



US Army Corps  
of Engineers  
Baltimore District

# IMPROVEMENT TO PATAPSCO RIVER OPEN SPACE – CONCEPT DESIGN/CONSTRAINTS AND OPPORTUNITIES

Ellicott City, Howard County, Maryland

---



---

**January 2005**

*prepared for*  
**Howard County Department of Recreation and Parks**  
8360 Court Avenue  
Ellicott City, MD 21043

*prepared by*  
**U.S. Army Corps of Engineers**  
**Baltimore District**  
P.O. Box 1715  
Baltimore, MD 21203

**IMPROVEMENT TO PATAPSCO RIVER OPEN  
SPACE –  
CONCEPT DESIGN/CONSTRAINTS AND  
OPPORTUNITIES**

**ELLICOTT CITY, HOWARD COUNTY  
MARYLAND**



*prepared for*

**Howard County Department of Recreation and Parks  
8360 Court Avenue  
Ellicott City, MD 21043**

*prepared by*

**U.S. Army Corps of Engineers  
Baltimore District  
P.O. Box 1715  
Baltimore, MD 21203**

and

**The Louis Berger Group, Inc.  
2300 N Street, NW  
Washington, DC 20037**

**January 2005**

## EXECUTIVE SUMMARY

Under the Planning Assistance to States Program, as authorized by Section 22 of the Water Resources Development Act of 1974, the U.S. Army Corps of Engineers, Baltimore District, in Sponsorship with Howard County, Department of Recreation and Parks, has undertaken this study as part of the initiative to enhance the entrance visibility to the Ellicott City Main Street Historic District and to provide public use opportunities for the benefit of both local residents and tourists. The purpose of this report is to provide a review of the existing conditions of the study area, a discussion of the environmental and recreational constraints and opportunities, the formulation of a preferred design concept, and finally, conclusions and recommendations for the implementation of the preferred design concept.

The design objective for the study area was to enhance the overall character of the riparian area and create an opportunity for public use. Additionally, the design concept was to achieve the following three goals: (1) create passive recreational use opportunities along the Patapsco River; (2) enhance the environmental character of the riparian corridor; and (3) maintain the natural floodplain of the Patapsco River.

The study area is roughly a 1-acre parcel of land located on the west bank of the Patapsco River in Historic Ellicott City, Maryland. The site is just north of the MD Route 144 Bridge spanning the Patapsco River and a commercial property. The Patapsco River defines the eastern boundary of the study area and the B&O Railroad defines the western boundary. A large section of the site is currently used as a metered parking lot.

Due to limited site accessibility, the site is not currently used for recreational purposes by the local residents or visiting tourists. However in recent years, due to its accessibility and seclusion from the main section of Historic Ellicott City, the site has provided a place for the homeless and an area for illegal drinking. Trash has also accumulated within the riparian area due to above mention activities, illegal dumping, and upstream littering.

To determine the potential constraints and opportunities for conversion of the study area into passive recreation land, the following resource areas were investigated: land use/zoning, topography, water resources, vegetation, soils, wildlife and wildlife habitat, cultural resources, and utility lines. Background data for each above resource areas was collected from site reconnaissance, analysis of Howard County GIS data, and the local community via two public meetings (pre design concept and post design concept). Based on the collected information it was determined that the three major limiting factors affecting use of this site for passive recreational activities were as follows:

- (1) the site is located in the 100-year floodplain;
- (2) the site is located in a designated riparian buffer area (50 feet of a perennial streambank) with substantial exotic invasive species that are choking the native habitat and severely limiting the view of the river from the existing parking lot ; and
- (3) a 30-inch sewer main paralleling the Patapsco River bisects the site and other physical debris.

Based on the objective and goals established, the study area's constraints and opportunities, and the consideration of the public's input, four design concepts were envisioned. The design concepts are based on a series of elevated boardwalks/piers that create a small boardwalk cantilevering from the existing parking lot retaining wall with additional boardwalk outshoots that allows visitors to explore the edge of the Patapsco River. The elevated boardwalks limit the disturbance to the riparian area and do not adversely impact the existing floodplain. The small elevated boardwalk turns into both an American Disabilities Act (ADA)-compliant ramp and stairs that allows visitors to access the northern section of the site for fishing and kayak and canoe entry and removal.

The four design concepts consist of various combinations of the following 10 design elements:

- **Element 1:** A semi-pervious sidewalk would be located on the northern side of the entrance road for the parking lot.
- **Element 2:** A park sign would be located on the northwest corner of entrance to the parking lot and Main Street.
- **Element 3:** From the sidewalk an elevated boardwalk, parallel to the MD Route 144 Bridge, would extend to the edge of the Patapsco River.
- **Element 4:** An elevated boardwalk would cantilever from the existing parking lot retaining wall.
- **Element 5:** An elevated D-shaped boardwalk that is accessible from the sidewalk and the southern terminus of Element 4. Educational interpretive markers highlighting events of historical significance in Ellicott City would be located on this element.
- **Element 6:** Another elevated boardwalk, perpendicular to the existing retaining wall, would extend from the boardwalk cantilevering from the retaining wall to the edge of the Patapsco River. This element would allow for fishing and an opportunity for persons with limited mobility to access the river's edge for viewing or fishing.
- **Element 7:** Another elevated D-shape boardwalk would extend from the boardwalk cantilevering from the retaining wall towards the river's edge. Educational interpretive markers highlighting significant environmental elements of the site would be located on this element.
- **Element 8:** Another elevated boardwalk, perpendicular to the existing retaining wall, would extend from the boardwalk cantilevering from the retaining wall to the edge of the Patapsco River.
- **Element 9:** An ADA-compliant ramp and stairs would provide access to the northern section of the study area.
- **Element 10:** Northern section of the study area is a small open space area created by removing an existing concrete area created by illegal dumping.

This report examines the resources within the study area are described, site constraints and opportunities are discussed, formulates four concept plans using the aforementioned elements, and developed estimated costs for each concept.

