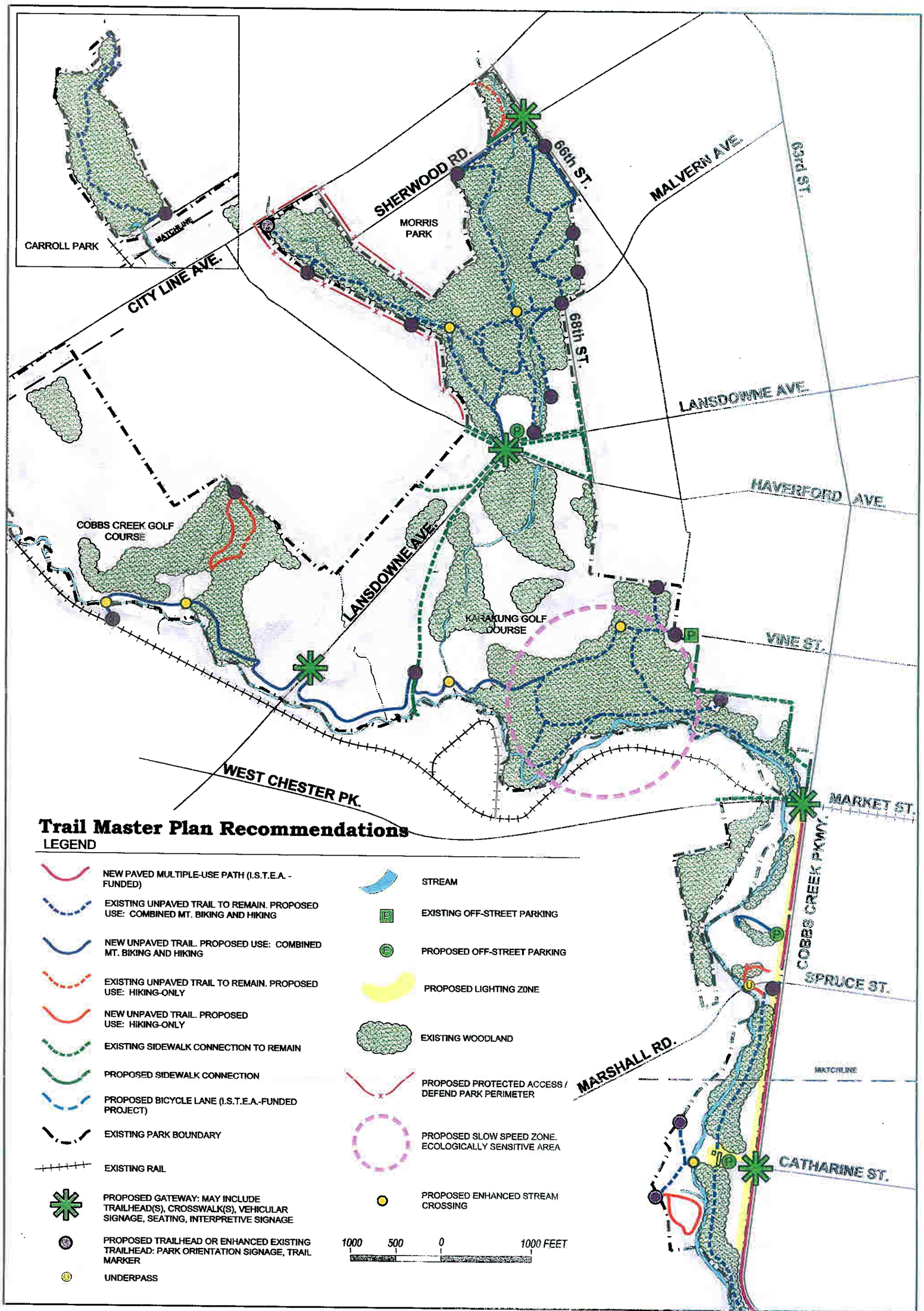
14. **Reestablish the riparian corridor along Cobbs Creek in both the Cobbs Creek and Karakung Golf Courses. Establish an unpaved trail right of way along this corridor.**
This plan supports the recommendations that have been made in the Natural Lands Restoration Master Plan for environmental management of the golf courses that lie within the park boundary. That report uses standards that have been proposed by the Pennsylvania Department of Environmental Protection (1998) that allows for a minimum 35-foot buffer along the stream

edge. Recommended buffer widths vary from 25 feet to a thousand feet depending on natural features of the land such as soils and slopes. The floodplain zone in this area extends beyond 300 feet on average from the stream edge along this stretch of Cobbs Creek. In order for a stream corridor to retain its function a substantial proportion must be kept in a relatively natural state. The opportunity to reestablish this riparian corridor could also provide a trail right-of-way that would create a missing connection to the trails in Carroll Park. A maintained trail corridor would also provide access for management of the landscape.

15. **Recommend a trail study in P&W corridor to provide a link into Radnor Township.** Currently, public open space extends into Delaware County as Carroll Park, adjacent to the Norristown High Speed Line. The line was originally conceived as a 4-track major rail line, and many bridges were constructed to allow four tracks, rather than just the two tracks that are now in use. Also, most of the original right of way is 100' wide, allowing space for trail development in many stretches.

    The original rail line from Villanova Junction to Strafford, across Radnor Township to Chester County, was abandoned in 1956 and is currently under development by PennDOT from Radnor-Chester Road to Sugartown Road as a multi-use trail. A study from Carroll Park to Villanova for a "rail with trail" would examine the feasibility of linking Carroll Park, and thus the Cobbs Creek trail system, with Montgomery, Delaware, and Chester Counties.

16. **Create a slow speed zone on the trails North of Market Street and South of Vine Street.** This area is considered one of the few high quality and contiguous tracks of woods in the park. Erosion problems, abandoned cars and dumping have been problems in this area. Trails in this area should be upgraded to accommodate current use and provide appropriate controlled access for the environmental conditions. Enforcement of a slow speed zone for cyclists in this area will accommodate access in a way that will not degrade the resource and will support the numerous restoration efforts in this area.



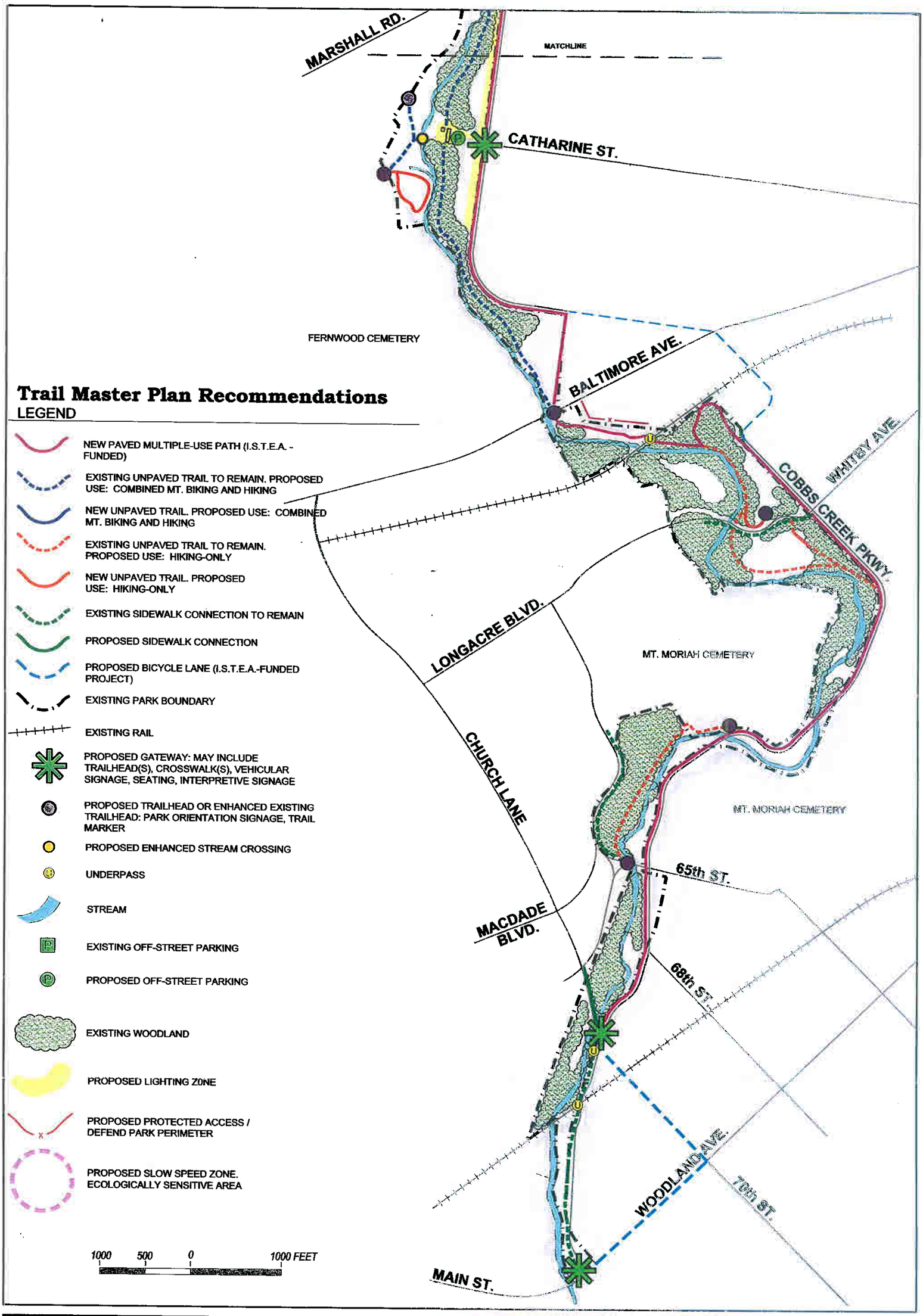
FAIRMOUNT PARK COMMISSION

COBBS CREEK PARK (NORTH)
Trail Master Plan

Andropogon Associates Ltd.

CJ & Campbell Thomas & Co.

Steve Spindler Cartography



FAIRMOUNT P·A·R·K COMMISSION

COBBS CREEK PARK (SOUTH)
Trail Master Plan

Andropogon Associates Ltd.

Campbell Thomas & Co.

Steve Spindler Cartography

COBBS CREEK PARK
OPINION OF COST FOR
TRAIL MASTER PLAN RECOMMENDATIONS

TRAIL TYPE	REHABILITATION				TRAIL CLOSURE			NEW		TOTAL
	Existing trails to Remain - new use designation(miles)	Percentage to be Rehabilitated	Existing to be Rehabilitated (miles)	Rehabilitation Cost	Moderate Erosion (ends to be closed)	Severe Erosion (miles for stabilization)	Removal and Restoration Cost	New Trails (miles)	New Trails Cost	Total Cost
HikingTrails unpaved	1.5	40%	0.6	$32,400				0.27	$14,600	$47,000
Multi-use unpaved	3.6	40%	1.4	$166,600	154	1.1	$71,200	2.97	$353,400	$591,200
Sidewalks (5' wide)	5.31	15%	0.8	$160,000				0.47	$90,900	$250,900
Paved Trails (10' wide)	0.17	15%	0.03	$4,900				ISTEA trails not included		$4,900
Subtotals:	10.58	-	2.83	$363,900	154		$71,200	3.71	$458,900	
									TOTAL TRAILS	$894,000

RELATED PROJECTS

PROJECT DESCRIPTION	COST
Severe erosion near 68th Street (28 acres)	$ 1,600,000
Severe erosion near Vine Street (30 acres)	$ 1,800,000
Lighting from Market St. to Baltimore Ave. (8000 LF)	$ 550,000
Parking lot at Environmental Center - 10 cars and bus zone	$ 120,000
Parking lot at Papa Playground (15 cars)	$ 120,000
Large boulders and flat rocks for stream crossings	$ 25,000
Marshall Road Underpass Improvements	$ 190,000
Remove Basketball courts in meadow	$ 20,000
Trail heads (23)	$ 57,500
Gateways (7)	$ 350,000
Total:	$ 4,832,500

TOTAL TRAILS AND RELATED PROJECTS : $5,726,500
DESIGN 12% $687,000
CONTINGENCY 10% $573,000

TOTAL FOR COBBS CREEK PARK **$6,986,500**

NOTES:

- **Estimates are based on 2000 prices from generalized conceptual master plans; further estimates should be performed during the schematic design for specific projects.**
- **The cost estimates assume that work is done by outside contractors on a competitive bid basis; the cost of improvement may vary if done by Fairmount Park staff, volunteers, or a combination thereof.**
- **Contingency is a standard flexibility factor for project scope and cost estimates.**
- **Design fees are based on percentage of construction cost and do not include surveys. Small design projects may require additional fees as a percentage of construction cost.**

Recommendations for Improved Links to Public Transportation

Existing Service Limitations

Public transit to Cobbs Creek Park is fairly extensive. However, not all rail stations provide direct access to the park and bus stops and rail stations are not signed indicating their proximity to the park. Published trail maps and guides showing public transportation users how to enjoy the pleasures of the park system are not available as they were several decades ago. There are also no signs within the park indicating the nearest public transportation station. While some stations are visible from the park perimeter, others are not. Signage would improve people's knowledge of available transit services.

Rail Transit

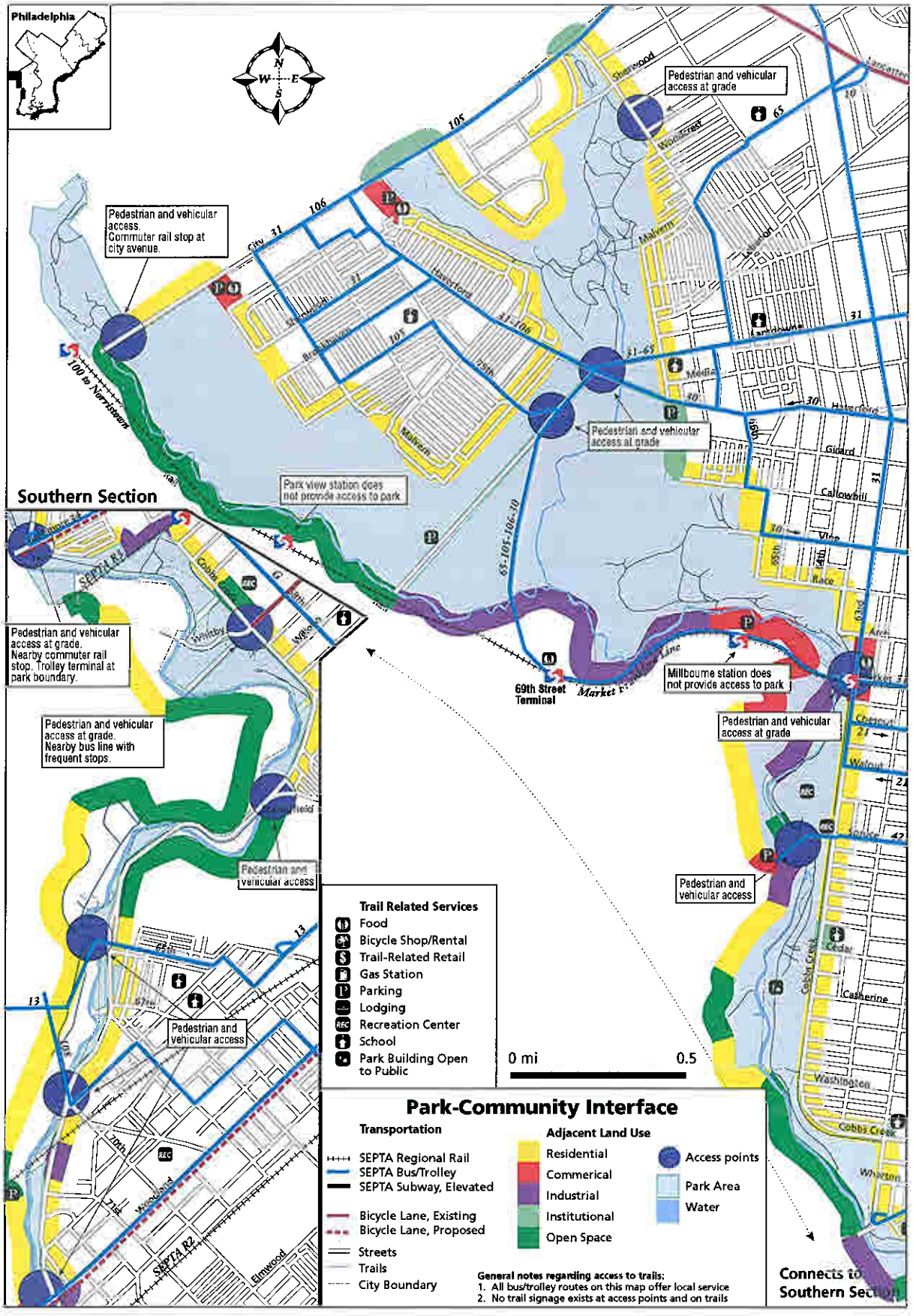
To increase access to and awareness of nearby rail service (Market Frankford Line), the following recommendations are proposed:

1. Include signage at park gateways nearest rail lines that indicate proximity to rail service.
   - Market Street and 63rd Street Gateway – indicate location of Market Frankford Line.
   - Lansdowne Avenue Gateway – indicate location of 69th Street Terminal.
2. Coordinate with SEPTA for signage at their stations nearest park gateways that indicates the park location.
3. Post a park map at SEPTA rail stations nearest park gateways.
4. Negotiate with SEPTA to create better access to the park from the rail line at Parkview Station.

Bus and Streetcar Service

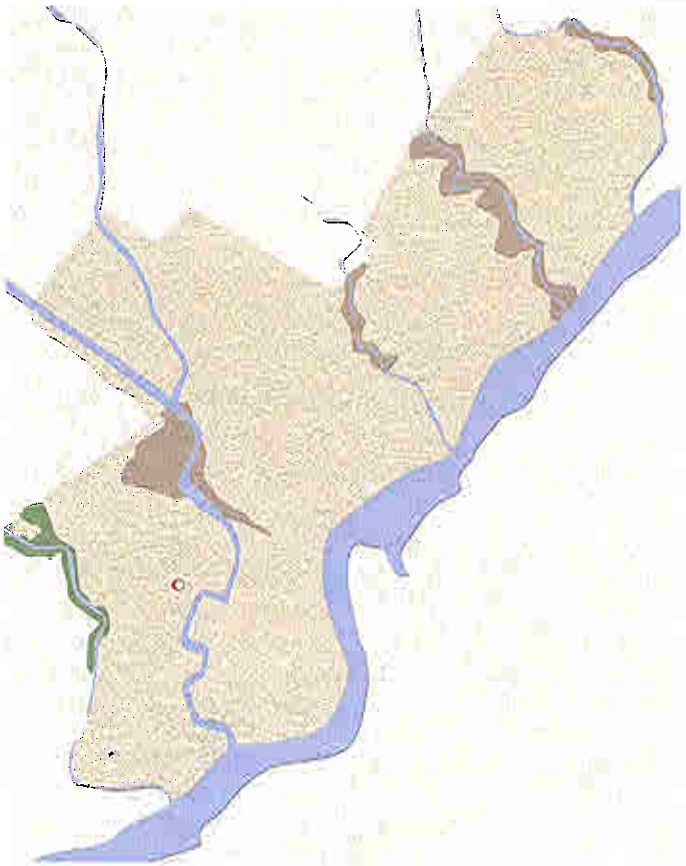
Several buses and streetcars serve the park but signage is lacking. Therefore, the following recommendations are proposed:

1. Post signs at park gateways nearest bus and streetcar hubs to indicate the transit lines nearby, specifically at:
   - City Avenue and 66th Street
   - Market Street and 63rd Street
   - 70th Street and Cobbs Creek Parkway
   - Woodland Avenue and Cobbs Creek Parkway
2. Post sign at trailhead located at Baltimore Avenue Street Car Terminal.
3. Coordinate with SEPTA for signage at their stations nearest park gateways that indicates the park location.
4. Post a park map at SEPTA stations nearest park gateways.


Philadelphia
N
W
E
S
Pedestrian and vehicular access at grade
Pedestrian and vehicular access. Commuter rail stop at city avenue.
100 to Norristown
Pedestrian and vehicular access at grade
Park view station does not provide access to park
Southern Section
Pedestrian and vehicular access at grade. Nearby commuter rail stop. Trolley terminal at park boundary.
Pedestrian and vehicular access at grade. Nearby bus line with frequent stops.
69th Street Terminal
Millbourne station does not provide access to park
Pedestrian and vehicular access at grade
Pedestrian and vehicular access
Pedestrian and vehicular access
Trail Related Services
Food
Bicycle Shop/Rental
Trail-Related Retail
Gas Station
Parking
Lodging
Recreation Center
School
Park Building Open to Public
0 mi
0.5
Park-Community Interface
Transportation
SEPTA Regional Rail
SEPTA Bus/Trolley
SEPTA Subway, Elevated
Bicycle Lane, Existing
Bicycle Lane, Proposed
Streets
Trails
City Boundary
Adjacent Land Use
Residential
Commerical
Industrial
Institutional
Open Space
Access points
Park Area
Water
General notes regarding access to trails:
1. All bus/trolley routes on this map offer local service
2. No trail signage exists at access points and on trails
Connects to Southern Section

Section VIII

Implementation



Funding Strategies

The most frequently asked question by community members who have come to many meetings, for this and other projects, is how will the Fairmount Park Commission implement this Master Plan. It is also a concern of staff members who, with decades of declining staff and funding, must deal with increased day-to-day responsibilities. It is easy to look at the past level of maintenance and despair of any possibility of implementation of Master Plan recommendations.

The recommendations that follow reflect an attitude of realistic optimism on the part of the participants. The vision is big. The goal is to realize the extraordinary potential for recreation and natural area protection afforded by these parklands. At the same time, there is no expectation of a sudden increase in funding from the City, and no dependence on another single large grant. The burden to realize this Master Plan falls heavily on those who use and enjoy the parks, for the rewards to them are great. They will have higher quality recreational experiences and be actively involved in sustaining their community's environment.

It is equally important to recognize the special opportunities available at this moment in time. The unprecedented grant that supports NLREEP has allowed a level of monitoring and planning that has not occurred in the park system since 1983. Concurrent natural areas restorations will complement trail projects. The Fairmount Park Commission and Philadelphia Water Department are working closely to address CSOs (combined sewer overflows) that contaminate the streams in the watershed parks. Volunteer participation has never been higher. The Commission works with over eighty Friends groups. User groups are working together as never before. There are many more funding opportunities than in the past and the Master Plan will provide a vital groundwork for getting future grants.

There is only one absolute obstacle. Without improved security, in particular controlling ATVs, this Trail Master Plan will fail, even though the parks are generally very safe areas. The plan includes many recommendations for improved security, but ultimately a higher level of police commitment and follow-through is mandatory and must be a main focus of the Commission's efforts. The measures necessary to achieve ATV control will also facilitate control of other illegal uses on parklands, such as dumping, prostitution, and chop shops.

The Trail Master Plan proposed is a kind of bare-bones-with-grandeur proposal. There are no large facilities or major new features proposed. The focus is on restoring, renewing and integrating the richness already represented in the park. The most significant features proposed are the gateways. They are not new features; rather, they are already important gathering spaces in the community that link many places and merit upgrading. The proposed budget puts the bulk of its dollars into the most used features that serve a diversity of users. The standard for trail closures, on the other hand, is minimal in order to invest primarily in maintaining the open trails. The Trail Master Plan recommends that users be held accountable for the impacts of their use. Users are also enabled to effect the level of follow through directly, with less dependence on the city or other funding levels. Volunteer work can reduce the capital required to realize a vision and user-generated donations can be used to acquire materials and labor.

The Trail Master Plan recommends additional staffing. At this time, most of these positions can be filled by temporary staff related to specific projects. No other staff positions matter so much to the success of this Trail Master Plan as the Volunteer Coordinator. They are also the positions most likely to garner public support and additional funding. The entire trails restoration and renewal program rests on management done by the Volunteer Coordinator, except perhaps in Pennypack Park where the Friends are so well coordinated with the park system already. In Cobbs Creek Park, however, where volunteer participation is growing rapidly, additional staff support will soon be needed and will enable the plan to move forward that much more rapidly.

The Trail Master Plan depends primarily on the following key implementation and funding strategies:

User Support

Users are asked to provide labor and financial support. Their participation will in turn foster increased political, agency, foundation and corporate support.

Political Support

In the long term the users, as a vocal and informed political constituency, are also part of a strategy for sustained increases in funding from state and city sources. Their job is to make political leaders aware of how this effort contributes to the economic well being of the city and region as well as the quality of life for its inhabitants.

Corporate, Agency and Foundation Support

The participation of a diverse array of community users in trail projects will contribute greatly to the willingness of corporations and institutions to provide further funding to implement this Master Plan. Public participation begets grants.

Initial Demonstration Projects

In each park one project is proposed as an initial demonstration project. The projects have been selected to coordinate with other investment in each park, such as priority restoration areas. The projects also vary widely in character and afford the opportunity to get involved at every level of this Plan. The projects also center on NLREEP's mission to restore degraded habitats and preserve healthy natural areas in the park system. The initial demonstration projects include:

- **Cobbs Creek Park**
  New trails associated with the Cobbs Creek Community Environmental Education Center and the new, paved multi-use recreation trail currently in design.
- **Pennypack Park**
  Trail system management, including signage, closure, monitoring, and scheduling.
- **Fairmount (East/West) Park**
  Retrofit and renewal of historic trails through natural areas.
- **Tacony Creek Park**
  Extend the paved multi-use trail south of the Roosevelt Boulevard and ATV control coordinated with natural area restoration
- **Poquessing Creek Park**
  Land and easement acquisition to preserve natural stream corridor areas and to create continuous trails

The Gateway Program

The importance of the gateways goes well beyond the scope of NLREEP or even that of the Fairmount Park Commission (FPC). These projects should involve not only the community, user groups and the FPC, but also the Streets Department, SEPTA and the Fairmount Park Art Association. Outside funding should be sought and the success of the first projects will determine the success of the whole program. The program should, to the extent possible, be modeled on the Anti-Graffiti Network, the Mural Arts Program and the Village of Arts and Humanities. These organizations should be invited to be vital participants of a Gateway Program.

Monitoring

The documentation of trail type and conditions undertaken during this Trail Master Plan provides an important assessment against which the FPC can determine changes since 1983 as well as evaluate future successes and failures. Such information gives credibility to requests from state and federal agencies for support and provides a useful benchmark. Monitoring, however, is rarely done. The environmental education component of NLREEP offers an ideal opportunity to institutionalize monitoring in a way that will provide an ongoing database and influence young users. Friends group's efforts should also be included in maintaining each park's database.

Enhanced Funding and Support for Friends Groups

A User-Based Management Program requires strong Friends groups. Their expertise, size and funding contribute directly to the scale of work they can accomplish. The Commission must continue to expand its support of Friends groups. Workshops and assistance for setting up non-profits, fundraising and grant writing, and recruiting are vital, as well as direct assistance for newsletter database maintenance. The Commission can also provide important help with materials and supplies such as plants, soil and soil stabilizers, stone and gravel, wood and branches, woodchips and other maintenance supplies.

Volunteer Coordinators and Rangers

Both of these positions can be built into operating budgets as temporary staff. Ranger positions should also be considered for funding from donations. Central Park, for example, funded three full-time field workers and the costs of plant material for slightly less money than they would have paid contractors simply to install that plant material. The temporary workers not only installed the plant material, they provided an 18 month presence maintaining and improving the trails and restoring the landscape. The positions proved themselves so valuable in that time, outside funding was found to continue the positions. Their continuous presence provided an important level of security in formerly poorly used areas of the park and the volunteers they worked with, in turn, became new and responsible users of the park.

Volunteer groups working with park staff. (Photo by Joseph Caesar)

Determining a Maintenance Budget

The proposed budgets in this Master Plan are intended to serve as guidelines for funding and granting. They do not reflect what the actual costs are likely to be. In the first place, there is very little information available on the real costs of maintaining trails in urban parks. There is little experience available, for example, for determining the spacing of rolling dips under the levels of intense use characteristic of urban parks. Similarly maintenance is difficult to assess because there has been so little of it in the past. Nonetheless some rules of thumb exist. A high use urban trail is expected to cost up to $9,500 per mile per year to maintain compared with the $500 or less needed for a low usage trail. In the City of Boulder, Colorado, $45,000 per year is spent to maintain five miles of the Boulder Creek Greenway. Seattle, a city well known as bicycle friendly, spends $2,500 per mile to maintain its trails.

Secondly, the costs used represent the cost of outside contracting for the proposed work. This approach provides some uniformity and comparability in pricing but should not be construed that capital funding and outside contracts are the recommended implementation strategy. On the contrary, this Trail Master Plan consistently recommends maximizing volunteer participation. It is virtually impossible to accurately predict what the real costs might be, but this budget is intended to be adequate to cover those costs.

Volunteers preparing jute matting to help stabilize bares slopes. (Photo by Joseph Caesar)

It should not be assumed that volunteer labor is proposed because of potential cost savings. Rather, what is important is that the work of volunteers is qualitatively superior to outside contracting and has many intangible benefits. Volunteer labor creates park stewards and responsible users. Volunteer participation fosters courtesy and understanding between different users and contributes to the success of shared use trails.

Volunteer work efforts are also inherently less mechanized due to liability issues, funding, and age and expertise restrictions. This approach, by definition, reduces damage from equipment use and minimizes the land area impacted. It also reduces energy consumption and pollution in the parks from exhaust, oil and gas contamination. Un-mechanized work is more consistent with the NLREEP mission. Volunteers can take on most of the trail-related repair and maintenance and have demonstrated this ability in Friends groups and in work with the Volunteer Coordinators.

The extent and breadth of the volunteer effort will be dependent on the level of support from the Fairmount Park Commission. In order to tackle the big jobs, volunteers require adequate supervision

and coordination by park staff as well as materials, delivery, and some equipment support. Volunteer efforts require more staff support, which should be reflected in grant proposals and funding efforts. The costs will be different, not necessarily less. The return, however, will be far greater.

Key Roles for Public-Private Partnerships

All of this Master Plan depends on a continuing expansion of public/private partnerships and cooperative efforts between city, county and state agencies. The master plan report itself is intended in part to inform a larger community about their role in the success of the parks and trails.

Community Database

The community database is a vital component of the Master Plan. NLREEP has been developing an ongoing database during this planning process as well as all other projects involving public participation. Participants signed in and supplied mail and e-mail addresses at every public meeting and workshop. Communication with the most involved individuals in the community, those who care enough to give their time to participate in meetings, workshops and volunteer activities, is the first place to establish, or lose, credibility. NLREEP and the Fairmount Park Commission need to develop a system that works. This master planning effort, as well as other projects undertaken by NLREEP, have produced a significant amount of inventory mapping available in electronic form. In the past, such valuable data often had limited distribution, however, today there is an opportunity to share information and expertise widely in the community.

Quite a few people who attended the public meetings and workshops requested copies of the large-scale color trail maps. For example, several equestrian stables wanted to post the maps. Land managers wanted copies for planning and documentation purposes. Virtually all the maps produced in this Master Plan have potential use to other public and private users, at a variety of scales. The Park Commission should arrange for the sale or distribution of maps as required.

The natural and cultural inventory database can be expanded and updated by community participants, especially through programs coordinated by the environmental education programs. All of the database should be accessible eventually from a park website.

Role of Environmental Education Programming

The environmental education programming being developed by NLREEP at the present time is integral to the success of the Trail Master Plan and to all natural areas restoration in the parks. What is restoration and how can it be an educational tool should be the central focus of environmental education. It is necessary to leapfrog over traditional approaches that begin with natural history. Rather, a more proactive approach is recommended that centers on the student's role in the care of natural systems, from monitoring and planning to planting and weeding. They will learn natural history and ecology along the way. School children represent a broad array of current and future park users and they influence their family's perceptions as well. The importance of linking monitoring and area public and private schools cannot be overstated.

Other City Agencies

The Recreation, Water and Streets departments all influence conditions in the parks and on the trails. Recreation Department events such as a bike rally bring new users to the parks. The streams in the watershed parks are dumping grounds for urban runoff as well as sewage from the combined sewers. Continued coordination with these agencies is necessary and the education about how their shared efforts can overlap and support each other rather than work at cross-purposes.

State and Federal Agencies

There are a variety of state and federal agencies and programs that provide funding for trails, from DCNR and ISTEA/TEA21 to the National Endowment for the Arts. In addition, further coordination is necessary with the Pennsylvania Fish Commission to address the impacts the siting of stocking locations has on trails and natural areas. Some modifications are proposed where stream impacts are severe as well as education to fishermen about carry in/carry out policies and appropriate access.

Friends groups have provided the most continuous and extensive support to the maintenance of trails in the parks. They lead the way by making people aware of the degradation of the parks. The Fairmount Park Commission has everything to gain by actively helping these organizations to grow in numbers and capability.

Area Institutions and Foundations

Area institutions and foundations recognize the greater benefit accrued from efforts that integrate and build upon the work of others. The scientific and participatory approach proposed in this Trail Master Plan lends itself to long-term cooperative projects with area institutions.

User Groups

Mountain bikers, equestrians, and other user groups represent one of the most important untapped resources of the park system. The involvement of mountain bikers in trail maintenance in Pennypack Park has led to valuable communication between different user groups and has contributed toward good will and cooperation. The users are caring and committed to the parks and need creative channeling most of all.

Neighbors

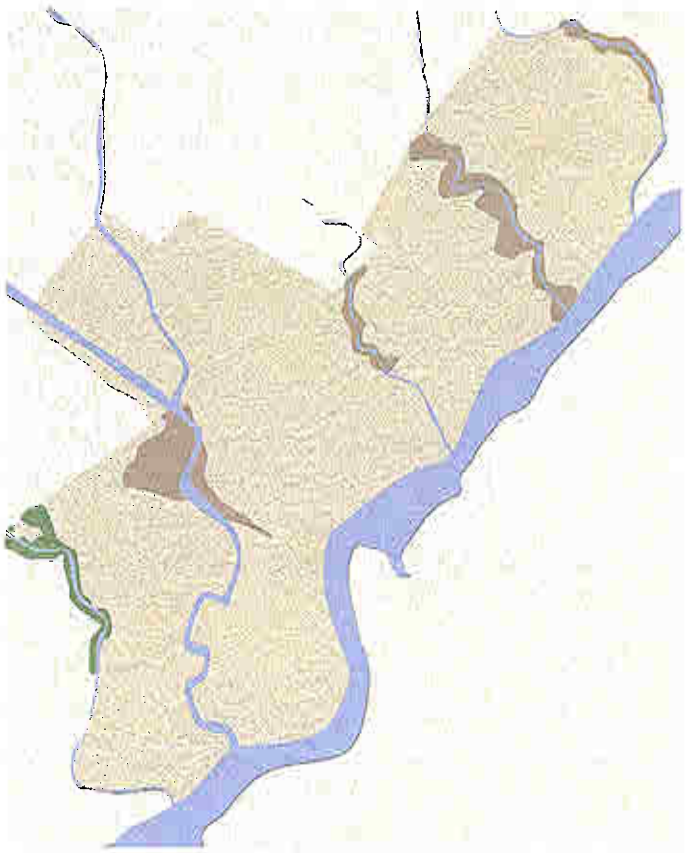
Neighbors, like Friends groups, are the park's family. They attend many meetings and participate in countless volunteer hours in the parks. Their knowledge of the parks is extensive and valuable. Neighbors' attitudes can often be closed to change initially, however, this diminishes with involvement in planning efforts and education about how the park is changing.

Large Private Landholders

Owners and managers of large sites adjacent to the parks are important partners in the effort to create a regional trail system as well as well-managed riparian corridors. For some commercial and industrial sites, shared trails may meet requirements for sidewalks while also serving as employee amenities. In some cases, stormwater objectives may also be incorporated into the project design.

Section IX

Trail Design and Management Guidelines



Volunteers working together to clear a fallen tree from a trail. (photo by Joseph Caesar)

A shared multi-use trail uses large striping to inform users.

Signage in Central Park informs users about protected natural environments.

Prioritizing Trail Restoration, Completion and Closure

The most difficult trail issues are almost always management and maintenance. Urban parks throughout the region suffer from decades of deferred maintenance. User conflicts get the attention, but maintenance is very rarely satisfactorily addressed. Without volunteer support, the trails of the Fairmount Park system would be in significantly worse condition. Pennypack Park, which is in the best condition of the parks studied in this master plan, owes its success to an astonishingly dedicated and skillful Friends Group as well as numerous other supporting organizations. Expanded volunteer support is needed at this time, not only to provide restoration and care for the landscape but also to create an informed constituency for city and regional funding for the parks.

This Trail Master Plan is not intended for instantaneous implementation. The closure of trails must proceed hand in hand with trail restoration. At the same time, volunteer recruitment is needed as well as staff expansion to support volunteers. The Trail Master Plan proposes two levels of priority.

First priority projects and activities should be initiated and in many cases completed during this phase of NLREEP funding. They include:

- **One Demonstration Project**
  For every park, except Poquessing, a special project is designated to initiate the restoration of the park's trail system. The project proposed represents a very visible place that integrates restoration, environmental education and community revitalization to the extent possible.
- **Completion of permanent, first priority trails closures**
  These closures include immediate safety hazards and environmentally disruptive trails.
- **Establish hiking only zones**
  Post trail markers as soon as possible and close any rogue trails within these areas.
- **Ongoing Rogue Trail Closure**
  New rogue trails must be closed as soon as the are opened. Time is of the essence.

- **Expansion of the Permit and Donation Program systemwide**
  The success of the permit program in Wissahickon Valley Park merits its expansion systemwide. The permit program is especially important for reaching regional users.
- **Trail Naming Project**
  This project is an important step toward developing new maps as well as a locator access system. It is also a golden opportunity to engage new community members in trail renewal and reward long term volunteers for their efforts.
- **All-Terrain Vehicle (ATV) Control**
  The goals of the Master Plan cannot be realized without effective control of illegal uses, especially ATVs. Police support and barriers are necessary first steps.
- **Temporary Trails Closure Program**
  Initiate temporary trails closures based on weather and trail conditions. The Wissahickon standard of no riding on unpaved trails for two days after a rain is a good start until a more site specific system can be initiated.