**TABLE OF CONTENTS**

**1.0 INTRODUCTION..... 1-1**

**1.1 STUDY PURPOSE ..... 1-1**

**1.2 STUDY AUTHORITY ..... 1-1**

**1.3 LOCATION..... 1-1**

**1.4 STUDY AREA HISTORY ..... 1-3**

**1.5 STUDY METHODOLOGY..... 1-4**

**2.0 SITE FEATURES – OPPORTUNITIES AND CONSTRAINTS ..... 2-1**

**2.1 ZONING AND LAND USE..... 2-1**

**2.2 TOPOGRAPHY ..... 2-1**

**2.3 WATER RESOURCES ..... 2-1**

**2.4 VEGETATION ..... 2-3**

**2.5 SOILS..... 2-7**

**2.6 WILDLIFE AND WILDLIFE HABITAT ..... 2-7**

**2.7 CULTURAL RESOURCES ..... 2-7**

**2.8 UTILITIES..... 2-8**

**2.9 SUMMARY OF STUDY AREA CONSTRAINTS AND OPPORTUNITIES ..... 2-11**

**3.0 DESIGN CONCEPT..... 3-1**

**3.1 DESIGN ELEMENTS ..... 3-1**

**3.2 DESIGN CONCEPTS ..... 3-6**

        3.2.1 Design Concept One: Design Elements 1, 2, 4, 9, and 10 ..... 3-7

        3.2.2 Design Concept Two: Design Elements 1, 2, 3, 4, 9, and 10 ..... 3-8

        3.2.3 Design Concept Three: Design Elements 1, 2, 3, 4, 5, 7, 9, and 10 ..... 3-9

        3.2.4 Design Concept Four: All 10 Design Elements..... 3-10

<b>3.3 LANDSCAPING OPPORTUNITIES/RECOMMENDATIONS .....</b>	<b>3-13</b>
3.3.1 Recommended Trees.....	3-13
3.3.2 Recommended Shrubs .....	3-13
3.3.3 Recommended Herbaceous Understory.....	3-14
3.3.4 Wildflower .....	3-15
3.3.5 Management of Exotic Invasive Species .....	3-16
<b>3.4 CONSTRUCTION COSTS .....</b>	<b>3-16</b>
<b>4.0 CONCLUSIONS AND RECOMMENDATION.....</b>	<b>4-1</b>
<b>LIST OF FIGURES</b>	
Figure 1-1: Site Location Map.....	1-2
Figure 2-1: Site Topography (5 Feet Intervals) .....	2-2
Figure 2-2: Typical Site Cross Section .....	2-3
Figure 2-3: 100-Year Floodplain .....	2-4
Figure 2-4: View of the Study Area from the Route 144 Bridge.....	2-5
Figure 2-5: View of Vegetated Area between the Parking Lot and the River’s Edge.....	2-5
Figure 2-6: Mallard Ducks Swimming in Study Area.....	2-8
Figure 2-7: Cultural Resources .....	2-9
Figure 2-8: Utilities/Infrastructure.....	2-10
Figure 3-1: Design Element 1 .....	3-1
Figure 3-2: Design Element 2 .....	3-2
Figure 3-3: Design Element 3 .....	3-2
Figure 3-4: Design Element 4 .....	3-3
Figure 3-5: Design Element 5 .....	3-3
Figure 3-6: Design Element 6.....	3-4
Figure 3-7: Design Element 7 .....	3-4

Figure 3-8: Design Element 8 .....	3-5
Figure 3-9: Design Element 9 .....	3-5
Figure 3-10: Design Element 10 .....	3-6
Figure 3-11: Design Concept One .....	3-7
Figure 3-12: Design Concept Two.....	3-8
Figure 3-13: Design Concept Three.....	3-9
Figure 3-14: Design Concept Four .....	3-11
Figure 3-15: Design Concept Four – Rendering and Cross Section.....	3-12

**LIST OF TABLES**

Table 2-1: Tree and Understory Species Occurring within the Study Area .....	2-6
Table 2-2: Exotic Invasive Species.....	2-6
Table 2-3: Summary Matrix of Study Area Constraints and Opportunities .....	2-11
Table 3-1: Recommended Tree Species .....	3-13
Table 3-2: Recommended Shrub Species .....	3-14
Table 3-3: Recommended Herbaceous Understory Species.....	3-14
Table 3-4: Recommended Wildflowers.....	3-15
Table 3-5: Construction Costs for Design Concepts One and Two.....	3-17
Table 3-6: Construction Costs for Design Concepts Three and Four.....	3-18
Table 3-7: Detail Construction Costs for Each Design Element .....	3-19
Table 3-7: Detail Construction Costs for Each Design Element (Cont.).....	3-20
Table 3-7: Detail Construction Costs for Each Design Element (Cont.).....	3-21

## 1.0 INTRODUCTION

### 1.1 STUDY PURPOSE

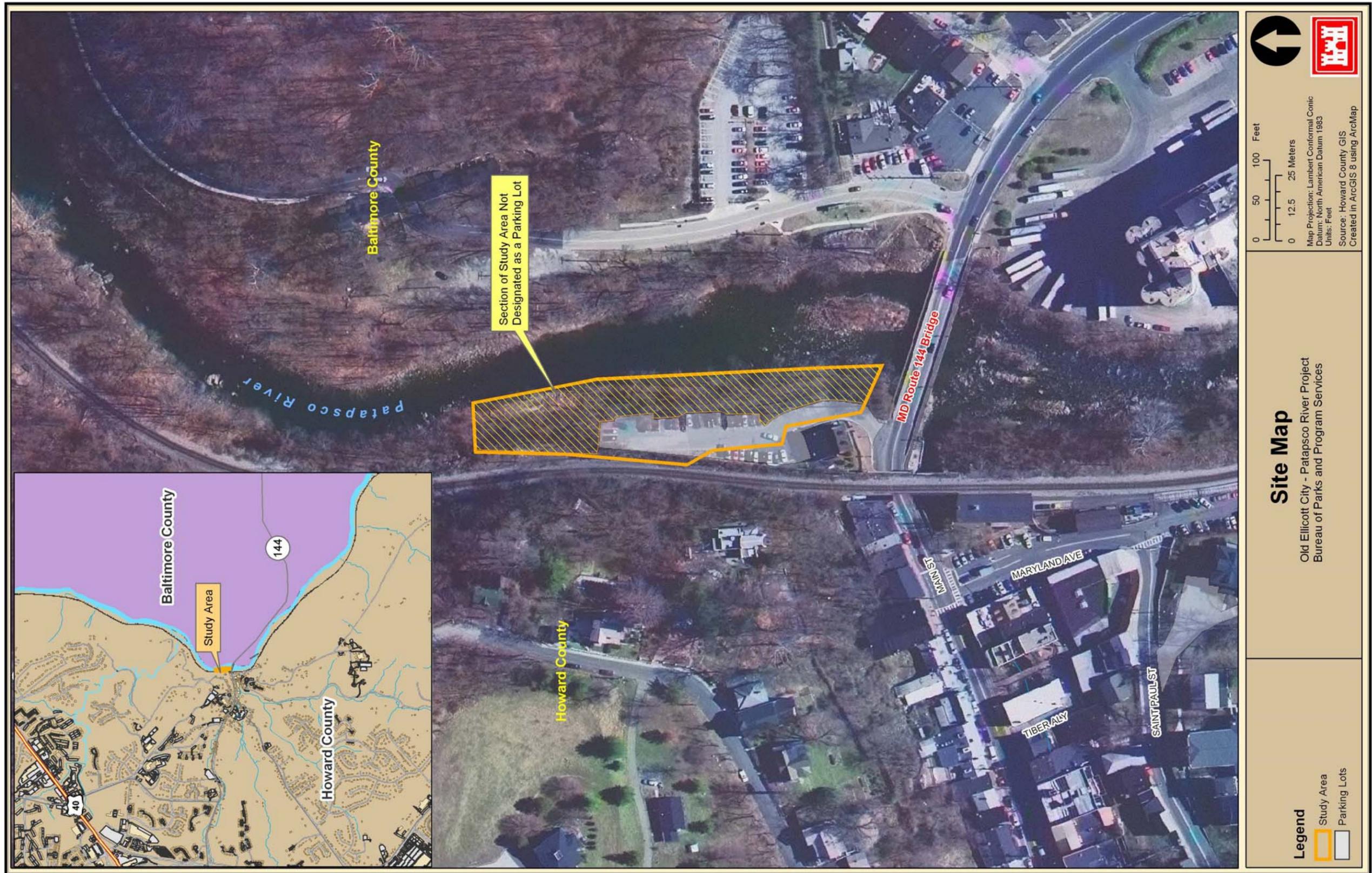
Howard County, Department of Recreation and Parks (Howard County), is undertaking an initiative to improve a small area of land adjacent to the Patapsco River just north of the Maryland (MD) Route 144 Bridge in Historic Ellicott City, MD. The purpose of this initiative is to enhance the entrance visibility to the Main Street Historic District and to provide public use opportunities for the benefit of both local residents and tourists. This study provides a review of the existing conditions of the study area, a discussion of the environmental and recreational constraints and opportunities, the formulation of a preferred design concept, and finally, conclusions and recommendations for the implementation of the preferred design concept. The design objective for the study area was to enhance the overall character of the riparian area and create an opportunity for public use. Additionally, the design concept was to achieve the following three goals: (1) create passive recreational use opportunities along the Patapsco River; (2) enhance the environmental character of the riparian corridor; and (3) maintain the natural floodplain of the Patapsco River. The project's objective and goals were further defined at a Public Meeting that was held on October 19<sup>th</sup>, 2004, which is discussed in greater detail in section 1.5 *Study Methodology* and Appendix A.