Second priority projects and activities should be completed within the next five years.
Funding for these projects should be obtained during the current grant period. The projects and activities include:

- **Completion of paved multi-use trails**
  The multi-use trails represent the most versatile access in each park.
- **Completion of Gateways and Trailheads**
- **Initiation of Locator Access System**
  Police, security, fire and rescue groups as well as managers and restorationists benefit enormously from an organized access system. The system should identify key landmarks and name each zone and trail in parks as well as appropriate access routes and connections to city streets. The ID codes should be entered into the 9-1-1 system as well. Cellular phone call boxes should also be installed throughout the parks. These devices consist of a cell phone in an armored box that can only call 9-1-1, a battery and a solar panel to charge the battery. These phones can also be equipped with alarms to indicate failures or vandalism via the cell phone.

Trail Closure Strategies and Specifications

Trail closure is a difficult issue that must be addressed by a trail master plan. Users typically feel they are already competing for scarce resources and feel threatened by any suggestion of a trail closure. At the same time most users readily agreed that closure is important where environmental damage is occurring. The key issues hinge on setting clear policy and procedures on how to monitor a trail to ensure that real data rather than prejudice determines when to close a trail.

Several levels of trail closure are recommended in this plan.

Permanent, First Priority

Where a trail is poorly suited and is creating direct environmental impacts that cannot be addressed by a reasonable level of infrastructure, permanent closure is recommended.

Permanent, Second Priority

Second priority closures are proposed for stretches of trail that are redundant and fragment the landscape. This Trail Master Plan makes preliminary recommendations for these closures that should be evaluated during the next few years as the User-Based Management Program develops.

Temporary, Short Term

Temporary, short term closures are generally weather driven and include spring thaws and the period immediately after a rain when the most concentrated damage usually occurs. The Wissahickon Trails Committee, for example, has proposed no trail use for all users for two days after a rain. More serious events, like the damage caused by Hurricane Floyd, might necessitate longer intervals in order to correct all damage.

Downed logs on site create a moist and protected environment, enhancing forest regeneration. (Photo: Woody Debris on Trail, Central Park, by Dennis Burton)

Temporary, Long Term Closure

Temporary, long term closures are generally maintenance driven and represent those trails where deferred maintenance or overuse mandate that the trail be repaired. In some instances better use management may also be necessary. As user-based trail programs develop, this kind of closure could be eliminated with effective monitoring, maintenance and management.

Scheduling of Closures

Not all trails proposed for closure can or should be closed at once. It will take time to develop adequate infrastructure and build user support to implement closures. Only trails recommended for first priority, permanent closure should be implemented immediately. All other closures must be coordinated with the scheduled rehabilitation of the preferred trail in that area.

Method of Permanent Closure

A fully closed trail will be revegetated and should look as though a trail was never even there. That can be accomplished almost instantaneously and/or over time as long as the traffic actually can be controlled.

Check logs and vertical stakes were used to decompact the soil and discourage bike use on this closed trail. (Photo: Upright brush, Central Park, by Dennis Burton)

A palisade of brush stuck in the ground vertically is sufficient to block a small rogue trail.

A low railing of Locust posts is used to define trail edges in Central Park.

Define the Trail System

Trail edges can be used where appropriate on unpaved trails and paved trails in the natural areas to help define the trail system and to discourage off-trail use. Adequate trail width, moderate slopes and good sight lines are important considerations when choosing locations for trail edges so that safety hazards are not created. This technique has proven effective in deterring the opening of new rogue trails and in facilitating the efforts to close existing ones.

Narrow openings in the railing limit path connection and discourage trail widening.

Beyond the railing, the forest recovers rapidly when protected from bike and foot traffic.

The objectives of trail closure are minimal— to make the trail invisible and to correct any critical erosion and control problems that will not improve with time and closure alone. While it might seem desirable to plant extensively to hasten full closure, that is not recommended in this plan in order to allocate more resources to actively used trails. The goal here is to do the absolute minimum necessary to meet our environmental goals. Environmental concerns should be evaluated and prioritized in light of the overall concerns in each park.

Each stretch of trail proposed for permanent closure should be walked and evaluated. Any serious erosion and sedimentation issues that will not improve once use is eliminated should be addressed using limited structures and available materials to the extent feasible, such as check logs and check dams also made of woodland debris.

In general, all of the downed wood that is not hauled to a dump should be used on site as close to the source as possible. The twiggy and leafy debris is ideal for trail closure and can be used effectively to block a trail when simply stuck upright in the ground. Branches filling each entrance to a closed trail creates an effective visual barrier that can be surprisingly inconspicuous. This should be augmented with loose branches, anchored logs, as well as litter to camouflage the former route. Some of the branches should be cut into shorter lengths in order to bring them into contact with the

After several months, vegetation has regrown and the former trail is well disguised.
(Photo: The Aesthetics of Brush on a Trail, Central Park, by Dennis Burton.)

Dead wood on the ground covers and protects bare soil to complete trail closure.

soil. The "brushy look" is very short lived and the woody debris will foster and protect regeneration while retaining moisture and sediment in place. Exotics may flourish on closed trails. The priority of management should be determined in light of each park's overall exotics management program. Keep in mind that management will encourage a more open appearance and trampled condition that may not be justified given other priorities at this time.

Planting is not necessary except where it is a part of a larger restoration effort or where the opening is too expansive to be handled by brush alone. Fencing, in general, is not recommended for trail closures unless it is part of a larger restoration project that requires fencing. There is a tendency for people to walk the outer perimeter of any fence encountered, which would defeat its purpose in this instance. Secondly, fencing is expensive and is better reserved for deer exclosures and special projects.

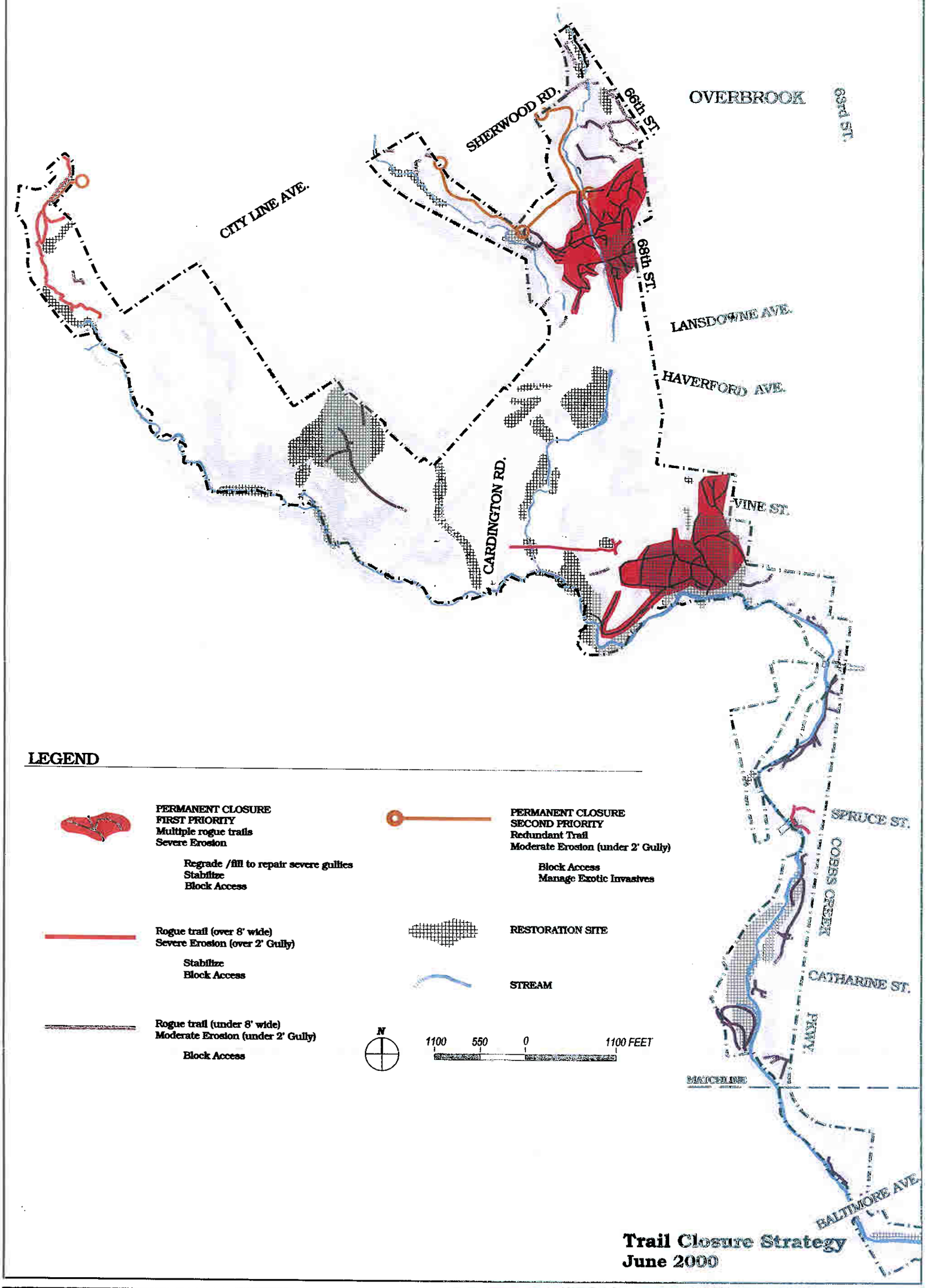
The most important aspect of closure will at all times be the level of user buy-in. Without adequate preparation even a well-meaning user will go around a barrier on a familiar trail. Managing, rather than simply opposing, closure must become a central focus of user groups and park staff. The trail should be deleted from any available maps and signage it may appear on if the closing is permanent. Users should be alerted before a closure occurs.

Monitoring

Working with the Friends groups and other volunteers, the park's Volunteer Coordinator should designate selected monitoring points for every trail, at least one for every numbered leg of trail, in a place that is typically vulnerable to impacts and that can be readily located due to surrounding landmarks. Each site should be photographed as a baseline and reevaluated annually. The monitoring can be undertaken by students in the programs at the Environmental Center to provide an ongoing database. More frequent observation can be undertaken by the users themselves as well as by land managers. First priority should be given to those trail legs designated as rogue trail/severely eroded.

Criteria for Temporary Trail Closure

The criteria for temporary closure is environmental degradation. The goal is to balance that with a realistic perspective on what can and cannot be achieved. The objective is to maximize the level of improvement over time. This Master Plan ranks all trails by their condition. Within each level there is a range of degrees of degradation. Any trail leg that degrades enough to drop a whole level of disturbance is an immediate candidate for temporary closure. As a photographic record is developed for each site, these assessments will become more substantiated, whether for increased or decreased damage. Users should be alerted before a closure is necessary and asked to limit use, especially during periods of high potential for damage such as thaws and rainy spells. In some cases a voluntary reduction in use will be sufficient to allow a trail to recover. Where repair will be necessary maintenance, users should be invited to engage in rehabilitation efforts. Temporary closures should be accompanied by signage and used as an educational opportunity.



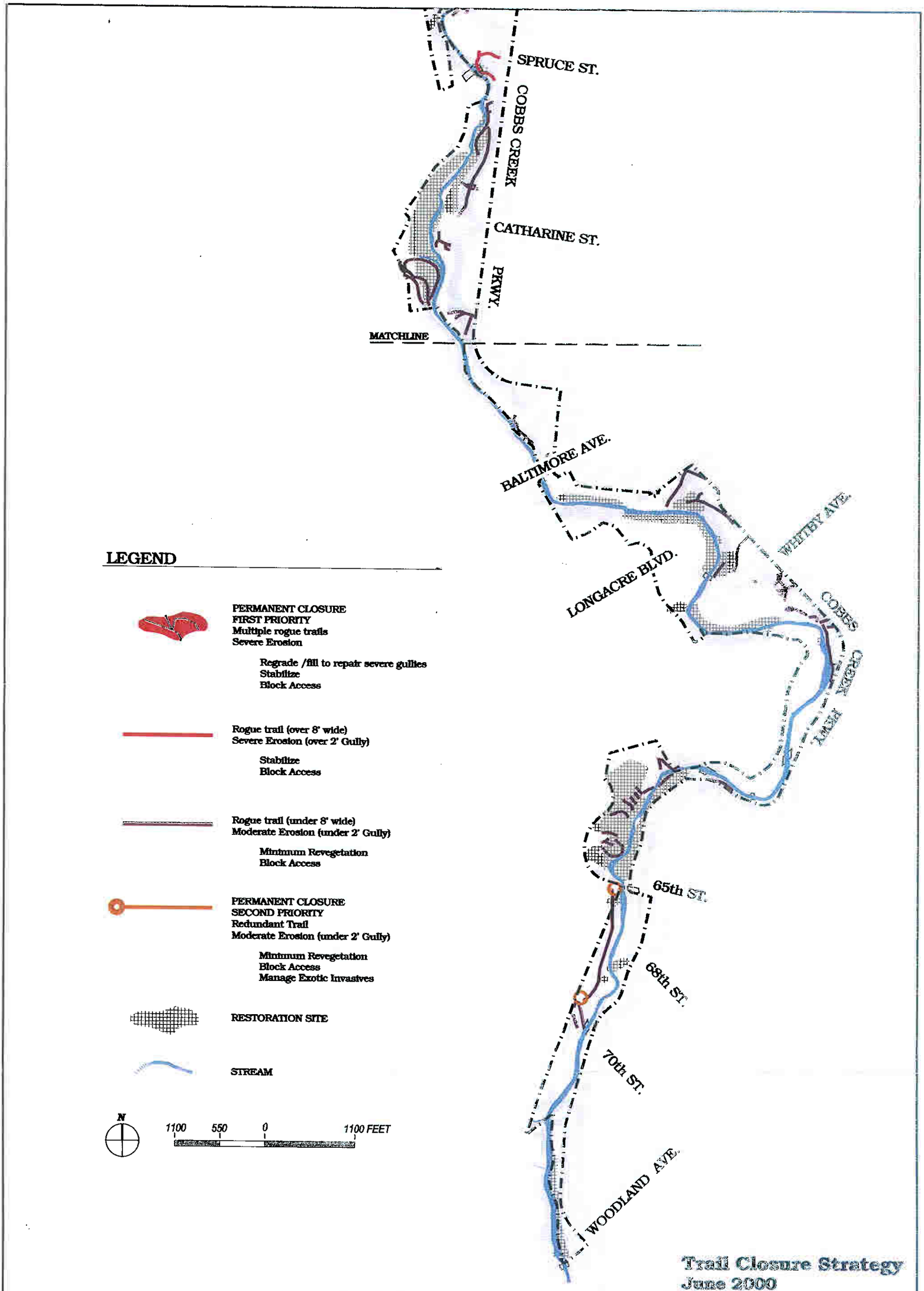
FAIRMOUNT P·A·R·K COMMISSION

COBBS CREEK PARK (NORTH)
Trail Master Plan

Andropogon Associates Ltd.

CT &C Campbell Thomas & Co.

Steve Spindler Cartography



FAIRMOUNT P·A·R·K COMMISSION

COBBS CREEK PARK (SOUTH)

Trail Master Plan

Andropogen Associates Ltd.

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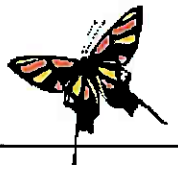
Steve Spindler Cartography

Meadow Creation Initiative



As part of its Natural Lands Restoration and Environmental Education Program (NLREEP), the Fairmount Park Commission is undertaking a **Meadow Creation Initiative** throughout the park system. By releasing this section of park from mowing, we are able to create an area with a diversity of mixed grasses and wildflowers, providing the following benefits.

Increased Density and Diversity of Native Plants

Meadows can support many species of native grasses and wildflowers that thrive in open, sunny conditions and flourish on low moisture and poor soil.

Creation of Very Beneficial Wildlife Habitat

Meadows are 'home' to a much greater number and diversity of wildlife than mown lawn. Insects become a food source for birds, small mammals and reptiles, which in turn provide food for larger animals.

Facilitation of Insect Pollinators

Meadows attract a large number of insect pollinators, especially butterflies, and are also valuable to many bird species such as goldfinches, song sparrows, common yellowthroats, and yellow warblers.

Soil Stabilization

Along streams or ditches, taller grasses and wildflowers develop extensive root systems that anchor the soil much better than the shallow roots of mown lawn.

Enhanced Aesthetics

Meadows provide great aesthetic interest, exhibiting a variety of colors and textures that change with the seasons.

Study Opportunities

The diversity of meadows offers opportunities for environmental education studies.

Reduced Maintenance Costs

Meadows, which are mown but once a year, help the Park save time and money by decreasing the cost of frequent mowing.

For more information about the Park's Meadow Creation Inititative, please contact NLREEP at 215.685.0274.

Sign posted at meadow sites educates the public about park renewal efforts and appropriate use and protection of park resources. (Fairmount Park Commission.)

Security

Security is one of the most challenging aspects in the parks. The presence of ATVs and the seeming tolerance for expanding illegal activities such as dumping and chop shops have created a sense of lawlessness in many sections of the parks. Where perceived security is low, the range of users has reduced substantially. Many older park visitors recall when mounted Park Police patrolled the parks and children were free to play throughout the landscape.

- **A Ranger in Every Park**
  The most frequent recommendation concerning security from participants in the workshops and public meetings was to have a dedicated ranger in every park. Despite repeated requests for additional funding for Rangers, however, no increase is anticipated in the near future. There is a high degree of user support for an expanded Ranger Program, which would contribute to both real and perceived safety.
- **Park Watch**
  Park Watch Programs should be expanded and Park Watch volunteers should all be equipped with two way radios to enhance police responsiveness and coordination with Park Watch activities.
- **Police Support for ATV Control**
  At this time police on motorcycles are the only effective method of control of ATV use. Motorcycle surveillance must be extended to all sections of Cobbs Creek park. Recent changes in procedures now allow police to confiscate ATVs on the street. Enforcement of street violations is a necessary component of enforcement in the parks.
- **Permitting and Constituency**
  A key aspect of the proposed permitting system is the development of a user database which is vital for developing local support for park improvements. Many of the users of the park system come from the greater Philadelphia region with different voter representation. The permitting system allows for a wide range of potential constituent support, especially concerning the management of ATVs.
- **Barriers and Reduced Access**
  Barriers and other forms of reduced access are needed in order to better control access. Where there is no defined edge to the park, ATV control is especially difficult. The areas of widespread ATV use have been identified to facilitate barrier planning and placement. Several bridges have also been proposed for removal.
- **Surveillance**
  The safest places generally are those under continuous surveillance by a diversity of users. The gateway concept of the Master Plan is intended to concentrate compatible users and to form linkages between park edges and adjacent communities.
- **Photography**
  Some communities have initiated programs to photograph illegal ATV users. A photographic record can be useful for informing police about area offenders, increasing community awareness, and documenting conditions for city funding and grant requests.

Trail Construction Guidelines – Unpaved Trails

Route Selection

Trails should be routed to provide access to scenic views, historic sites, and other points of interest. Well-designed trails should be routed to avoid steep slopes, low or wet areas, heavy brush, and environmentally sensitive areas. Ideally, trails should not be located in close proximity to stream banks to prevent erosion and sedimentation of the stream. The Trail Master Plan has presented general routes for proposed trails, but the actual trail alignment should be determined by a design professional to incorporate these guidelines and other site specific conditions.

Although some areas of the park may appear to the casual observer to be undeveloped land, in fact there may be underground utilities buried just beneath the surface. For example, there is a petroleum pipeline located under the old trolley bed adjacent to Edgely Avenue in Fairmount (West) Park. It is the responsibility of all trail designers, builders and maintainers to notify the Pennsylvania One-Call system for utility markings before any earthwork is performed.

Accessibility Considerations

The United States Architectural and Transportation Barriers Compliance Board has released proposed Accessibility Guidelines for Outdoor Developed Areas under the Americans with Disabilities Act (ADA). These guidelines provide recommendations for surfacing, width, cross slope, longitudinal slope and other trail characteristics for new and reconstructed trails. There are exemption provisions for cases where the proposed standards would cause substantial harm to historic or natural features, alter the purpose of a trail, or for areas of rugged terrain.

It is not the intention of this Master Plan to interpret the applicability or repeat the technical contents of these proposed guidelines. The guidelines should be consulted for detailed information regarding each trail segment to be designed or constructed. However, for many of the trails in the Fairmount Park system it may be practical to incorporate the recommendations contained therein when constructing or reconstructing trails. For the most part, the recommendations are consistent with good trail design and have been incorporated into this Trail Master Plan.

Width and Vertical Tolerance

Trail widths should be adequate for stability and the intended use, but not so wide that the trail becomes undefined and the route is unclear.

Trails used for hiking only should have a tread width of 5', with a 2' cleared shoulder on each side. The vertical clearance should be at least 8' so that heavy, wet branches do not impede the clear path. Multi-use, two-lane, un-paved trails designated for mountain biking and equestrians should have a minimum tread width of 10', with a 3' shoulder on each side and a 12' vertical clearance.

Based on ADA trail accessibility guidelines, passing spaces at least 5' wider than the predominant trail width should be provided every one thousand feet (1,000'), with more frequent areas on steep or confined trails. These passing spaces could be incorporated into points of interest along the trail and resting areas along steep trail segments.

Sight distance

Trails used by mountain bikes should have sight distances in accordance with American Association of State Highway Transportation Officials (AASHTO) guidelines for design of bicycle facilities. For hiking only trails, the minimum recommended sight distance is 50', although more may be required for security reasons or where there is a chance for traffic conflicts.

Slopes

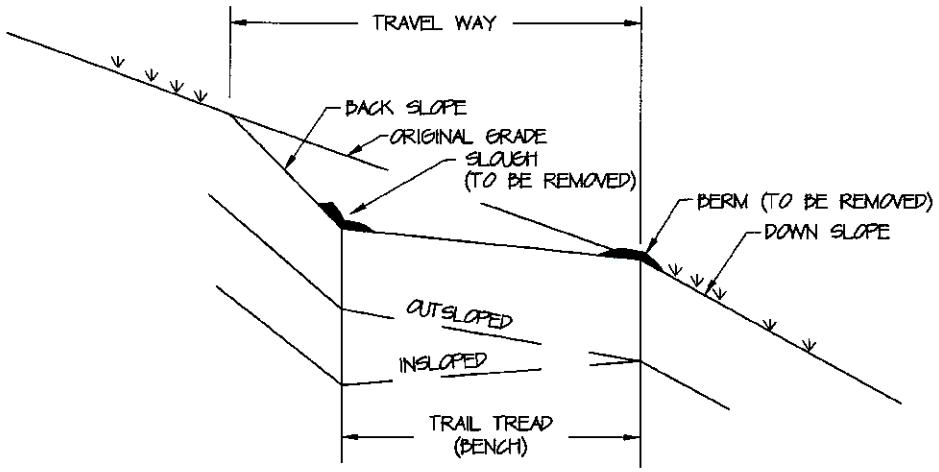
The maximum recommended grade for non-ADA accessible trails varies depending on the difficulty of the trail. For uses within the Fairmount Park system, we recommend that the maximum sustained grade be 8%. For accessible trails, grades are recommended as follows:

In general, the grade of the trail should be no more than 25% of the slope of the terrain. For example, trails traversing a hillside with a 32% slope should have a longitudinal slope of no more than 8%. Trails should not be constructed down the "fall line" of a slope (directly down the slope), as this may result in serious erosion. Many existing trails within the Fairmount Park system are located along the fall line, especially those subject to illegal use by all-terrain vehicles. These trails should be rerouted or closed and the disturbed areas should be restored with vegetation native to Philadelphia County.

All trails constructed along a slope should be outsloped by 3-5%, except where provisions have been made in the inslope areas for drainage. An outslope is defined as the slope from the cut portion of the bank down to the opposite edge of the trail, so water flowing downhill will cross the trail and continue down the slope. If the trail is insloped, then water will collect along the edge of the cut bank and will flow down the trail.

Wherever practical, trails should be constructed with a full bench tread rather than a balanced section tread. This means that the trail should be cut into the hillside for its entire width, rather than placing fill along the slope to gain trail width. While this requires additional work to remove or spread out excavated soil away from the tread, a full bench section typically requires less maintenance due to the greater degree of compaction. The full bench method of construction will allow the tread to be entirely on undisturbed material. When excavating for a full bench tread, care should be taken to avoid creating a berm on the downslope side of the trail which would impede drainage.

Grade	Maximum Recommended Length
5% (1:20)	Any length
8.3% (1:12)	200 feet
10% (1:10)	30 feet
12.5% (1:8)	10 feet



TYPICAL HILLSIDE TRAILS SECTION

not to scale

Unpaved Trail Surfaces

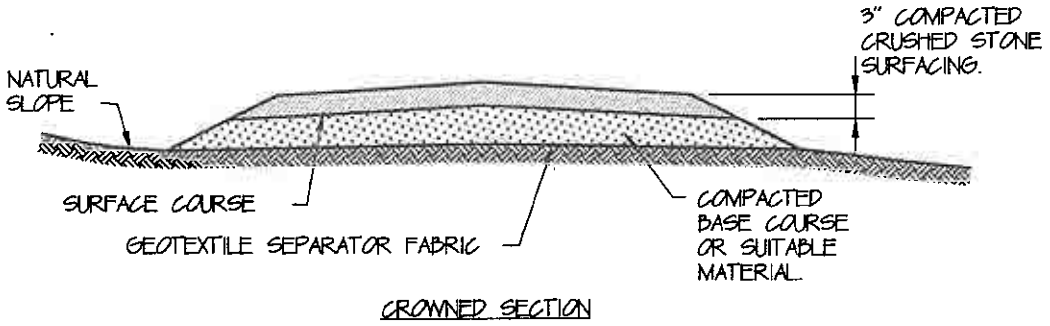
For most trails that have light to moderate use, the optimum surface is compacted native soil. Not only is it the least expensive and easiest to construct trail surface, it provides a good surface for walking. When properly graded and appropriate drainage features are incorporated into the trail, compacted soil may withstand mountain bike and some equestrian use. Native soils that are free of organic material, predominantly granular, readily compactible, and have a low clay content generally provide the best trail surface. Very sandy soils can be unstable underfoot but drain well. Many of the soils within the Fairmount Park system will provide an acceptable trail surface, but a site specific evaluation of soil types should be performed before designing or reconstructing a trail.

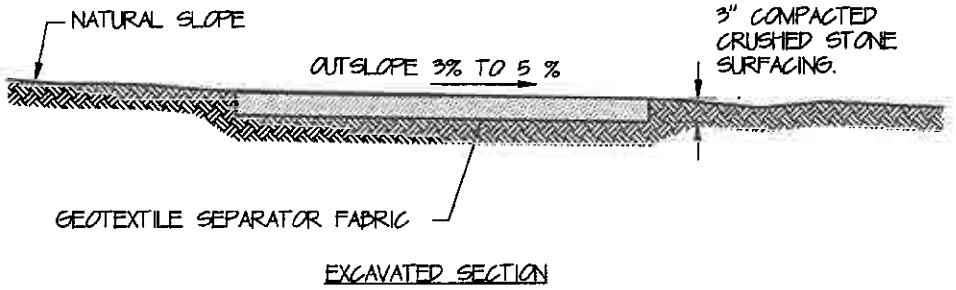
The surface of a disabled accessible trail does not have to be paved with asphalt or concrete. It should have a trail surface classified as "firm" or "stable" as tested by a rotational penetrometer. A description of this simple test is available in the accessibility guidelines. Some native soils, when compacted properly, should provide a surface meeting the guidelines.

In areas where trails cannot be routed around low or wet areas, where existing soils cannot be compacted to stable condition, or when minor soft spots develop in an existing trail, some form of trail hardening is required. The most common form of trail hardening is adding a layer of crushed stone screenings, similar to the material used on Forbidden Drive in Wissahickon Valley Park. The screenings should be spread on a layer of crushed aggregate base course, which is installed on a layer of geotextile separation fabric. The separation fabric is generally inexpensive and will reduce the tendency of the stone to sink into the subgrade, thus reducing material requirements and long-

term maintenance costs. Disadvantages of crushed stone surfacing include the cost, difficulty in transporting material to the job site, and a non-native appearance. As with earthen trails, crushed stone will easily erode if adequate drainage is not provided. Crushed stone surfacing is generally appropriate for trails with less than a 5% slope.

An alternate form of trail hardening evaluated by the USDA Forest Service in Washington State is the application of soil cement. Soil cement is the mixing of Portland cement with water and native soil materials. This mixture is then spread on to the trail surface. This method has the advantages of requiring less imported material than a crushed stone surface and should provide a more natural appearance. Forest Service tests indicate that the material should be mixed in a wheelbarrow and applied to the trail surface. This method may not be feasible where water is not available, and the results may be inconsistent between different native soil materials. This method may be worth investigating in the Fairmount Park system.





TYPICAL CRUSHED STONE SURFACING

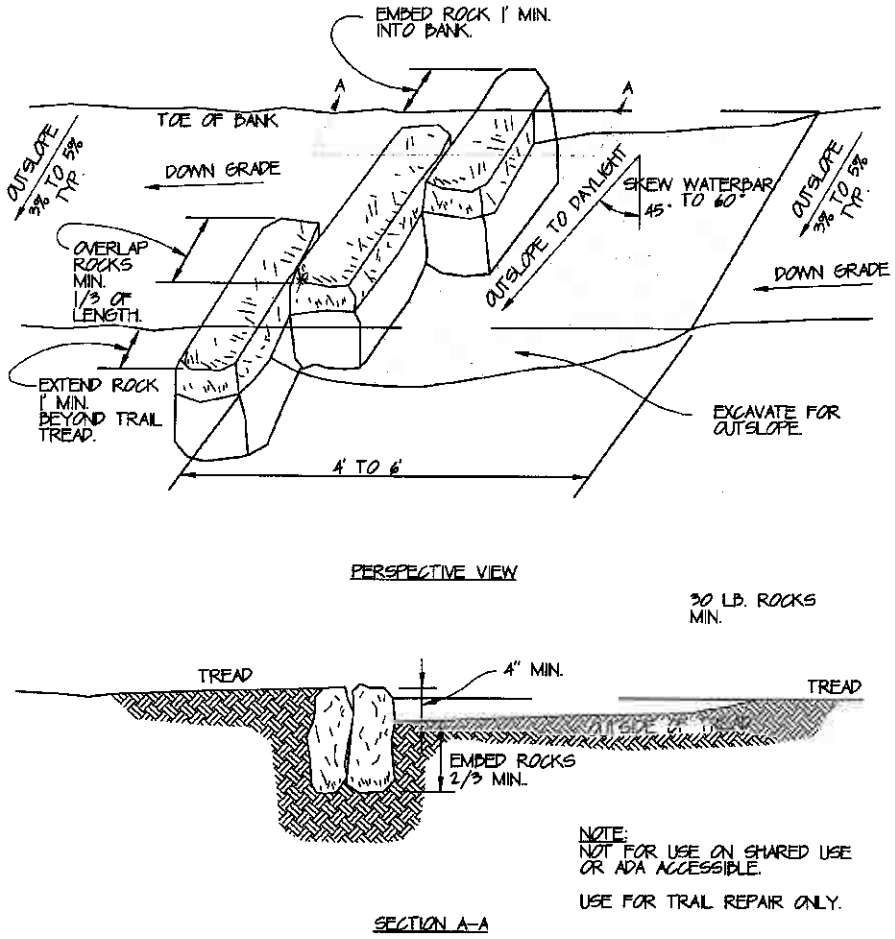
not to scale

Drainage

Prior to implementing any trail improvements, the entire area should be evaluated to determine the source of any drainage or erosion problems. In many areas, there is a drainage problem uphill from the trail (such as uncontrolled runoff from a road or parking lot) that will quickly destroy any trail. These uphill drainage problems must be addressed before improving the trail. This may require cooperation between Streets Department, Water Department, and other agencies or property owners.

The best way to minimize drainage problems is to route the trail away from poorly draining soils, persistently wet areas, and steep slopes. Many of the trails within the Fairmount Park system with the worst erosion problems do not follow these route guidelines and should be considered for closure.

Without proper drainage, any trail surface will eventually erode and degrade. The goal of trail drainage should be to remove water from the trail at regular intervals to prevent the trail from becoming a conduit for water. In sloping terrain, an outslope of 3-5% will encourage water to run across the trail rather than down it. As part of regular trail maintenance, any berm that forms on the downslope side of the trail should be removed.



TYPICAL ROCK WATERBAR

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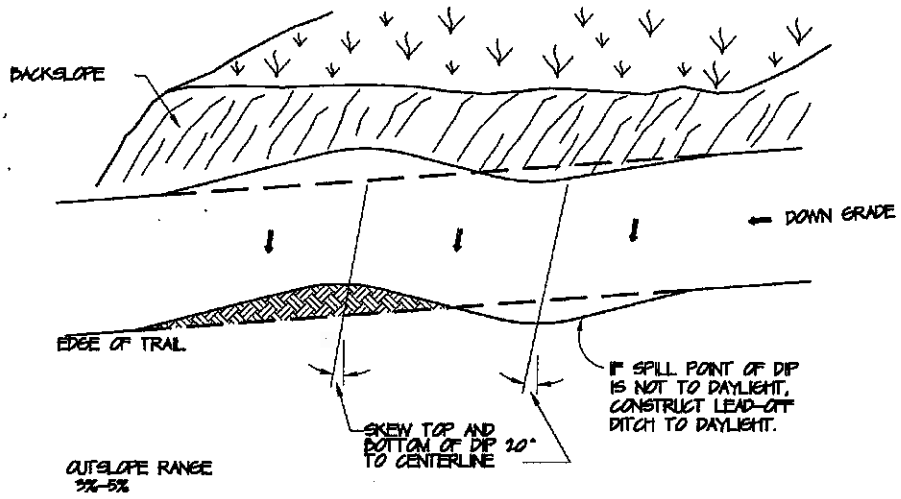
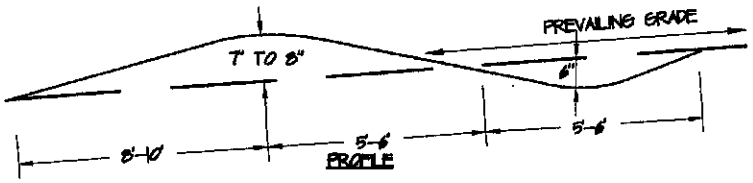
For hiking only trails, wooden or stone water bars, constructed at an angle to the trail, will divert water. Unfortunately, most water bar construction techniques will not meet accessibility guidelines of having a maximum 2"-3" vertical obstruction on the trail surface. There is very little published information regarding the optimal spacing of water bars. Along sections of the Appalachian Trail in Virginia, adequate drainage control appears to be provided with bar spacing as close as 50'.

On multi-use and accessible trails, a more durable approach to removing water is the rolling dip. This compacted earthen structure is constructed in the same configuration as the water bar, but has the advantage of withstanding the impact of bicycles or horse hooves. Due to the large amount of earthwork required (compared to a water bar), construction of rolling dips is best accomplished with motorized earthmoving equipment. As with water bars, the ideal spacing of rolling dips has not been widely documented. The South Carolina Department of Parks recommends rolling dips every

50-100'. For permanent trails within the Fairmount Park system, the spacing of water control structures will depend on the slope of the trail and the drainage area above the trail. All water control structures should be regularly monitored to determine if runoff is being adequately diverted from the trail. The spacing of future structures should be based on the results of these observations.





GRADE OF TRAIL	DISTANCE BETWEEN DIPS
2% TO 5%	135'
5% TO 10%	110'
10% TO 15%	100'

ROLLING DIP

not to scale

Stormwater Management Techniques

There are so many sources of disturbance in the urban park that it is often assumed that solutions are too complicated to implement. Parks are frequently seen as becoming unmanageable. The fact is that despite the complexity of urban systems, the greater share of disturbance is due to the nature of human activities. There are actually only a few major stresses that account for the bulk of disturbance. They include landscape disturbance from the off-trail use of bicycles and vehicles, trampling, dumping, the proliferation of exotic invasive vegetation, the lack of maintenance, the lack of security and stormwater management. These disturbances must be tackled directly, for until they are resolved, true restoration will remain an illusion.

Stormwater management is a universal problem that has impacted all of the parks in the Fairmount Park system. The continued increase in stormwater runoff both generated and funneled to urban park streams degrades the habitat value and water quality of the streams as well as damage to trails and trail infrastructure. Many of the stormwater problems observed in the parks originate off site in the highly urbanized watershed that now surround the park. "Coordination with a variety of agencies to develop watershed-level solutions is essential to the health of the park's streams...It is important that the park consider partnerships with other city agencies (i.e., Philadelphia Water Department) and non-city governments (i.e., Montgomery County, Darby Township) to facilitate watershed-level controls of storm flows." (ANSP, 1999)

Solutions to stormwater management should be promoted that maximize opportunities for groundwater recharge. Altering the management of landscapes can effect substantial reductions in run-off. Turf areas, even only gently sloped, shed water nearly as rapidly as pavement. Conversion of all or part of lawn to tall grass and wildflower meadow can provide friction to slow run-off velocities and a root system that effects higher levels of infiltration. Tall grass can also serve to inhibit trampling and help to confine users to designated trails. If retaining runoff and maximizing recharge are vigorously pursued in the uplands, the problems of erosion in lowland areas will become more manageable.

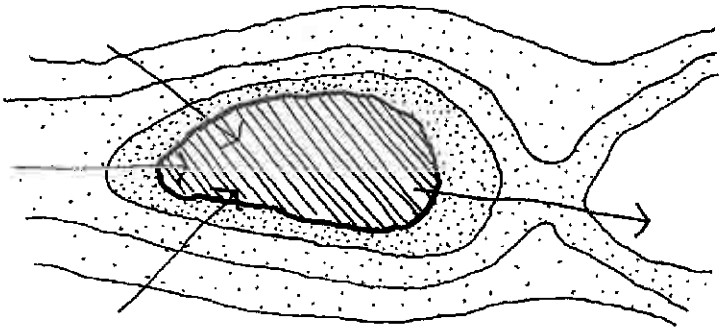
Permeable surfaces, such as porous paving over shallow infiltration beds, are an excellent way to achieve recharge as well as stormwater detention. Upland retention ponds can be designed to provide both open water and marsh habitats while effecting recharge when water levels are high. Both of these technologies can provide improvement of water quality of urban runoff and help to limit contamination of both ground water and surface water.