### 1.2 STUDY AUTHORITY

This investigation has been undertaken by the U.S. Army Corps of Engineers, Baltimore District (the Corps), under the Planning Assistance to States Program as authorized by Section 22 of the Water Resources Development Act of 1974, as amended. This Act provides authority for the Corps to assist the states, local governments, and other non-Federal entities in the preparation of comprehensive plans for the development, utilization, and conservation of water and related land resources. This study was sponsored by the Howard County, Department of Recreation and Parks.

### 1.3 LOCATION

The study area is roughly a 1-acre parcel of land located on the west bank of the Patapsco River in Historic Ellicott City, Maryland. The site is just north of the MD Route 144 Bridge spanning the Patapsco River and a commercial property. The Patapsco River defines the eastern boundary of the study area and the B&O Railroad defines the western boundary. A large section of the site is currently used as a parking lot. Due to the limiting number of parking spaces currently available in Historic Ellicott City, the parking area, although within the study area, will not be altered. The vegetated area between the parking lot retaining wall and the river's edge and a small area north of the parking lot are considered the applicable areas for any proposed improvement (Figure 1.1).



**FIGURE 1-1: SITE LOCATION MAP**

Site Constraints and Opportunities  
 Patapsco River Open Space  
 Ellicott City, Maryland

## 1.4 STUDY AREA HISTORY

Ellicott City was founded by three Quaker brothers from Bucks County, Pennsylvania prior to the Revolutionary War. John, Andrew, and Joseph Ellicott constructed two flour mills in this city adjacent to the Patapsco River in 1772. The Ellicotts then constructed or funded a network of farm roads in the area, which later became the Baltimore to Frederick Turnpike and eventually the Historic National Pike. The purpose of these farm roads was to ensure the delivery of wheat from local farmers to their mills. Ellicott City grew to be the largest flour milling center in the colonies, and the turnpike saw a heavy flow of wagon and coach traffic.

In 1830, the B&O Railroad built "The Old Main Line," which extended from Baltimore City to the rugged mill town, and constructed the first railroad station in the nation. In the summer of 1830, the famous steam locomotive, the Tom Thumb, made its debut on the 13 mile run from Baltimore to Ellicott City.

By 1861, the area around Ellicott Mill was a prosperous farming and manufacturing area. In 1867, a city charter was secured and the name was changed to Ellicott City; however, by 1935 the city lost its charter. The city was designated an historic district by Howard County in 1974 and today serves as the county seat. Ellicott City is a historic town composed of stone and brick buildings, narrow streets, and steep granite cliffs. It is the host of several antique and specialty shops, unique restaurants, and the Ellicott City B&O Railroad Station museum. The town is listed on the National Register of Historic Places.

In the past, flooding events have impacted the water level of the Patapsco River in the vicinity of the study area. The most significant flooding events occur in 1868 and 1972. The July 24, 1868 event was a catastrophic flooding event. According to the flood markings on the MD Route 144 Bridge (Figure 2-3), the Patapsco River rose 21.5 feet above the normal water level of the river. The 1972 flooding event was the remnants of Hurricane Agnes. The Patapsco River adjacent to our study area rose to 14.5 feet above its normal water level (Figure 2-3) during Hurricane Agnes.

No specific historic use of the land within the study area was identified. A dam on the Patapsco River was once located adjacent to the study area. The small island just north of the MD Route 144 Bridge is said to be the remains of the demolished dam. Due to limited site accessibility, the site is not currently used for recreational purposes by the local residents or visiting tourists. However in recent years, due to its accessibility and seclusion from main section of Historic Ellicott City, the study area has provided a place for the homeless and an area for illegal drinking. Trash also accumulated within the riparian area due to above mention activities, illegal dumping, and upstream littering. Frequent trash collection within the riparian area of the study area has occurred.

## 1.5 STUDY METHODOLOGY

The methodology used to accomplish this initiative required the completion of the following six tasks:

**Task One: Site Reconnaissance** – Site reconnaissance was performed on October 11, 2004 to identify site features (i.e., vegetation type, wildlife habitat, utilities, topography, etc.) and potential design opportunities. The site reconnaissance was performed by a biologist, an environmental planner, and an architect.

**Task Two: Collection of Site Data/GIS Analysis** – Information on the project and study area were compiled from documents and data provided by Howard County and the Corps. The information was analyzed to identify opportunities and constraints that could affect the project. The GIS data that was used to analyze site constraints included site aerials, topography, utility lines, historic sites and easements, land use/zoning, floodplains, and soils.

**Task Three: Review Site Opportunities and Constraints** – Based on site features that were identified under Tasks 1 and 2, all applicable Howard County Subdivision and Land Development Regulations were identified to determine potential design limitations. Previous studies of the area were also reviewed to determine potential design opportunities; these included the Oella Entranceways Study (1983), the Patapsco Riverfront Improvements for Oella & Ellicott City (1988), the Ellicott City Marketing Task Force Final Report (Growth and Development Committee portion) (1983), and A Vision for Granite Hill Park (2002).