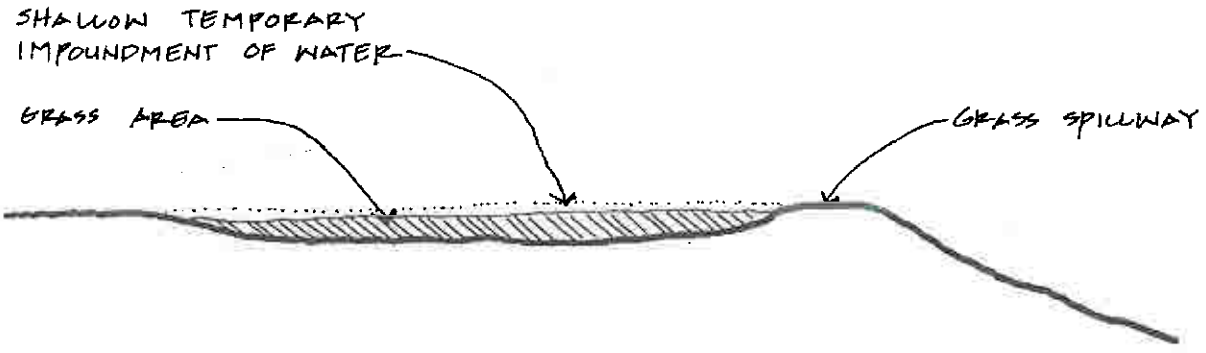
The integration of landscape and trail restoration cannot be successfully addressed until the ground on which the plants are growing is stable. Serious trampling, soil compaction and storm water damage must be controlled before restoration can be effective. Soil disturbance is one of the most common sources of stress to urban natural lands and frequently precedes invasion by exotic species. The problems encountered typically include soil loss or erosion, excess fill or the addition of soil, soil compaction or a combination of the above.

Beyond creating watershed-level solutions as a first priority, there is also the problem of restoring areas that have been eroded and handling runoff on site that cannot be reduced at the source. The goal is to divert small amounts of the load repeatedly, to effect a substantial cumulative reduction in runoff. This is the opposite of conventional drainage practices that concentrate runoff. Water can be impounded over a variety of landscape types for short periods to reduce the rate and the amount of runoff and to effect greater recharge. There are several techniques which can be used, including: temporary shallow impoundments, shallow terraced impoundments, low earthen berms with infiltration trenches, check dams in gullies, check logs on slopes and trail reinforcements.

Woodland slopes can be protected using temporary shallow impoundments and low earthen berms with infiltration trenches to retain small amounts of runoff on adjacent meadow and lawn areas. Shallow terraced impoundments can help control flows along sloped sites. Check dams can be constructed in gullies to reduce velocities and redeposit sediment. Where only minor control is required, check logs on slopes can be used. All of these simple techniques can be successfully completed by volunteers.

Wherever there are open areas such as lawns or pavement, there are likely to be opportunities for impounding surface runoff. The most obvious choices for locating such impoundments are areas where standing water is found during and after a rainstorm and where the existing level of impoundment can be easily increased to provide more retention. Temporary shallow impoundments are essentially broad, shallow retention 'puddles' created either by excavation or by the creation of a low berm to hold back water at the point of runoff. Downslope water movement will not be eliminated, but it will be slowed and reduced. Numerous small basins throughout a site can make a significant contribution. The depressions can be maintained as turf grass that tolerates standing water for short periods or planted as a wet meadow of ferns, sedges, rushes and native wetland grasses or native lowland trees and shrubs.

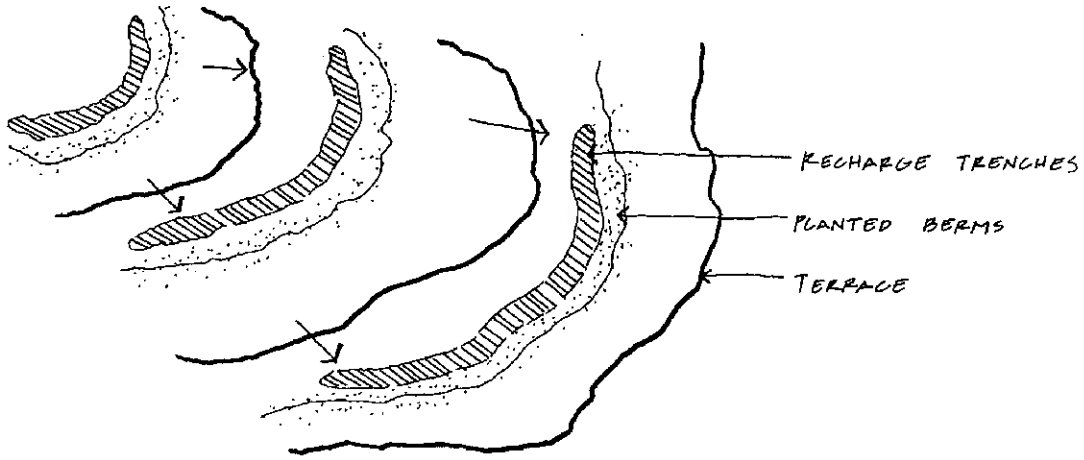




TEMPORARY SHALLOW IMPOUNDMENT

Where a slope is long and shallow and largely open, a sequence of berms and infiltration trenches can be effective in slowing stormwater movement downslope and recharging it into the ground. The number and spacing should be determined on the site and depends on the degree of current erosion and the steepness of the slope. Soil from the trench should be used to build the berm, topsoil should be separated from subsoil and then placed on top of the berm and the trench should be filled with gravel. The berms can be seeded and allowed to grow into tall grasses and wildflowers in an open area or planted to successional woody species.

PLAN



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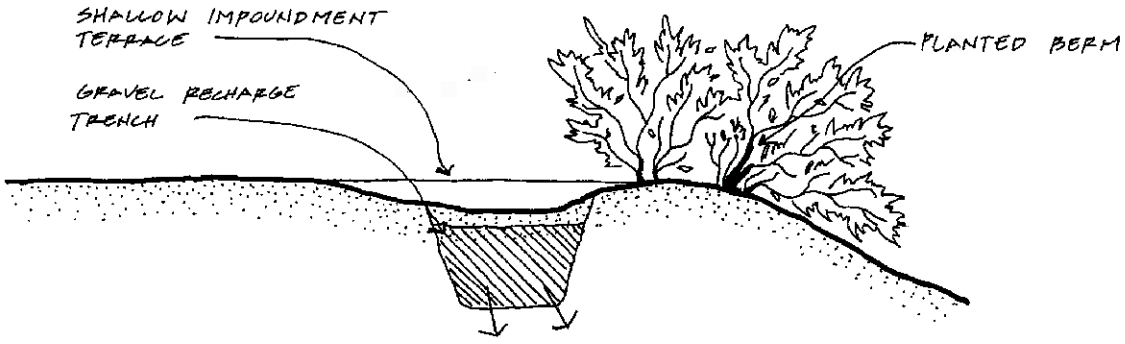
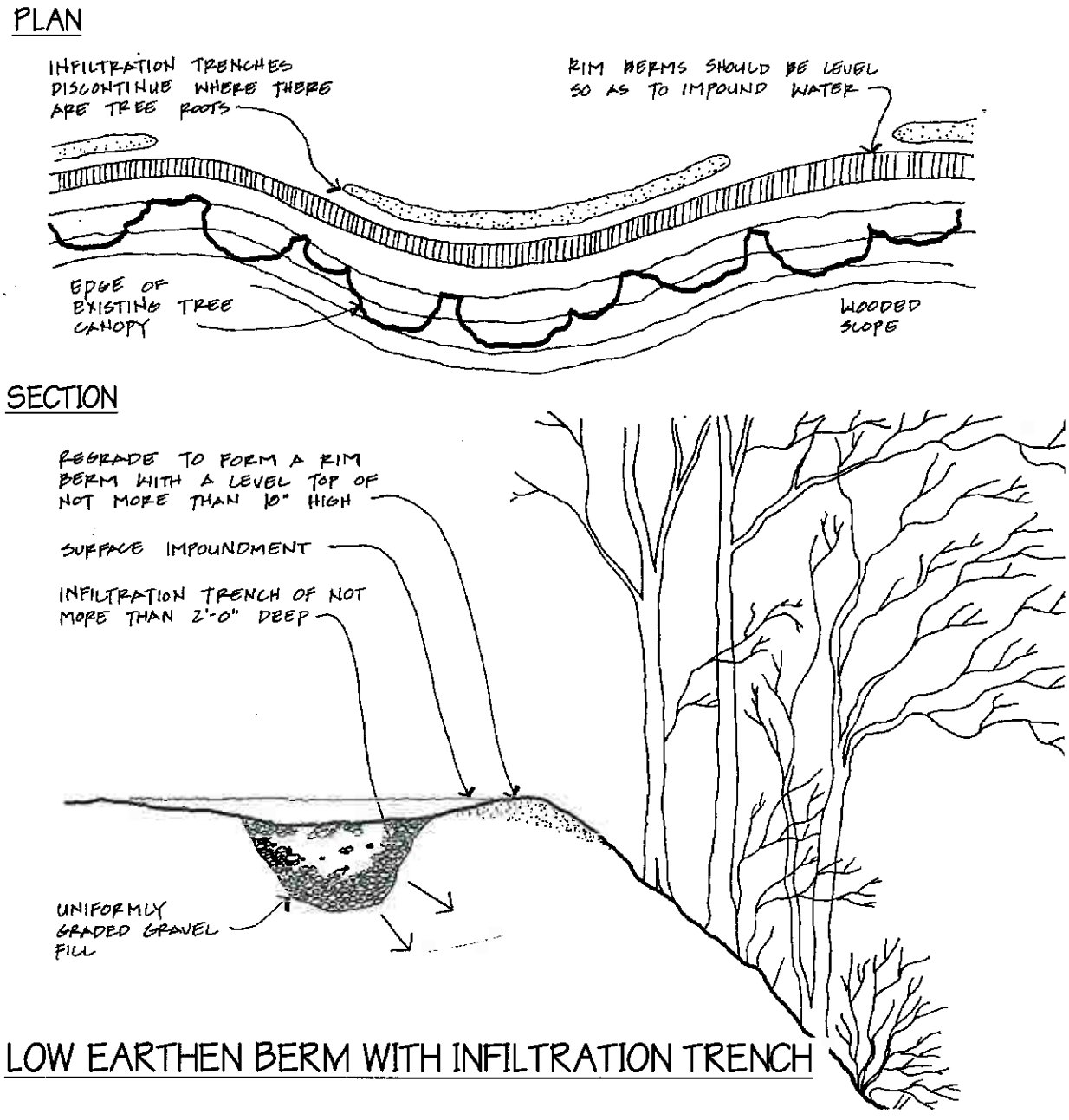


TYPICAL SHALLOW IMPOUNDMENT TERRACE

An important level of protection from stormwater runoff can be provided for a wooded slope by the creation of a low earthen berm and infiltration trench, located between the developed portion of the site and the forested slopes. The berm will reduce the frequency and velocity of overslope water movement and provide limited stormwater retention. It is critical that the berm is placed at right angles to the slope or it will convey water downslope. A trench can also be dug beyond the top of the slope, on the plateau area and filled with gravel to create a linear soak pit. Sediment must be controlled or the trench will silt in rapidly. Soil from the trench should be used to create the berm, separating the topsoil from the subsoil and then placed on top. The berm should be seeded and allowed to grow up into tall grasses and wildflowers to increase the roughness of the ground and slow movement of any water not retained.



LOW EARTHEN BERM WITH INFILTRATION TRENCH

Where gullies have formed, low wooden check dams can be built from tree trunks found on the site and used to reduce the velocity of runoff and encourage the deposition of sediment within the gully. These dams should be small and located at frequent intervals. Their purpose is to reduce the velocity - and eroding capacity of stormwater. The check dams also encourage the deposition of sediment in the runoff, along the length of the gully, rather then on a trail or the streambed. Complete gully restoration can only take place if the amount of stormwater runoff is reduced. The height of the dam should permit a flow of water over the dam or new channels will be cut at the sides.

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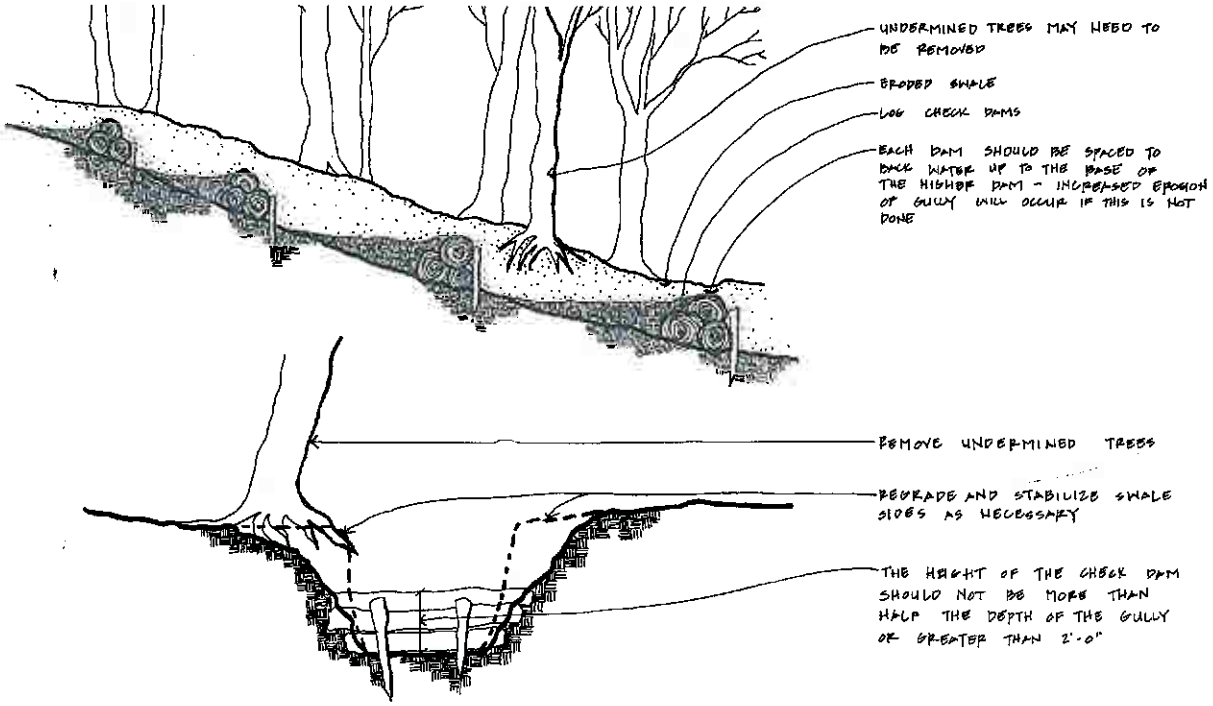
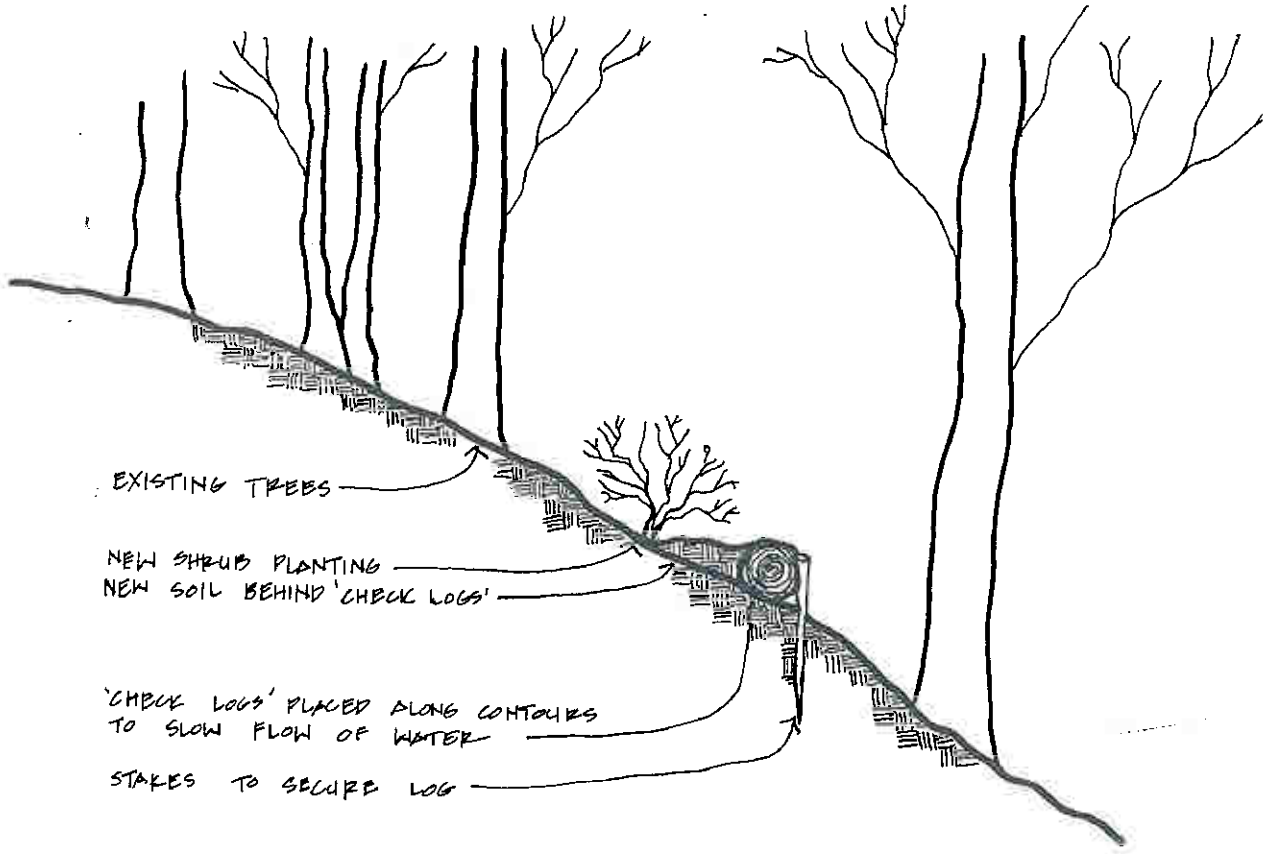


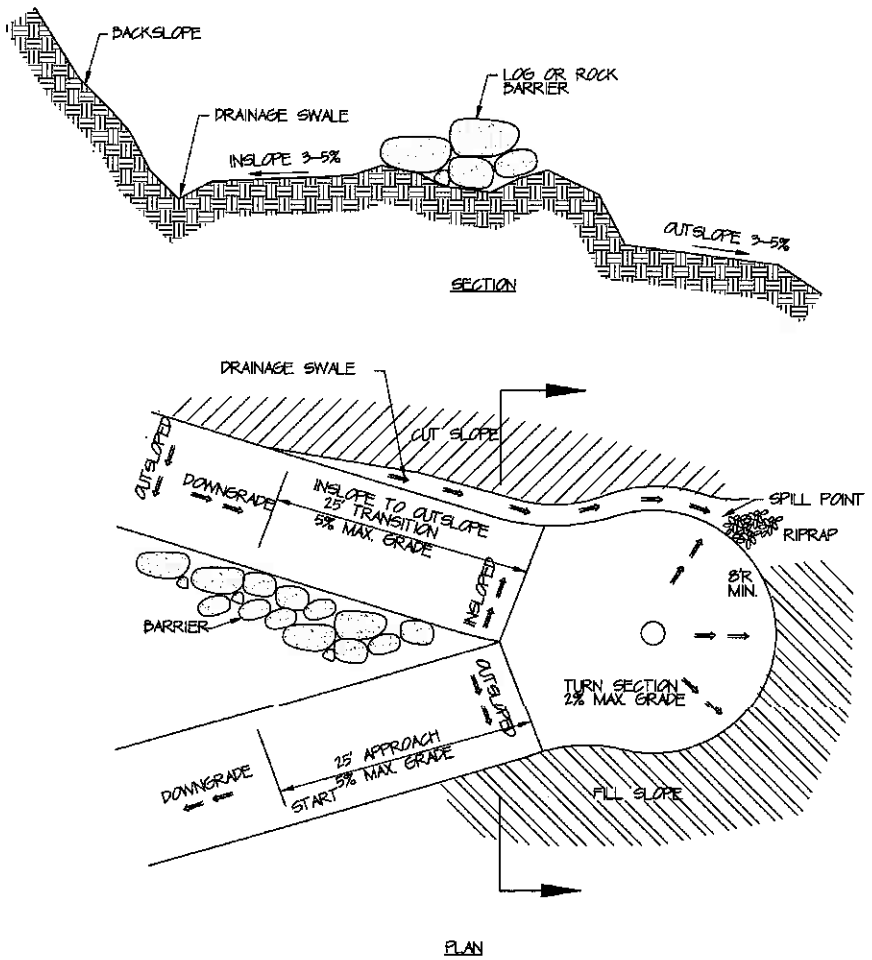
CHECK DAM IN GULLIES

In areas where no gully erosion has occurred, but bare soil and limited erosion are evident, a series of check logs along the contours can help control erosion. These low barriers will reduce the velocity of runoff and may retain water long enough to provide some recharge into the ground. By trapping both water and sediment, they encourage natural regeneration and provide good sites for replanting, particularly shrub and understory layers of the forest. The number and spacing of the check logs should be determined in the field depending on the steepness of the slope and the degree of erosion. Slope check logs can also be used as reinforcement on the downslope side of trails that are channeling stormwater and currently conveying runoff to the slope.