The project would create several opportunities for the community, its residents, and visitors. The following opportunities were reviewed under this task:

- Incorporate Low Impact Development (LID) techniques into the existing parking lot.
- Provide educational interpretive markers highlighting events of historical significance:
  - Captain John Smith's up-river voyage
  - Ellicotts' mills
  - First railroad terminal
  - Patapsco Female Institute
  - Patapsco River floods
- Provide educational interpretive markers highlighting environmental features
  - 100-year floodplain
  - Riparian vegetation
  - Tree species
  - Shrub species
  - Wildlife habitat (for birds and mammals)
- Habitat enhancement features (e.g., vegetation, butterflies, birds)
- Habitat management for control of invasive species
- Demonstrate landscaping with native species
- Provide wildlife/river viewing
- Provide picnic sites (tables and benches)

- Make recreational opportunities available to disabled individuals and be compliant with the Americans with Disabilities Act (ADA). For example, fishing from elevated piers that would be designed to enhance fishing accessibility for the disabled.

**Task Four: Host Public Meeting to Present Site Information and Obtain Community Input**

– A public informational workshop was held on October 19, 2004 in the Howard County Government Center to introduce the project and to solicit public input. The public identified several topics during the meeting that were to be considered in the concept design. These included:

- Enhancements within the study area should be followed with a maintenance plan to address trash collection and other maintenance issues.
- Security issues will need to be addressed to attract the public to this site. Illegal activities (e.g., underage drinking and vandalism) have occurred in the study area and specifically beneath the bridge.
- Create an access point to the river for canoe/kayak entry.
- Create a connection that would allow pedestrian crossing the bridge to gain easy access to the study area.
- All elements or activities proposed for the study area should be compliant with the ADA.
- Create a fishing area within the vicinity of the 3 to 4 foot pool located just north of the parking lot.
- Clean-up the debris from an old sewer line that currently lies in the bed of the stream north and south of the bridge.
- Encourage participation of Baltimore County

The input from the public was consolidated and reviewed along with other sources of information. Site visits were conducted to identify and verify potential constraints to the project. The potential constraints included:

- Site Ownership
- Zoning
- Water Resources
- Floodplain
- Topography
- Soils
- Fish and Wildlife
- Vegetation
- Cultural Resources
- Utilities

**Step Five: Develop Potential Design Concepts** – A concept design for site enhancement and passive recreational use opportunities were developed following the consolidation of the public input and identification of the site constraints. The concept design was presented to Howard County and the Corps for their review.

**Task Six: Prepare Report** – This report includes the documentation of the above five tasks. The following sections of report include a discussion of the study area’s site features, constraint and opportunities, and a presentation of the design concepts. This report was produced for the agencies and the public

**Task Seven: Present Design Concepts to the Community for Input** – After initial review of the concept design by Howard County and the Corps, the concept design was presented to area residents for public review and comments. This public meeting was held on January 12, 2005 at the Howard County Government Center. Information obtained during this public meeting is presented in Appendix A.

## 2.0 SITE FEATURES – OPPORTUNITIES AND CONSTRAINTS

### 2.1 ZONING AND LAND USE

The study area is zoned as a Historic Commercial District. According to the Howard County 2004 Zoning Regulations this district is “*established to permit and encourage a diverse but compatible and complementary mix of commercial, office, and residential activities that is intended to encourage development of a pedestrian environment consistent with the overall development concept for the Historic District (2004).*” A non-commercial park is considered an accessory use and is accepted within the Historic Commercial District.

The study area is currently used as metered parking for visitor use for the Ellicott City Historic District. The land in the northern section of the study area and located between the parking lot and the Patapsco River is considered a vegetated buffer. A description of the vegetation in the study area is provided under the heading Vegetation. Land directly west of the study area is a railroad right-of-way. Forested land acting as a riparian buffer for the Patapsco River is located north of the study area. Land to the south is defined by Main Street, the Route 144 Bridge spanning the Patapsco River and a commercial property. The Patapsco River defines the eastern boundary of the study area.

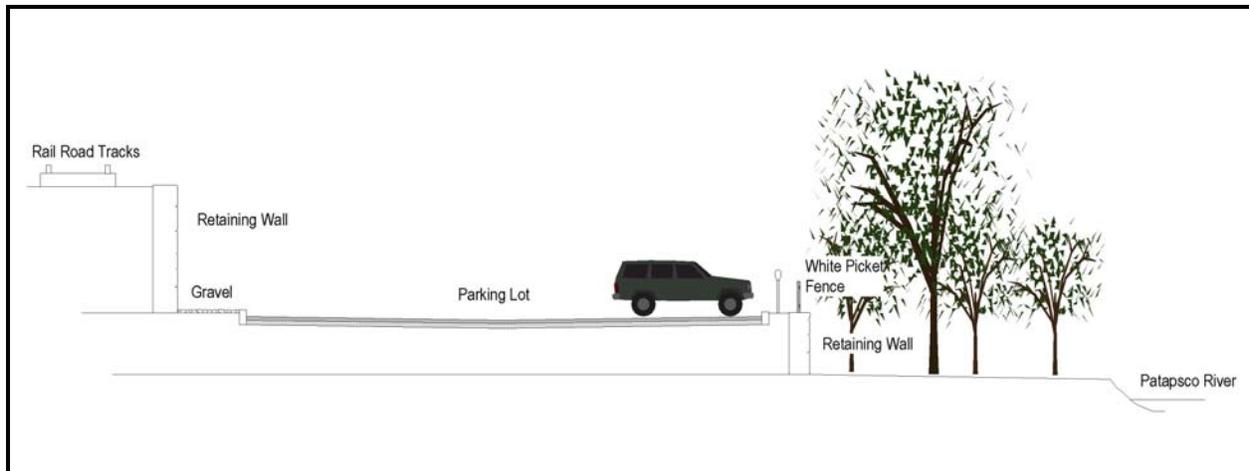
### 2.2 TOPOGRAPHY

The topography of the project site is divided into three tiers (Figures 2-1 and 2-2). The first tier is the railroad tracks that are located approximately 10 to 20 feet above the parking lot on the western boundary. The elevation of the railroad tracks is approximately 145 feet above mean sea level (msl). The second tier is the parking lot. The parking lot is relatively flat and its elevation is roughly 130 feet above msl. The entire parking lot drains to its center and discharges stormwater directly into a small vegetated area located just north of the Route 144 Bridge. The third tier is composed of a section of land located between the parking lot’s retaining wall to the east and the edge of the Patapsco River. This section of land is located approximately 6 to 10 feet below the parking lot. The elevation of the third tier is approximately 120 feet above msl.

### 2.3 WATER RESOURCES

The Patapsco River upstream of the Route 144 Bridge and adjacent to the study area is characterized by a large pool area along approximately  $\frac{3}{4}$  of the upstream reach of the river and riffle and run morphology just upstream of the bridge. The pool area ranges from approximately three to four feet in depth with some deeper areas probably present. An island occurs in the central area of the river just upstream of the Route 144 Bridge. Large pieces of an old pipeline are located on and around the island. Vegetation on the island is characterized by a dominance of sycamore saplings and grasses. The river to the west of the island and adjacent to the study area is shallow (approximately one to two feet in depth) and is characterized by a riffle and run morphology with numerous boulders extending above the water along the reach. The river to the east of the island is characterized by a run and is deeper than the river to the west of the island.





**FIGURE 2-2: TYPICAL SITE CROSS SECTION**

The substrate of the river in the vicinity of the study area is comprised in general by cobbles and boulders with areas of sand and silt accumulation. In addition, the substrate is probably characterized by some areas of bedrock based on the surrounding geology. The abundance of boulders and cobbles in the substrate along with the large pool area, areas of overhanging vegetation, and other instream structures provides good potential habitat for fish and other aquatic fauna. Bass (*Micropterus* sp.), bluegill (*Lepomis macrochirus*), and other fish species were observed in the pool area during site reconnaissance that was performed on October 11, 2004. Water clarity in the river was good at the time of the reconnaissance, although no water quality sampling was conducted.

Although there were no indications of wetlands located within the study area, the entire site is located in the 100-year floodplain according to the Federal Emergency Management Agency (FEMA) Community-Panel Number 240044-0024-B (FEMA, 1986) (Figure 2-3). Development is restricted in the 100-year floodplain and the floodplain is to be protected in accordance with Subdivision and Land Development Regulations of Howard County, Maryland, Section 16.115, Floodplain Preservation. and Any clearing, excavating, filling, drainage alteration, or impervious paving must be approved by Howard County Department of Planning and Zoning. No grading, removal of vegetative cover and trees, paving or new structures is permitted within 50 feet of a perennial streambank in non-residential zoning districts in order to comply with Subdivision and Land Development Regulations of Howard County, Maryland, Section 16.116, Protection of Wetlands, Streams, and Steep Slopes.

## 2.4 VEGETATION

Vegetation in the study area is characterized by native species typically found in association with riparian habitats, numerous exotic invasive species, and ornamental species that have been planted along the perimeter of the parking lot (Figures 2-4 and 2-5). Table 2-1 identifies dominant tree species, other native tree species, and examples of native understory vegetation occurring within the study area. As identified in Table 2-2, the majority of vine and understory species occurring in the floodplain habitat are characterized by exotic invasive species. Exotic invasive plant species currently represent one of the leading causes of native habitat loss in the



**FIGURE 2-3: 100-YEAR FLOODPLAIN**



**FIGURE 2-4: VIEW OF THE STUDY AREA FROM THE ROUTE 144 BRIDGE**



**FIGURE 2-5: VIEW OF VEGETATED AREA BETWEEN THE PARKING LOT AND THE RIVER'S EDGE**

**TABLE 2-1: TREE AND UNDERSTORY SPECIES OCCURRING WITHIN THE STUDY AREA**

<b>Dominant Tree Species</b>	
Sycamore	<i>Platanus occidentalis</i>
Box elder	<i>Acer negundo</i>
<b>Other Native Tree Species</b>	
<i>Black willow</i>	<i>Salix nigra</i>
<i>Black locust</i>	<i>Robinia pseudoacacia</i>
American beech	<i>Fagus grandifolia</i>
Silver maple	<i>Acer saccharinum</i>
Catalpa	<i>Catalpa</i> sp.
Horse-chestnut	<i>Aesculus hippocastanum</i>
<b>Native Understory Vegetation</b>	
<i>Jewelweed</i>	<i>Impatiens</i> sp.
<i>Smartweeds</i>	<i>Polygonum</i> spp.
False nettle	<i>Boehmeria cylindrical</i>
Wood nettle	<i>Laportea Canadensis</i>
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Grape	<i>Vitis</i> sp.

**TABLE 2-2: EXOTIC INVASIVE SPECIES**

<b>Tree and Understory Species</b>	
Oriental bittersweet	<i>Celastrus orbiculatus</i>
English ivy	<i>Hedera helix</i>
Japanese honeysuckle	<i>Lonicera japonica</i>
Bush honeysuckle	<i>Lonicera</i> sp.
Tree of heaven	<i>Ailanthus altissima</i>
Multi flora rose	<i>Rosa multiflora</i>
Wineberry	<i>Rubus phoenicolasius</i>
Japanese hops	<i>Humulus japonicus</i>
Privet	<i>Lingustrum</i> sp.
Stilt grass	<i>Microstegium vimineum</i>
Garlic mustard	<i>Alliaria petiolata</i>
Mile-a-minute weed	<i>Polygonum perfoliatum</i>

United States. Exotic species include nonindigenous species that humans intentionally or unintentionally introduce into an area outside of the species natural range. Exotic species become invasive when they proliferate, spread, and persist to the detriment of native species and ecosystems.

The parameter of the parking lot is characterized by several of the species listed in Tables 2-1 and 2-2 (sycamore, English ivy, etc.) along with ornamental species including Forsythia (*Forsythia* sp.) and Japanese pagoda tree (*Sophora japonica*)

Any vegetation clearing or revegetation of disturbed areas would be in accordance with the Subdivision and Land Development Regulations of Howard County, Maryland, Section 16.117, Forest Conservation and Preservation of Natural Cover, the Howard County Landscape Manual and the Howard County Forest Conservation Manual.

## **2.5 SOILS**

Soils in the project area are mapped in the Soil Survey of Howard County, Maryland as the Codorus silt loam. This soil occurs on floodplains and is moderately well drained or somewhat poorly drained. The Codorus silt loam formed in recently deposited alluvium on floodplains with 0 to 3 percent slopes. A seasonal high water table and occasional flooding are the main limitations affecting use of the soil.

Based on site-specific observations, soils on the site have been disturbed as a result of past development (bridge, parking lot, dam, sewer, etc.). Boulders have also been placed on the floodplain for bank stabilization. Surface soils along the banks of the floodplain are characterized by recently deposited fine sands and silt deposited as a result of flooding. Flooding frequency may be increased in the area due to accumulation of rack and sand at the bridge culverts, resulting in accelerated deposition of sediments on the floodplain. Soils in the upstream section of the project area have been disturbed as a result of sewer line placement. A large section of concrete has been placed within the northern section of the site covering existing site soils.

## **2.6 WILDLIFE AND WILDLIFE HABITAT**

The floodplain in the project area, although narrow and somewhat disturbed, provides habitat for species that utilize floodplain corridors and adjacent riverine habitats. Species expected to utilize the floodplain habitat include those that are somewhat adapted to human presence. Wildlife signs observed on the floodplain include tracks from raccoon (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), dog and several bird species. Several families of mallards (*Anas platyrhynchos*) (Figure 2-6) utilize the river adjacent to the project area and bluegill and bass were observed in pools on the river.