SECTION



CHECK LOG ON SLOPE



TYPICAL ROLLING CROWN SWITCHBACK

not to scale

Special Construction

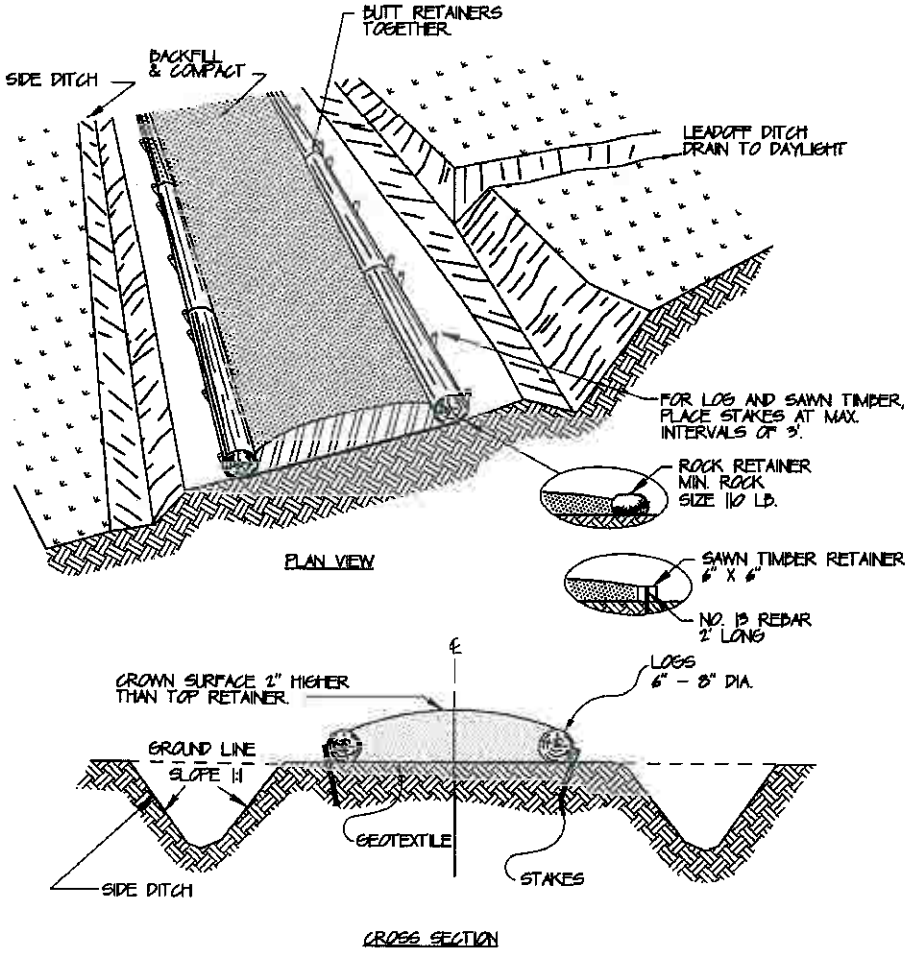
For trails in steep areas that must gain elevation in a short distance, it is best not to route the trail along the fall line of the hill. In these cases, a series of climbing turns or switchbacks should be used. A rolling crown switchback prevents shortcutting by having a rock barrier between the upper and lower sections of the trail. The trail is cross-sloped to direct water to a swale so that drainage gullies and rogue trails do not develop.

Trails that must cross wet areas may utilize a turnpike. A turnpike is a trail constructed with side ditches and an elevated tread. Suitable material excavated from the ditches or other imported material should be added to the trail tread and retained with stone or logs. Prior to constructing trails in wet areas, an environmental professional should determine if wetlands are present. The Pennsylvania Department of Environmental Protection (DEP) and the U.S. Army Corps of Engineers regulate construction in wetlands, and representatives from the agencies should be contacted for permitting requirements.

Where light to moderate use trails must cross a shallow stream, the crossing can be made using a ford. A ford consists of strategically placed stepping stones for pedestrians and a stabilized stone layer for horses and mountain bikes. Mountain bikes may negotiate clear water up to about 9" deep without much trouble (except for wet feet). Fords should be located in wide, shallow, slow moving areas of the stream, and should not be used during periods of high water. Before constructing a ford, consideration should be given to any special environmental conditions that may exist, and the approach should be designed to minimize trail and stream bank erosion. Like construction in wetlands, the installation of a stream ford may require a General Permit from PADEP.

For some small streams, a pipe culvert can be installed to carry the trail over the stream. There are several different materials available for pipe culverts, including reinforced concrete (RCP), vitrified clay pipe (VCP), plastic (PVC or HDPE), and corrugated metal pipe (CMP). The Philadelphia plumbing code does not permit plastic or corrugated metal pipe drainage applications. Ideally, culverts should be installed with a concrete or stone headwall at the upstream end and a rock apron at the downstream end to dissipate the energy of flowing water. Culverts should be properly sized by a design professional, and environmental permits may be required to install pipe in some locations.

In some cases, a bridge will be required to cross a stream or some other topographical feature. There are many options for bridge construction, ranging in expense from simple treated timber structures to elaborate pre-manufactured steel or concrete units. It is beyond the scope of this report to recommend specific bridge types for locations within the park.

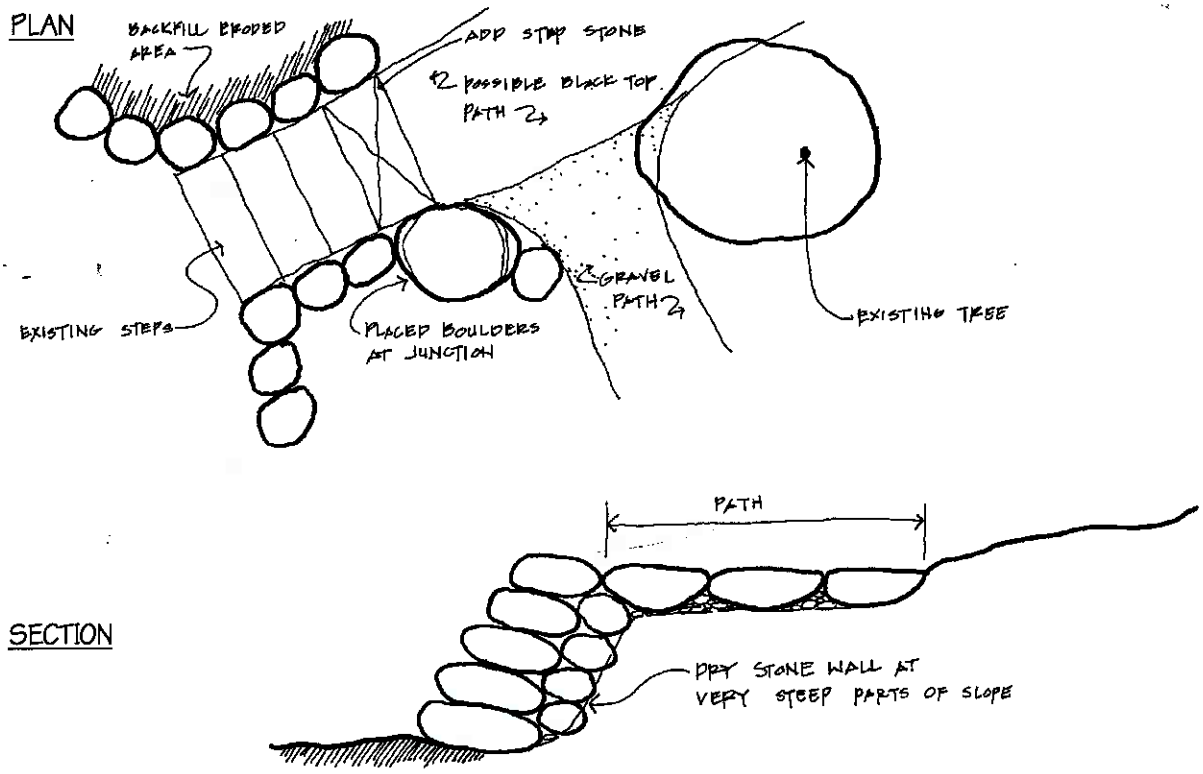


TYPICAL TURNPIKE

not to scale

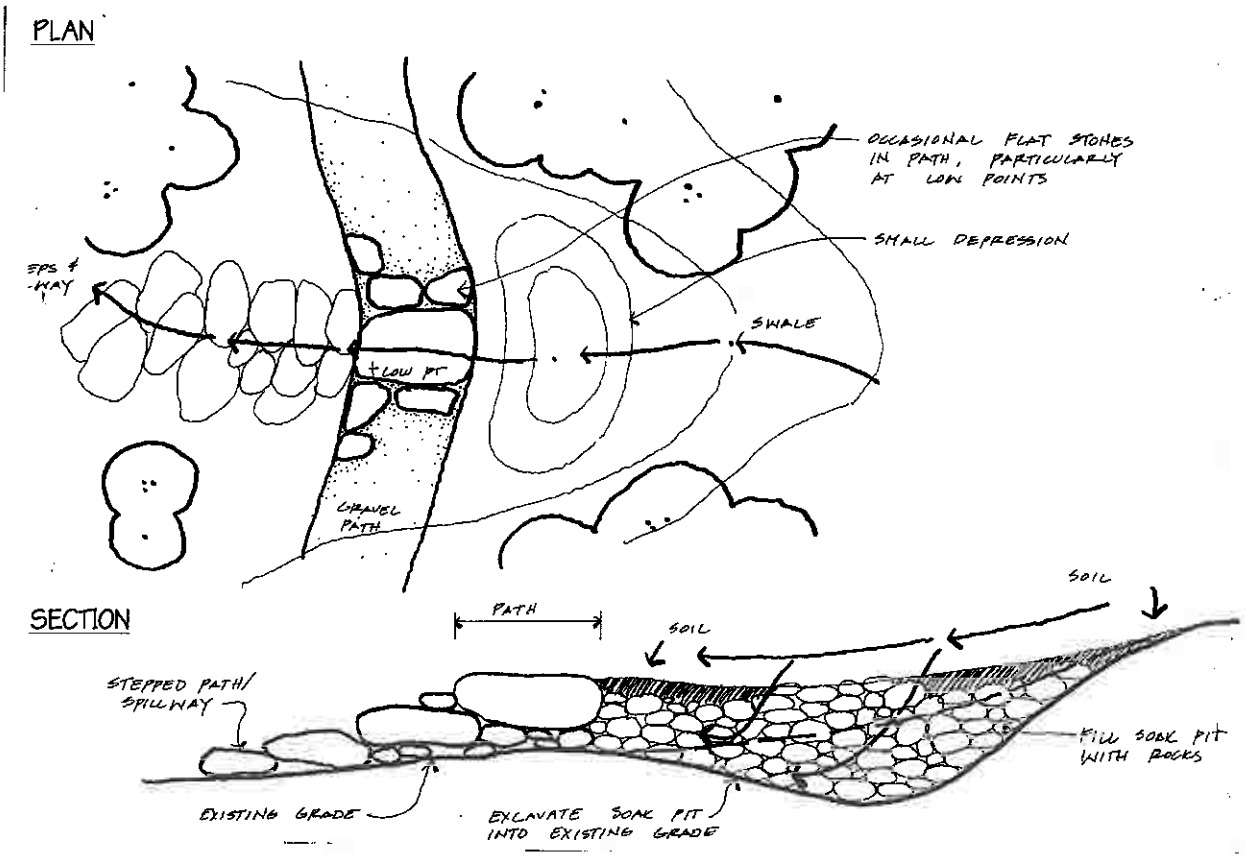
Retaining walls may be required in steep slope areas to stabilize trails. Walls constructed with native stone, when properly installed, can last for years with minimal maintenance. Large, professionally installed stone walls can be expensive compared to other retaining wall systems, but have the advantage of blending in with the natural surroundings. Some small walls may be within the capabilities of experienced park staff and volunteer construction crews. Alternates to stone walls include precast concrete blocks, timber or concrete cribbing, and cast-in-place concrete textured to look like stone. Retaining walls should be designed by a registered professional engineer.

DRY STONE WALL DETAIL



On steep cross slopes, dry stone walls can be constructed to support the trail edge and/or to reinforce the edges of steps. The trail should be graded to drain into the slope and backfilled with small rocks and coarse gravel to provide drainage and prevent damage to the dry wall by frost heave. Use large stones for the bottom of the wall that are set into the existing grade. Do not cut the existing roots of nearby trees for the foundations of the wall, but place the rocks carefully around them.

SPILLWAY DETAIL



Where runoff is concentrated in small valleys and swales along a trail, a spillway can be constructed with large flat rocks. The swale can be lined with rocks on the steeper banks until the slope lessens. If the topography allows, the run-off above the trail can also be reduced with small impoundments for detention and infiltration of stormwater.

Unpaved Trail Construction Crews and Equipment

Some of the parks, especially Pennypack, have an organized, experienced group of volunteers. Generally, the construction standards for unpaved trails presented here is within the capability of volunteer groups working under the guidance of an experienced leader. Some items, particularly rolling dips and other drainage structures, are much easier to construct with a small tilt-bladed bull-dozer/backhoe and a compactor. Because of the extensive work required to upgrade existing trails and construct new trails identified in this Master Plan, we recommend that a contractor or Fairmount Park Commission staff utilizing mechanized equipment be employed to complete the work in a consistent and timely manner. Volunteers could be used for regular trail maintenance and repair.

Trail Construction Guidelines – Paved Multi-Use Trails

Route Selection

When designing a paved trail, consideration should be given to the relatively higher speeds made possible by the improved surface qualities. The alignment should be carefully chosen to allow adequate sight distances in accordance with AASHTO guidelines.

Where trails intersect with roads or other travel ways, adequate measures including signage and striping should be implemented to warn both trail users and motorists of the potential traffic conflict. At intersections with low-use park service roads, it may be possible to grant trail users the right-of-way by placing stop signs on the road. Where park trails cross high-volume roads, it may be feasible to install pedestrian activated traffic signals. High-volume street crossings may require extensive traffic studies and regulatory approval, but if installed, could provide important links between trail segments. As with nonpaved trails, underground utilities should be located prior to designing, constructing, or maintaining a paved trail.

Width and Vertical Clearance

Trail width will vary depending on the projected type and number of users. Typically, the pavement on shared-use paved trails is 8'-12' wide, with a 3' unpaved shoulder on each side. the minimum vertical clearance should be 12' to allow for equestrians and maintenance vehicles.

Slopes

The maximum grade of an ADA accessible paved trail is the same as for a non-paved trail. However, careful consideration should be given to the definition of "trail". Some paved surfaces in the vicinity of buildings or other areas may fall under the more restrictive ADA slope and ramping requirements. A minimum grade of 1% should be held wherever possible to facilitate drainage. A cross slope of 2% will ensure positive drainage from the trail surface and meet the maximum cross slope presented in ADA guidelines.

Paved Trail Surfaces

The pavement section should be designed to support maintenance and emergency vehicles. When designing a paved trail, it may be necessary to obtain site-specific data regarding the soils in the area to properly design a pavement section.

The paved surface of trails typically consists of bituminous concrete (asphalt) or Portland cement concrete on a crushed aggregate base course. Bituminous pavement typically has a lower installation cost when compared to other paved trail surfaces. Bituminous pavement also has the advantage of a smooth surface, which may be a consideration in areas of heavy pedestrian and roller-blade use. Bituminous pavements will need periodic sealing and overlays to maintain the surface quality. Portland cement concrete may have a life-cycle cost advantage over bituminous pavement in some

areas. It also may provide a more uniform appearance for formal areas of the park. Like a city sidewalk, Portland cement pavement may require complete removal and replacement of cracked or damaged sections. Typical pavement sections for bituminous and Portland cement concrete have been shown.

Proper drainage is critical to ensure the longevity of any pavement surface. The options for draining a paved trail are similar to those used on roadways, and include inlets, storm sewers, vegetated swales, culverts, and pavement underdrains.

Paved Trail Construction Crews and Equipment

The construction of paved trails is not generally within the capabilities of volunteer groups. Because of the specialized equipment and expertise required, contractors should install paved trails.

Trail Maintenance Guidelines

Coordination and Planning

A key component of a trail maintenance program is the planning, prioritizing, coordination, and evaluation of repairs. Each park should have a staff member to document the condition of trails, prioritize trail projects, temporarily close trails as required, monitor the effectiveness of repairs, and refine the trail construction and maintenance standards based on the results. This individual could direct the efforts of volunteers and identify projects to be completed by the park staff or outside contractors.

Unpaved Trail Maintenance and Repair

After the trails are improved to the minimum standards described in this Master Plan, maintenance is essential to prevent trails from deterioration and to discourage the formation of parallel rogue trails. A regular maintenance program will help protect the park's investment in trails and increase the public value of the park.

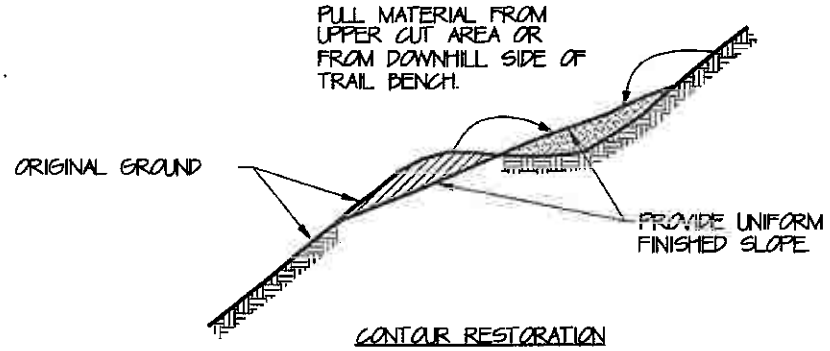
Typical trail maintenance activities include removal of invasive vegetation, cutting fallen trees, cleaning drainage structures, and removal of slough and berm on hillside trails. These items will need periodic attention even on the best trails. Items requiring repair include water bars, retaining walls, eroded areas, rutted areas, soft spots, and rogue parallel trails. The techniques for repair of these items are similar to those of new construction.

To stabilize eroded areas, the velocity of runoff flowing through the area should be slowed using water bars, dips, or check dams. The area may then be stabilized using straw blankets, revegetation mats, planting native vegetation, or installing a durable trail surface. Many of these techniques are outlined in the PADEP publication "Erosion and Sediment Pollution Control Manual".

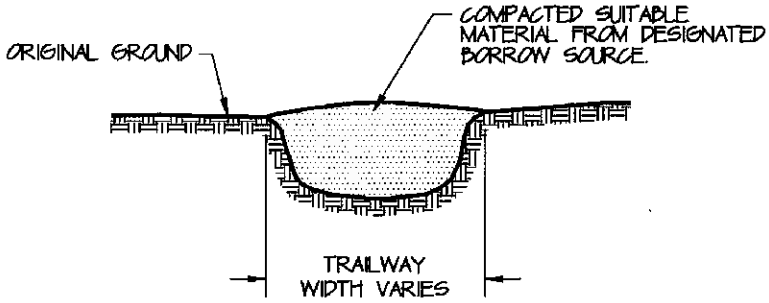
A regular maintenance schedule should be developed for each trail. The maintenance schedule will vary depending on the use, but at least once a year each trail should have invasive vegetation removed, the drainage structures cleaned, and slough and berms removed from hillside trails. The condition of each trail should be observed on a monthly basis and after any major storm to identify any emerging erosion problems and downed trees.

Trail maintenance and most repairs are within the capabilities of well-equipped volunteer groups working under experienced leadership. The opportunity for trail users to assist with maintenance may provide a positive experience and build community support for the parks. Some park systems in other areas of the country have used an "Adopt-a-Trail" program where individuals or groups perform maintenance and repairs on a particular segment of trails, assisted by park personnel for large repair tasks. Philadelphia's Friends' groups operate in a similar manner on a park-wide basis.

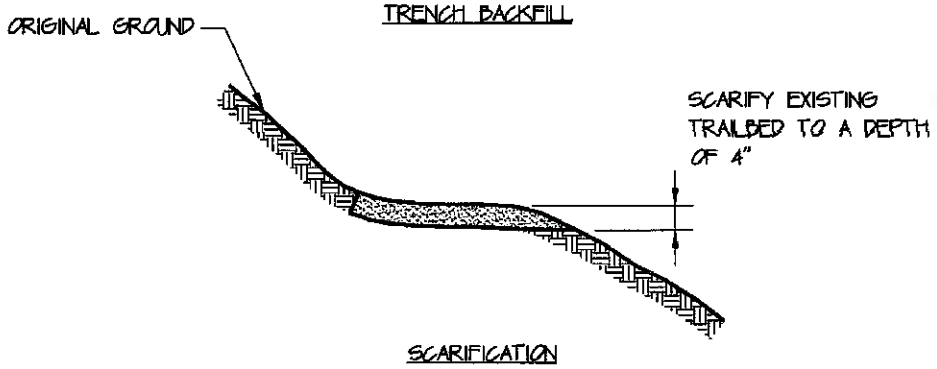
For heavy trail repairs and some maintenance, the park should consider providing a dedicated full-time 3-person crew including a laborer, laborer/operator, and foreman. This crew could work systemwide. A Trail Coordinator in each park would prioritize, monitor and coordinate the work to be done. Large jobs may require additional paid or volunteer labor. This crew may not be able to perform all maintenance tasks, but their performance should be evaluated to determine additional staffing requirements. Their equipment should include a small trail dozer, a motorized all-terrain materials handling truck (similar to those used for grounds maintenance at golf courses), a chain saw, and an assortment of hand tools including shovels, picks, pry bars, and a brush saw. The equipment may be transported between parks using a trailer and 1-ton truck. These employees could be scheduled to support the efforts of volunteers at various parks when required. In addition, a stockpile of stone, drainage pipe, geotextile, and other commonly used items at each park should be maintained.



CONTOUR RESTORATION



TRENCH BACKFILL



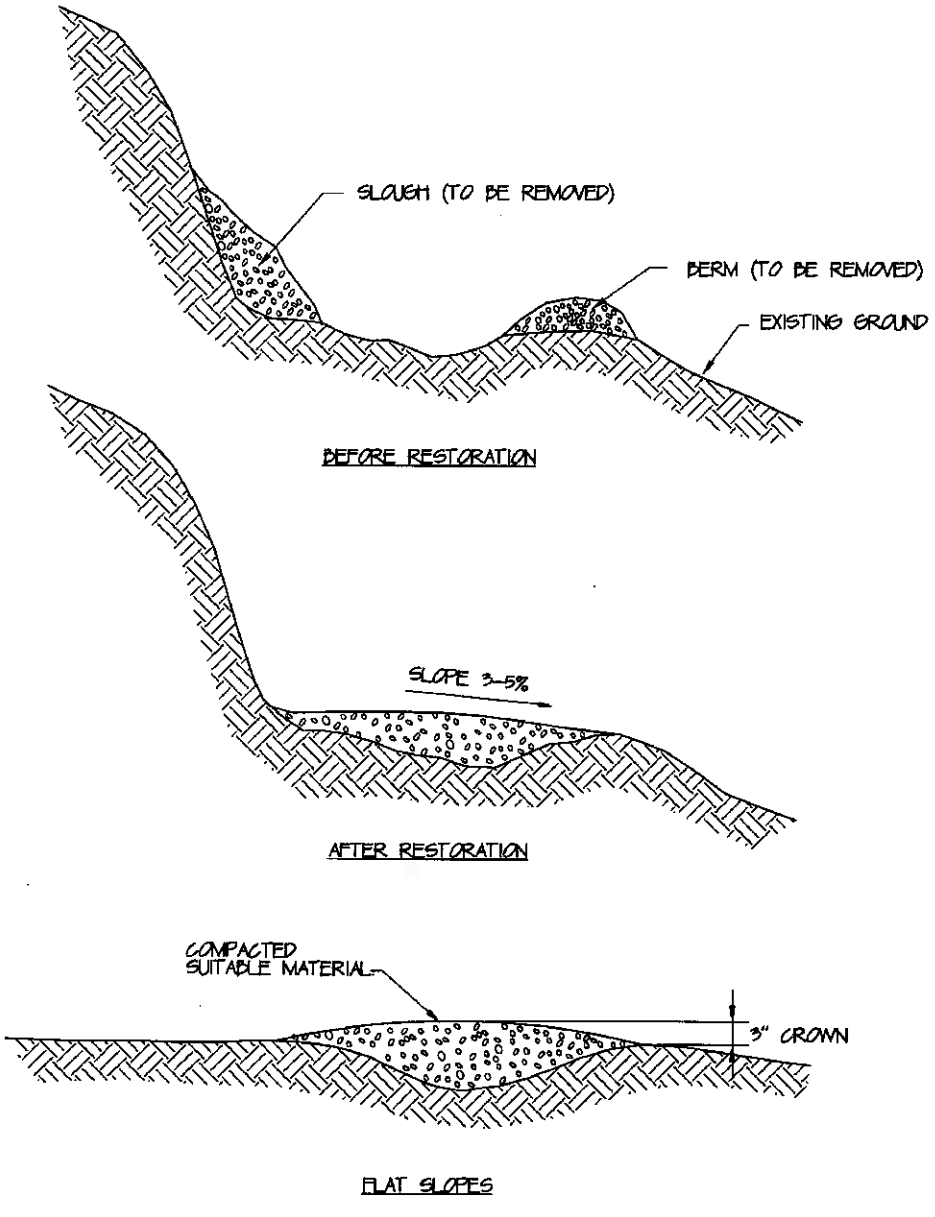
SCARIFICATION

NOTE:
ALL DISTURBED AREAS TO BE REVEGETATED WITH PLANT MATERIAL NATIVE TO PHILADELPHIA COUNTY.

TYPICAL TRAIL REMOVAL

Paved Trail Maintenance and Repair

In general, paved surfaces require less frequent maintenance than unpaved trails. Bituminous pavement should be resealed every 5 years with a coal tar emulsion sealant. Patching of small, cracked areas and potholes can be performed as required. Trail surfaces should be resurfaced every 10 years with a one-inch thick bituminous overlay. For concrete sidewalks, very little maintenance is required other than controlling vegetation at joints and edges. Damaged or cracked areas can be replaced in individual or multiple panels. Concrete sidewalks have a typical service life of 20-25 years between replacements. Pavement drainage structures should be maintained to prevent water from saturating the pavement subgrade, and the grading at shoulders should drain away from the pavement.



TYPICAL EXISTING TRAIL RESTORATION

The maintenance of paved trails is not generally accomplished with volunteer labor. The paid park trail maintenance crew could be used to perform periodic maintenance of pavements, including crack repair and drainage structure maintenance. Vegetation control could be performed as part of the park-wide grass cutting activities. For sealing, overlay, and replacement, it may be more economical to retain the services of a contractor.

Inspection of Bridges and Retaining Walls

All bridges and walls within the parks should be inspected on a routine basis. The scope of the inspections should be in accordance with National Bridge Inspection Standards. Qualified personnel should perform the inspections. The frequency of inspections should be determined by the inspection professional. Repairs should be implemented as required to maintain safe conditions.

View of bridge behind the Cobbs Creek Community Environmental Center.

Trail Maintenance Costs

Based on the trail maintenance recommendations discussed above, it is recommend that, at a minimum, the Park Commission provide one fully equipped heavy trail maintenance crew to be shared among the parks, a trail coordinator in each park, and a materials stockpile in each park. The effectiveness of their efforts should be monitored, and staffing levels should be adjusted as required.

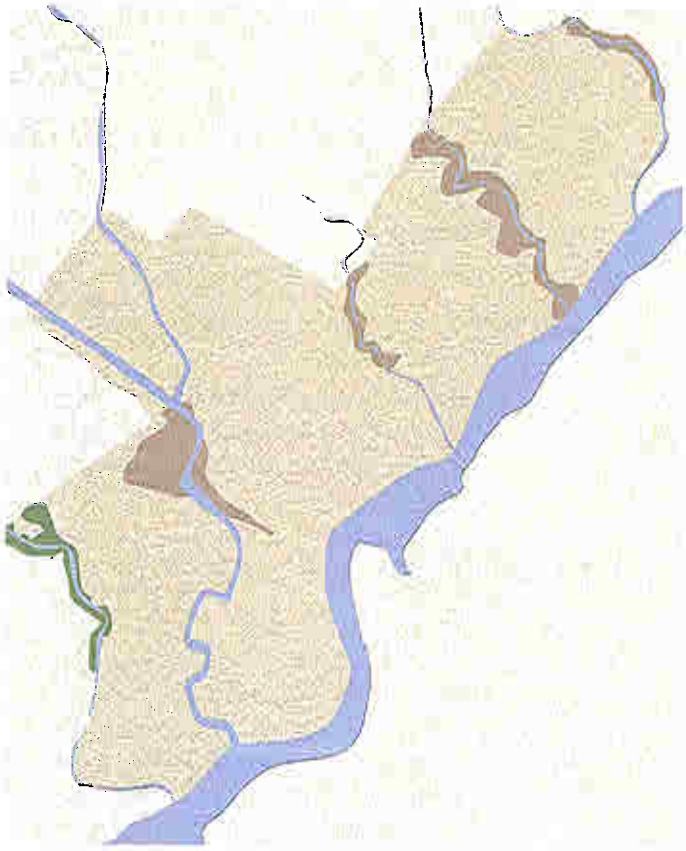
An estimated annual cost for a trail maintenance is as follows:

3-person trail crew, trail dozer, all-terrain trail vehicle, truck w/trailer	= $270,000
Part-time trail coordinator – each park* $30,000 x 4	= $ 120,000
(*Fairmount (East/West) Park, Cobbs Creek Park, Pennypack Park and Tacony Creek Park)	
Materials	= $ 40,000
Total	= $430,000

The above costs are approximate, based on estimated labor and equipment rates. The Park Commission should calculate the annual costs based on their labor and equipment rates, and consider the possibility of providing staff for trail coordination, or assigning these duties to existing personnel.

Section X

In Closing



In Closing

The Fairmount Park Commission is at an important time of transition. Public awareness and involvement with the parks is more necessary than ever in order to manage high levels of diverse use and to improve stewardship in the face of deteriorating environmental conditions. The natural environments of the parks have always been both cherished and threatened. Restoration of degraded lands was a key component of the creation of many of the parks. The Work Progress Administration (WPA) projects included trail installation and repair as well as trailside features throughout the park system. The 1983 Fairmount Park Master Plan, prepared by a team led by Wallace Roberts & Todd (WRT), warned of increasing environmental degradation and the need for better stewardship and increased funding. Funding by the City, however, has diminished over time, or at best, failed to keep pace with inflation and increased responsibilities. Volunteers and Friends groups have stepped in to provide basic services at a time of crisis in park and trail maintenance.

This report, prepared under the auspices of the Natural Lands Restoration and Environmental Education Program, has as its foundation the protection and restoration of the park's environmental resources. The objective is to confine the impacts of the trail systems to the trails themselves while creating a trail infrastructure that is adequate for the level of use. The documentation developed for this report as well as that completed by the Academy of Natural Sciences of Philadelphia provides a baseline for continuing evaluation of the trail system in a scientific manner.

Cooperation between City agencies is vital to the successful stewardship of the parks. The Streets Department manages urban drainage and storm water that at present has serious negative impacts on the parks. The Police are responsible for enforcement of prohibitions against the use of all-terrain vehicles within the park system, which has been unsatisfactory to date. The Recreation Department runs programs in the parks that have impacts on the landscape as well as the facilities. Cooperative efforts with adjacent townships and counties are vital to the success of stewardship efforts and user programs in Cobbs Creek, Tacony Creek, Pennypack and Poquessing Creek parks.

Cooperation with area organizations and non-profits also is crucial to being effective in the face of so monumental a task as park restoration. There is a great deal of valuable local expertise as well as numerous facilities in the area that could be integrated in the FPC programming with benefits to multiple organizations. Shared training with Friends groups and volunteers is one opportunity; shared databases another. Similarly demands for native nursery stock could be met cooperatively with joint efforts with area organizational projects such as the Seed to Tree Program of the Wissahickon Restoration Volunteers.

The individual partnerships between the park users and the park communities with the Fairmount Park Commission are the most important relationships. Involved and informed park users are central to this plan. They require good communication as well as education to foster appropriate use and positive user involvement. The positions of Park Rangers and Volunteer Coordinators are key to education and communication and require both expansion and secure funding. Restoration also should be a central theme of the educational programming at the Environmental Education Centers. Despite the challenges and large scope of the Trail Master Plan, the City has the support of local park users as well as an increasing regional base of visitors. The users value the natural environments of the parks above all other aspects and are eager to find ways to both restore the landscape and better manage their own recreational use of that landscape. Their attitudes are positive and the potential for even greater levels of volunteerism is high.

The most important benefit of park revitalization, though difficult to quantify, may be the contribution to community revitalization efforts. At every turn the workshop participants emphasized the relationship between the quality of the parks and a once, highly satisfactory quality of urban life. The renewal of these parks is an integral piece of local economic renewal.

Lastly, we wish to underscore the importance of the few remaining tracts of open space in the fabric of the City, especially forested sites adjacent to existing parks. Development of the remaining parcels in almost every instance will have severe negative impacts to the character of the parks as well as aggravate already high levels of environmental degradation. The workshop participants identified many currently vacant parcels that now function both aesthetically and ecologically as parkland that are proposed for imminent development and require City support and associated agency funding to proceed. Many of the same parcels were proposed for protection by the Natural Lands Trust. Each is important and should be given high priority for acquisition and/or protection. The acquisition of both land and easements is more important today than at any time in the face of ever diminishing habitat area within the City.

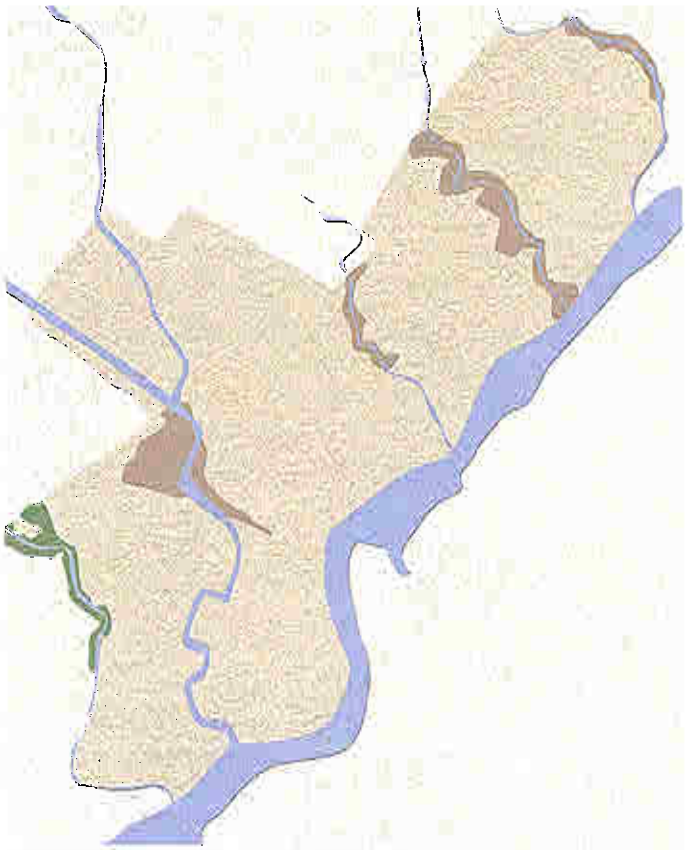
Appendices

Workshop Questionnaire

Summary of Comments from Questionnaire

Summary of Data from Questionnaire

References



TRAIL MASTER PLANS
Fairmount (East/West) Park, Cobbs Creek Park, Tacony Creek Park, Pennypack Park and Poquessing Park

Workshop Questionnaire
Winter 2000

This project is being undertaken by the Park's Natural Lands Restoration and Environmental Education Program, an initiative funded by the William Penn Foundation to restore natural areas throughout the Fairmount Park system and build a constituency for their protection through environmental education and community involvement. The development of the trail master plans will include consideration of past, present and future use patterns, ecological conditions, historical and cultural assets, and maintenance regimes.