## **2.7 CULTURAL RESOURCES**

The study area is located within the Ellicott City Historic District. There are no cultural resources within the footprint of the study area. There are resources within the area of affect, surrounding the study area, which are included in the following discussion. The Historic District was created in 1974 and centers on the 18<sup>th</sup> century mill town on the Patapsco River; it



**FIGURE 2-6: MALLARD DUCKS SWIMMING IN STUDY AREA**

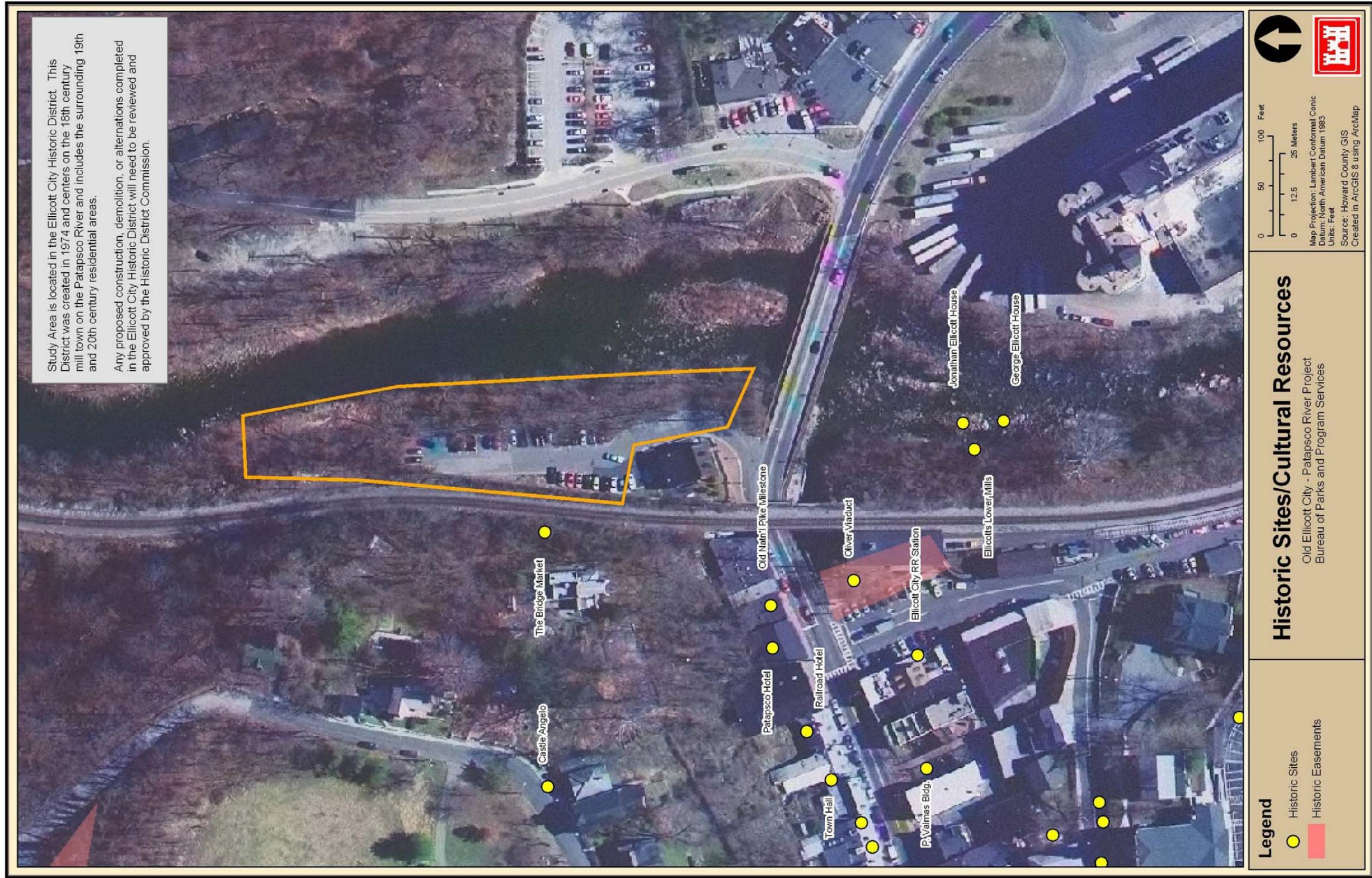
includes the surrounding 19<sup>th</sup> and 20<sup>th</sup> century residential areas. There are several historic sites in close proximity to the study area. The Bridge Market and Castle Angelo (also known as the Angelo Cottage) are immediately west of the study area, across the railroad tracks. Historic sites just southwest of the study area include the Old National Pike Milestone, the Patapsco Hotel, the Railroad Hotel, Oliver Viaduct, the Town Hall, the Ellicott City Railroad Station, and a historic easement for the B&O Railroad Station.

South of the study site Ellicott's Lower Mill, the Jonathan Ellicott House, and the George Ellicott House (Figure 2-7). Any proposed construction, demolition, or alterations in the Ellicott City Historic District would need to be approved by the Historic District Commission and comply with Subdivision and Land Development Regulations of Howard County, Maryland, Section 16.118, Protection of Historic Resources.

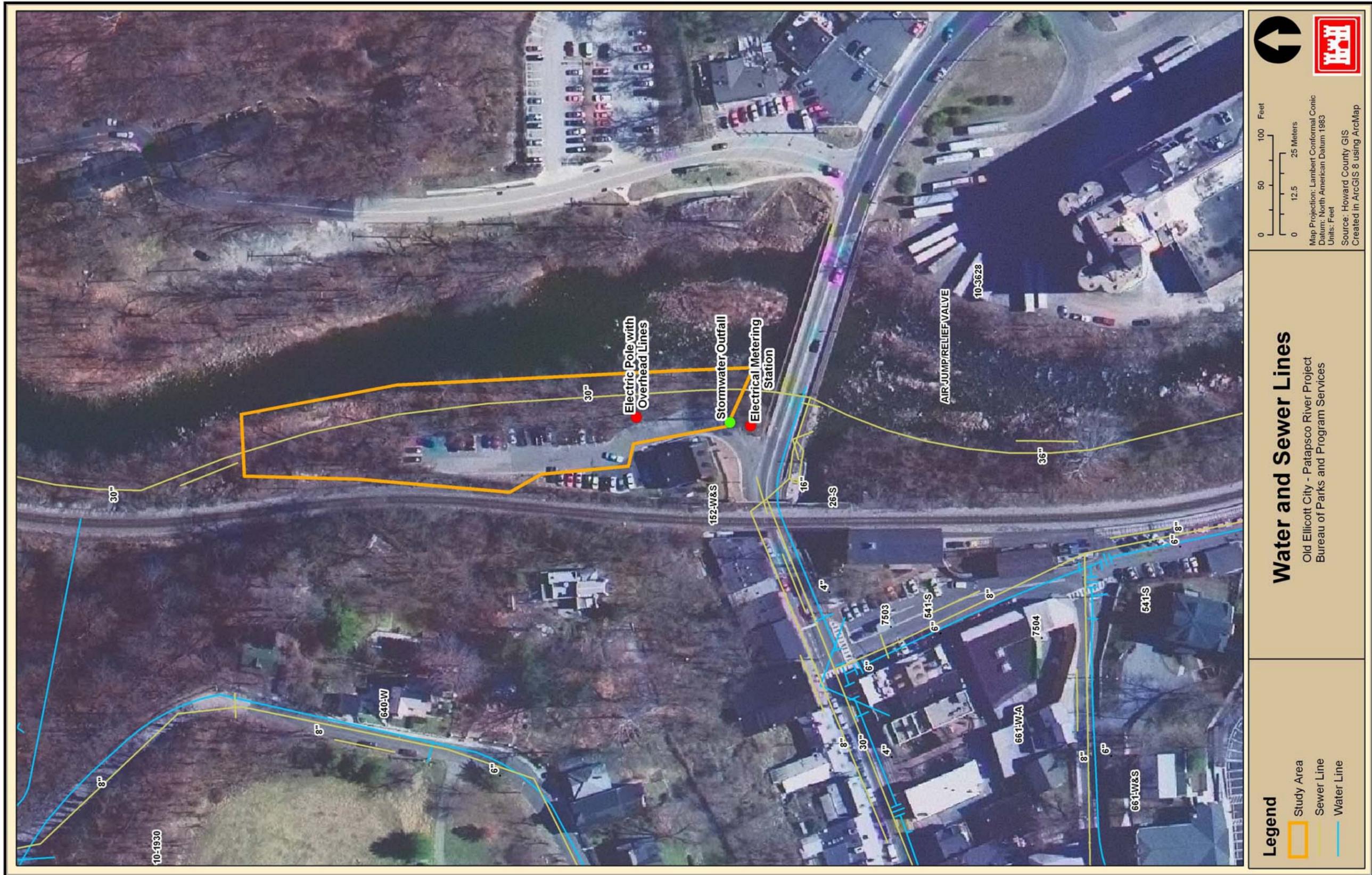
## **2.8 UTILITIES**

A 30-inch sewer line transects the study area parallel to the Patapsco River; a right-of-way extends 20 feet either side of the sewer line. The sewer line and right-of-way are owned by Howard County. The 30-inch sewer line running through the site must remain accessible for future maintenance and repairs.

No water or gas lines are present in the study area. A stormwater outfall is present at the southern end of the study area where parking lot runoff is discharged to a small vegetated area before entering the Patapsco River (Figure 2-8). Additionally, an electrical pole with overhead lines occurs in the southern section of the study area on the east side of the parking lot entrance road. An electrical metering station is also located on the northeast corner of the parking lot entrance road and Main Street.



**FIGURE 2-7: CULTURAL RESOURCES**



**FIGURE 2-8: UTILITIES/INFRASTRUCTURE**

## 2.9 SUMMARY OF STUDY AREA CONSTRAINTS AND OPPORTUNITIES

The following matrix provides a summary of the study area’s site constraints and opportunities based on the existing and surrounding environment.

**TABLE 2-3: SUMMARY MATRIX OF STUDY AREA CONSTRAINTS AND OPPORTUNITIES**

<b>Resource Area</b>	<b>Description</b>	<b>Constraints and Opportunities</b>
<b>ZONING AND LAND USE</b>	The study area is zoned as a Historic Commercial District. The site and surrounding land uses include metered parking, riparian buffer, and commercial and residential uses.	A non-commercial park is considered an accessory use and is accepted within the Historic Commercial District. Passive recreational use within the study area is consistent with the surrounding land uses by providing recreation activities for local residents and visitors.
<b>TOPOGRAPHY</b>	The topography is divided into three tiers: (1) railroad tracks located approximately 10 to 20 feet above the parking lot to the west (145 ft above msl); (2) the parking lot with an elevation of roughly 130 ft above msl; and (3) an area positioned between the parking lot’s retaining wall to the east and the edge of the Patapsco River (120 ft above msl).	Requires stairs and ADA-compliant ramp from parking lot to bring visitors to the river’s edge. Parking lot retaining wall provides an opportunity to create a cantilevering boardwalk with limited impact to the current floodplain.
<b>WATER RESOURCES</b>	The river morphology adjacent to the study area includes a large pool area with a depth of 3 to 4 foot and a riffle and run near the Route 144 Bridge. Water clarity in the river was good at the time of the site reconnaissance; however, no water quality sampling was conducted. The site is located in the 100-Year floodplain and within 50 feet of a perennial streambank.	The large pool provides an opportunity for fishing and kayak and canoe entry. Opportunity to incorporate interpretative signs presenting environmental value of riparian buffers and the removal of invasive species. Compliance and permitting in accordance with the Subdivision and Land Development Regulations of Howard County, specifically Sections 16.116 – Floodplain Preservation and Section 16.116 – Protection of Wetlands, Streams, and Steep Slopes are applicable. Removal of exotic invasive vegetation species from inside the 50-foot riparian buffer could occur under Section 16.116; however, permitting may be required.

Resource Area	Description	Constraints and Opportunities
<b>VEGETATION</b>	Vegetation is characterized by native species typically found in riparian habitats; however, numerous exotic invasive species and ornamental species also occur in the study area.	Opportunity to remove the exotic invasive species that are currently choking the native habitat and severely limiting the view of the river from the existing parking lot. Any vegetation clearing or revegetation of disturbed areas would be in accordance with the Subdivision and Land Development Regulations of Howard County, Maryland, Section 16.117, Forest Conservation and Preservation of Natural Cover, the Howard County Landscape Manual and the Howard County Forest Conservation Manual. Removal of exotic invasive vegetation species within the study area could occur under Section 16.117.
<b>SOILS</b>	Soils in the project area are mapped in the Soil Survey of Howard County, Maryland as the Codorus silt loam. This soil occurs on floodplains, is moderately well drained or somewhat poorly drained and has a seasonal high water table. Based on site-specific observations, soils on the site have been disturbed as a result of past development (sewer line). A large section of concrete has been placed within the northern section of the site covering existing site soils.	The seasonal high water table and occasional flooding are the main limitations affecting use of the soil. Structural foundations for stairs, ramps, boardwalk supports would need to take this into consideration during design. Selection of surface material used for trails and open space areas will need to consider the occasional flood and silting.
<b>WILDLIFE AND WILDLIFE HABITAT</b>	The floodplain in the project area, although narrow and somewhat disturbed, provides habitat for species that utilize floodplain corridors and adjacent riverine habitats. Wildlife signs observed during site reconnaissance included raccoon, white-tailed deer, dog and several bird species tracks. Families of mallards and fish (bluegill and bass) were observed in pools on the river.	Species expected to utilize the floodplain habitat include those that are somewhat adapted to human presence.
<b>CULTURAL RESOURCES</b>	The study area is located within the Ellicott City Historic District. There are no cultural resources within the study area; however, there are several historic sites in close proximity to the study area (i.e., The Bridge Market, Castle Angelo, the Old National Pike Milestone, the Patapsco Hotel, the Railroad Hotel, the Ellicott City Railroad Station, and a historic easement for the B&O Railroad Station).	Opportunity to incorporate interpretative signs presenting the history of Old Ellicott City. Any proposed construction, demolition, or alterations in the Ellicott City Historic District would need to be approved by the Historic District Commission and comply with Subdivision and Land Development Regulations of Howard County, Maryland, Section 16.118, Protection of Historic Resources.