Community participation and communication play significant roles in the development of the master plans. Community members will be engaged throughout this process in many ways, including park tours, public meetings, newsletters and the development of a website to track the progress of the master plans.

This workshop is one of several opportunities for community members to participate in the master plan process and assist the planners in capturing a wide range of ideas and concerns related to trail development.

1. Are you a resident of Philadelphia? Yes_____ No_____

   Please indicate your zip code. _____

2. Please indicate what park(s) you visit and how often? Please list the days and times that you use the park(s). *Circle all that apply.*

Park Name	***Day(s) of the week visited***	***Morning / Afternoon / Evening***
Cobbs Creek	Sun. M T W Th F Sat.	M A E
Fairmount	Sun. M T W Th F Sat.	M A E
Tacony	Sun. M T W Th F Sat.	M A E
Pennypack	Sun. M T W Th F Sat.	M A E
Poquessing	Sun. M T W Th F Sat.	M A E

3. How do you typically get to the park? *Check all that apply.*

   _____ Car _____ Bicycle _____ Foot _____ Public Transportation

4. If you come by car, where do you park?

   Park parking lot _____ Location _____

   Street parking _____ Location _____

   Other _____

5. Do you use the trail system? _____ Yes _____ No

If yes, how? *Check all that apply.*

Hiking _____ Biking _____ Walking _____ Jogging

Birding _____ Horse Back Riding _____ Other: _____

6. Do you go off-trail with a bicycle? _____ Yes _____ No
7. Do you go off-trail with a vehicle? _____ Yes _____ No
8. Do you go off-trail walking or hiking? _____ Yes _____ No

Please mark these areas on the attached map(s).

9. Describe below your favorite places/trails in the park. What is a special place or stretch of trail that you particularly like? Please mark this place on the attached map(s).

10. How would you rank the overall condition of the trail(s) in the park(s) you visit on a scale of 1 to 5 where 1= poor and 5= great?

Park Name	***Ranking (1 – 5)***	***Comments***
Cobbs Creek	1 2 3 4 5	_____
Fairmount	1 2 3 4 5	_____
Tacony	1 2 3 4 5	_____
Pennypack	1 2 3 4 5	_____
Poquessing	1 2 3 4 5	_____

11. Do you know the rules and regulations of the park? _____ Yes _____ No

If yes, how did you learn about the rules?

12. Does someone else's use of the trails conflict with your use? _____ Yes _____ No

Describe where and how often this occurs. *Please mark these areas on the attached map(s).*

13. Are there places on the trails that make you feel unsafe? _____ Yes _____ No

Describe those areas and why they make you feel unsafe. *Please mark these areas on the attached map(s).*

14. Are there areas of the park where you can't go now that you would like to explore? _____ Yes _____ No

If yes, describe why you cannot access these areas. *Please mark these areas on the attached map(s).*

15. Describe below what trail improvements would you recommend, and where? *Please mark these areas on the attached map(s).*

16. Do you belong to any organized activity group such as a bicycle or walking club? _____ Yes _____ No

If yes, please describe how your group uses the park and the trails.

17. Do you volunteer to work in the park? _____ Yes _____ No

If yes, please describe what you do as a volunteer. *Please mark the area(s) where you have volunteered on the attached map(s).*

18. Would you be interested in joining a volunteer program? _____ Yes _____ No

If yes, please fill out the information below.

Please circle in which park(s) you would like to volunteer.

Cobbs Creek ***Fairmount*** ***Tacony*** ***Pennypack*** ***Poquessing***

Today's Date: _____ Age (circle): 18 – 30 31 – 45 46 – 60 over 60

Name: _____ Gender: M F

Address: _____

_____

Home phone #: _____ Fax #: _____

Work phone #: _____ Email address: _____

Best time for telephone contact: _____

Please feel free to use the reverse side or the attached map(s) to add any other information you would like to share with us.

For more information about the trail master plans and how you can further participate in the process, please contact the park at 215.685.0274 or visit our website at **www.regiononline.com/~parktrails.**

Thank you for taking the time to complete this important survey!

Summary of Written Comments from User Questionnaires

The following comments were reprinted from the questionnaires that were collected during the workshops and public meetings conducted for the Trail Mater Plan Study.

Overall master plan seems comprehensive and solves many issues.

Fairmount Park master plan is OKAY!!...You have my support.

As someone that uses the park and is in it every day, I see very little evidence of any "trail master plan." If execution of this plan is financially limited or constrained, that's understandable but trail use by any particular group or activity can hardly be assessed until park personnel get out from behind the desks to do some legwork. In five years of living less than a block from the park, using it a minimum of twice a day, I can count the number of park personnel I've seen actually on the trail on one hand. It'll take more than driving around in an SUV to figure out what's going on out on the trails.

Some of the bikers and most of the horse people apparently don't have an appreciation for the damage they cause on dirt trails and don't recognize and/or don't care about the disturbance to wildlife that their activities cause...It may be that many of this group don't really understand what a restored natural woodland with diversity of flora & fauna could be like since they are accustomed to a park overrun with invasives, no real understory and very little diversity. Perhaps pictures...or even a trip... might educate them and/or lessen their resistance to necessary changes in their traditional trails.

Conflict arises when certain groups feel they are being shutout of parts of the park. Emphasis should be placed on educating these groups on the value of minimizing human impact on the park! All park users should understand the value of the park as a wildlife sanctuary.

I thoroughly enjoy the Pennypack and Wissahickon trial system. Mountain bikers, horse riders and hikers can all peacefully co-exist in the park system if simple rules of courtesy are followed. No one group should be favored over the other regardless of political or financial clout.

Wissahickon is a great place to MTB. It is one of the great recreational attractions of this city. Let's work together to keep it that way for bikers & everyone who uses this beautiful park.

Wissahickon bike trails are an incredible and important resource for the Philadelphia biking community.

I am committed to working to keep the park open to off road biking by working with all others.

Why not agree that the Wissahickon needs help and go about fixing it?...The Wissahickon is everyone's problem and everyone's joy. Let's voice our concerns...

Although I don't often use them, and never in summer, I think it's very important to maintain bicycle access to a select few single-track trails in the Wissahickon. At a minimum, it should be possible to ride a loop from Forbidden Drive and Lincoln Drive along one side of the gorge, and back on the other side... ...Cyclists should also be educated about the importance of riding only when the trails are relatively dry or frozen.

As mountain bikers, we know that there are many destructive forces at work in the park. As far as I'm concerned, mountain bikes are responsible for damaged trails in only one situation – when we bike in wet conditions. Trails could be closed in those situations. Below freezing, everything should be open.

If MTBs are to be allowed in the Wissahickon Park, they must be strictly regulated. There should be a steep licensing fee to pay for rangers to oversee this. My impression is that the MTBs care only for their unfettered adrenaline buzz of conquering the terrain in the Wissahickon Gorge. They seem to feel they have a right to ride their bikes anywhere. If they have to pay a fee they will feel even more entitled to tell you to get out of the way because they paid for the right. They are in the park in the mud, in the snow, in the cross-country ski tracks, in the horseways, and in your face!

Not all cyclists are irresponsible kids who race around inconsiderate of others. The trails are an invaluable resource for those of us stuck in the city. I'd think it would be much better to try to keep regulating the usage of the trails by cyclists than to ban it altogether (then you'd just have an increased incidence of reckless irresponsible cyclists using them).

...The Friends of the Wissahickon (FOW) is in general not opposed to mtbs having access to the park. In fact in the next issue of the FOW newsletter, there is research and recommendations from a biker member of the board of the FOW stating that, overall, the current approach is working, but there is still need for more education.

It would be a major blow to the recreational options that Philadelphia has to offer if Fairmount Park were closed to mountain bikes, particularly the Wissahickon area.

Off-road biking in the Wissahickon is one of Philadelphia's biggest and best assets. Do not prohibit off-road biking in the Wissahickon!!

I would like to see the continued management of the trails in the Wissahickon Park, so that all users can continue to enjoy the park. I have contributed money in the past (in the form of a donation for the trail permit) and I will continue to do so.

Please continue to make the Fairmount Park open to mountain bikers.

Survey Data

Trail Master Plan Workshops and Public Meetings
Summary of Responses to User Questionnaire

1. Are you a resident of Philadelphia?

Mount Laurel, NJ	08054	
Camden, NJ	08107	
Doylestown, PA	18901	
Ambler, PA	19002	
Glenside, PA	19038	
Merion Station, PA	19066	
Narberth, PA	19072	
Philadelphia/Mid City West, PA	19103	
Philadelphia, PA	19106	
Philadelphia, PA	19111	8
Philadelphia, PA	19115	4
Philadelphia, PA	19116	2
Philadelphia, PA	19119	
Philadelphia, PA	19120	7
Philadelphia, PA	19121	1
Philadelphia, PA	19124	1
Philadelphia/Manayunk, PA	19127	
Philadelphia, PA	19130	1
Philadelphia, PA	19131	1
Philadelphia, PA	19136	4
Philadelphia, PA	19139	
Philadelphia, PA	19143	
Philadelphia, PA	19144	
Philadelphia, PA	19146	
Philadelphia, PA	19147	
Philadelphia/Overbrook Hills, PA	19151	2
Philadelphia, PA	19152	1
Philadelphia, PA	19154	2
No Zip Given	00000	1
		35 Total Number of Respondents

2. Please indicate what park(s) you visit and how often?

	# of Responses Per Park	Avg # of Times/Wk
Cobbs Creek	3	1
Fairmount	8	3
Tacony	8	5
Pennypack	23	5
Poquessing	4	5
	46	4

3. How do you typically get to the park?

Car	21
Bike	19
On Foot	24
Public Transportation	4

4. If you come by car, where do you park?

		Location
Parking Lot	1	Azalea Garden
	1	Black Rd.
	1	Dairy Fields for soccer
	3	Environmental Center
	1	Fairmount
	2	Krewstown
	3	Newtown Ave
	4	Pine Rd.
	3	Rhawn St.
	1	Stables near Chestnut Hill College
	1	Stanwood St.
	3	Verree
	1	Lots
		Art Museum
		Kelly Drive
		Lincoln Drive
		Valley Green
		West Bells Mill Rd.
	25	
Street Parking	2	Crescentville Rd.
	1	Frankford Ave.
	1	Godfrey
	1	Rising Ave., North of Chew
	2	Tabor Rd.
		Near Philadelphia Canoe Club
		Ridge Ave.
	7	
Other	1	Shopping center lot near Frankford Ave. entrance
	1	
	2	

5. Do you use the trail system? For what activity?

Hiking	18	
Biking	33	
Walking	18	
Jogging	3	
Birding	7	
Horseback Riding	1	
Other	1	Run with dog
		Snow ski
	1	Trail repair work

	Yes	No
6. Do you go off-trail with a bike?	4	27
7. Do you go off-trail with a vehicle?	1	31
8. Do you go off-trail walking/hiking?	22	12
	27	70

9. Describe below your favorite places/trails in the park.

All
Cobbs - trail along creek between Sherwood & Malvern Rds.
Fairmount - Forbidden Drive
Fairmount - Kelly Drive
Fairmount - Lemon Hill
Fairmount - Schuylkill to Valley Forge
Fairmount - West River Drive
Fairmount - Wissahickon Valley Park
Fairmount, Wissahickon - Bike trails along Wissahickon Creek
Fairmount, Wissahickon - Gorge Loop
Fairmount, Wissahickon - Green trail
Fairmount, Wissahickon - Kitchens Lane
Fairmount, Wissahickon - Little used roads & single track bike trails
Fairmount, Wissahickon - Mountain bike trails
Fairmount, Wissahickon - Upper
Fairmount, Wissahickon - Upper, around Valley Green Inn
Fairmount, Wissahickon Valley north to Andorra
Fairmount, Wissahicon - Indian Trail
Pennypack - Between Pine Rd. & Krewstown Rd. - all trails
Pennypack - Between Pine Rd. & Tabor Rd. - paths
Pennypack - Buselton Ave., north
Pennypack - Frankford Pennypack - Frankford Ave., north
Pennypack - Near bridges
Pennypack - Rhawn St Pennypack - Rhawn Street to Neshaminy Falls
Poquessing - Bike Trails
Poquessing Creek & Byberry Creek merge
Tacony - Tabor Ave. north toward Rising Sun
Tacony Creek (both sides) north of Adams Ave.

10. How would you rank the overall condition of the trail(s) in the park(s) you visit on a scale of 1 to 5 where 1= poor and 5= great?

	1	2	3	4	5
Cobbs Creek	2		1		
Fairmount		1	1		2
Tacony	1	1	6		
Pennypack		1	10	11	1
Poquessing	1	1			
	4	4	18	11	3

11. Do you know the rules and regulations of the park?

Yes	No
28	6

How rules were learned

Signs	16
Rule booklets	3
Parkwatch/FTCP member/FOPP	10
Word of mouth	2
Common sense	1
Park employees	1
Newspaper	
No answer	9

12. Does someone else's use of the trails conflict with your use?

Yes	No
16	15

Type of use conflicting with respondents use

5	Bikes
7	Motorbike/ATV
1	Swimming hole (Crescentville)
	Swimming at Adams Ave. bridge in Tacony
1	Roller bladers
1	Cars
1	Horseback riders
1	Dogs off leash
1	Groups of people
2	On weekends
	Hikers

13. Are there places on the trails that make you feel unsafe?

Yes	No
14	17

Areas considered unsafe

Cobbs Creek & Wissahickon in sections after dark - illegal activity
Fairmount: Near Ridge Ave. bus stop
Fairmount: On drives where cars are
Fairmount: Small trails of Wissahickon for hikers & horses when bikers come through
Fairmount: Upper Wissahickon trials mountain bikers - aggressive & dangerous
General: At night
General: Overgrown/deserted areas
General: Poorly lit areas (e.g., tunnel north of Rising Sun)
General: Potholes
General: Wooded areas
General: Motorbikes
Pennypack: Frankford Ave. to Delaware River, where beer bottles are strewn
Pennypack: Where young people gather
Poquessing: South of the boulevard
Tacony: Crossing Rising Sun Ave.
Tacony: Near certain neighborhoods
Tacony: Under Tabor Ave. bridge

14. Are there areas of the park where you can't go now that you would like to explore?

Yes	No
8	20

Reason

Cheltenham border	1
Overgrown Trail	1
Paths washed away	1

15. Describe trail improvements that you would recommend.

Access by park & police vehicles should be through locked gates
Address problems of rogue trails
Amenities
Amenities - Restrooms
Bridges as connectors to Bucks County
Canadian geese control
Charge a fee to help maintain trails
Clean up / remove grafitti, litter
Close trails to bikes & horses in wet conditions
Cobbs Creek : Creek trail between Sherwood & Malvern
Create a new trail to connect Tacony, Pennypack & Poquessing parks
Emphasize importance of park as wildlife sanctuary
Erosion - prevent/repair by stream
Erosion/run-off - control
Fairmount, Wissahickon:Control & regulate bikes on the upper trails of the Wissahickon
Fairmount: Belmont Plateau racing trails - don't tame down
Fairmount: Drain near Ridge Ave. bus stop is often clogged
Fairmount: Need serious 4-wheeler & dump truck barriers
Fairmount: Pedestrian connections at Kelly Drive & Lemon Hill at Azalea Garden & unpaved trail of Belmont Plateau - keep open for multi-use
Mile markers
More park rangers
Park entrances should be attractive, but too narrow for motor vehicles, with warning signs prohibiting ATVs
Paved trails - more & linkages systemwide
Paving, less - stone paths rather than asphalt - better for trees
Pennypack: Above boulevard dam
Pennypack: Add stone & dirt, and on high trails
Pennypack: Build trail from Neshaminy Falls to Rhawn St.
Pennypack: Crossings - add more over the Pennypack
Pennypack: Expand by purchasing additional land
Pennypack: Keep trails & creek crossing between Krewstown & Pine Roads open to equestrians
Pennypack: Mill near Pegasus Stables
Pennypack: Tabor exit
Pennypack: Trails around the Environmental Center - closing to bikes & horses a good idea in order to create nature sanctuary
Pennypack: Trails around the Environmental Center/HVRDA-Klinehouse - keep open to horses, need access to facilities
Pennypack: Unpaved trails on south side of Pennypack from Roosevelt Blvd to Frankford
Remove abandoned cars
Remove tree trunks
Rotating closures of heavily used trails, with maintenance occurring during those times
Tacony: Create safe connection across Adams Rd
Tacony: Pave north of Adams Ave., north of second footbridge
Tacony: Widen paved trail, 2-3 feet
Tacony: Is too narrow for an elaborate trail system. Improve the quality of existing trails.

16. Do you belong to any organized activity group?

Yes	No
9	23

Group activites	
Maintenance of trails	3
Testing creek water	1
Cleanup	3
Cutting vines	1
Walking/biking	1

17. Do you volunteer to work in the park?

Yes	No
25	6

Work performed	
FOPP	2
Clean up	13
Security	1
Water testing	1
Trail repair	2
Plant trees	2
Weed control	1
Park watch	1
Recycling	1

18. Would you be interested in joining a volunteer program?

Yes	No
14	3

Preferred park for volunteer work	
Cobbs Creek	2
Fairmount	1
Tacony	2
Pennypack	10
Poquessing	4

Cobbs Creek Community Environmental Education Center

4601 Market Street, Second Floor
Philadelphia, PA 19139
PHONE: 215-471-2223
FAX: 215-471-2231
E-mail: ccw7@psu.edu
http://www.ntr.net/~reddin/CobbsCreek.html

Issues for consideration in Trails Master Plan
Submitted June 14, 2000
Final Public Meeting, Committee Room / Memorial Hall

With the opening of the Cobbs Creek Community Environmental Education Center (CCCEEC) anticipated in Fall/Winter 2000, consideration should be given to creating a "protected" area of the park between Spruce Street (Marshall Road) and Baltimore Avenue for use by visitors to the CCCEEC and for the conduct of interpretive and educational activities to be directed by staff of the Fairmount Park Environmental Education Division and/or the Cobbs Creek Community Environmental Education Center, Inc. Accordingly, and anticipating that the corridor from Market Street to Baltimore Avenue will be an extremely high use area, the following issues deserve careful consideration within these boundaries:

- Limiting access to this area during hours when the CCCEEC is closed. (Gates, etc.)
- Developing interpretive trails with ample opportunities for observation of natural habitats, riparian forest, wetlands, etc.
- Handicap access, including facility for interpretive trails accessible to the blind and deaf.
- Ample parking for visitors to the CCCEEC and neighboring recreation facilities.
- Limiting access to hillside dumping sites.
- Gateways at Spruce Street and Baltimore Avenue in addition to those now planned at Market Street and Catherine Street.

For maximum community acceptance, we strongly suggest:

- A clear, concise report to the public delineating project(s), stages, start dates, completion dates, etc.
- An opportunity for public comment after release of the final draft plan, with expanded public outreach.
- A substantial program for local contracting and employment in the implementation of the plan.
- Creation of a soccer field in the meadow across the creek from the CCCEEC.

We would welcome the opportunity to discuss any of these recommendations in greater detail, or any issues relative to this section of the park. Please contact Alan Fastman, Executive Director at the address or numbers above. Thank you.

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