Resource Area	Description	Constraints and Opportunities
<b>UTILITIES</b>	A 30-inch sewer line transects the study area parallel to the Patapsco River; a right-of-way extends 20 feet either side of the sewer line. The sewer line and right-of-way are owned by Howard County. A stormwater outfall, located north of the Route 144 Bridge, collects the parking lot runoff and discharges into the riparian habitat. An electrical pole with overhead lines occurs in the southern section of the study area on the east side of the parking lot entrance road. An electrical metering station is also located on the northeast corner of the parking lot entrance road and Main Street.	The 30-inch sewer line running through the site must remain accessible for future maintenance and repairs. Coordination with the Howard County Department of Public Works will be required.

### 3.0 DESIGN CONCEPT

Based on the objective and goals established for this project and the input obtained from the public a design concept for the study area was envisioned. The following section presents 10 design elements for the study area, four design concepts based on the use of the various 10 design elements, landscaping opportunities/recommendations, and construction costs.

#### 3.1 DESIGN ELEMENTS

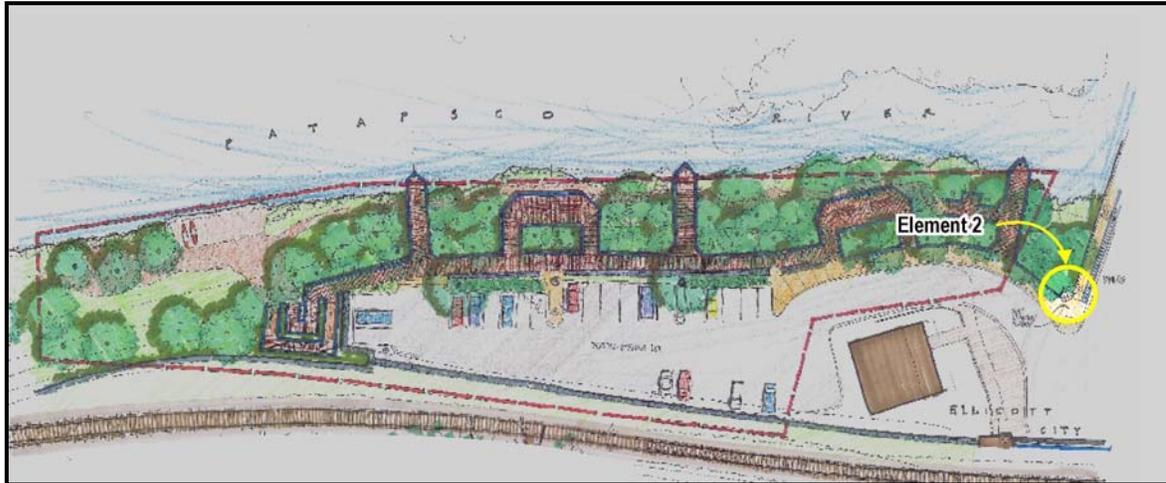
The design elements are based on a series of elevated piers (a boardwalk) with a central spine cantilevering from the existing parking lot retaining wall with additional boardwalk outshoots that allows visitors to explore the edge of the Patapsco River. The elevated boardwalk turns into an ADA-compliant ramp and stairs that allows visitors to access the northern section of the site. The elevated boardwalks limit disturbance to the riparian area and do not increase impervious surface within the existing floodplain. The idea behind the 10 design elements is to provide various elements that can be selected or deleted to formulate and/or phase potential design concepts. The following bullets provide a description of the 10 design elements proposed for the study area; starting from the southern section of the study area just north of the Route 144 Bridge and ending with a description of the open area located in the northern portion of the study area.

- Element 1 (Figure 3-1): A semi-pervious sidewalk would be located on the northern side of the entrance road for the parking lot. The sidewalk would be connected to the sidewalk located on the northern side of the Route 144 Bridge. Since the study area is located in the floodplain, the sidewalk should be constructed of a pervious or semi-pervious material to eliminate or reduce the increase in impervious area. Examples of semi-pervious materials include brick and stone pavers and porous asphalt.



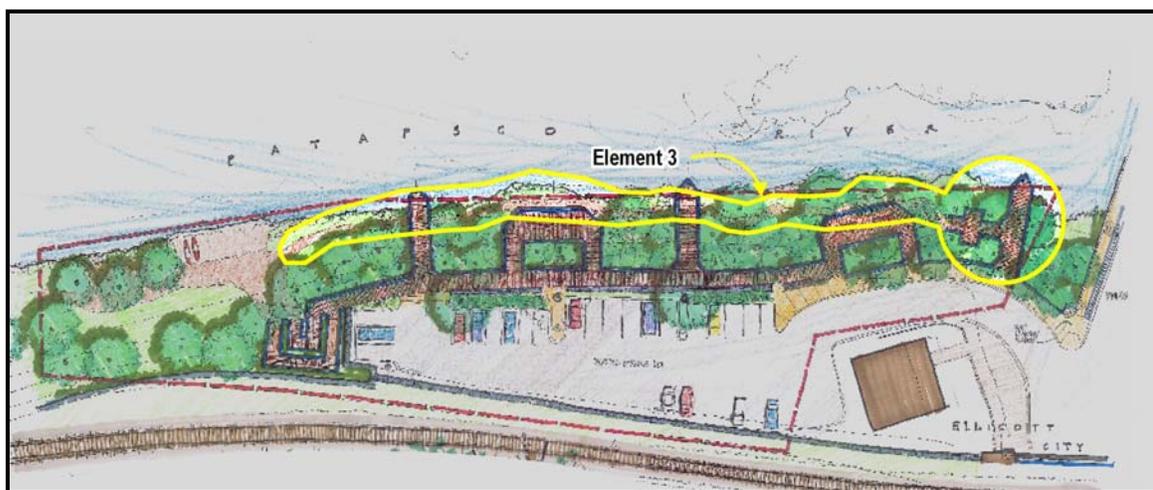
**FIGURE 3-1: DESIGN ELEMENT 1**

- Element 2 (Figure 3-2): A park sign would be located on the northwest corner of entrance to the parking lot and Main Street. The sign would be situated to allow the vehicle traffic to view the sign before crossing the Route 144 Bridge into Baltimore County. The sign would hide the existing electrical metering station. The sign could also be combined with an interpretive marker, which would describe the history of Ellicott City, high water marks, or other significant pieces of information.



**FIGURE 3-2: DESIGN ELEMENT 2**

- Element 3 (Figure 3-3): From the sidewalk an elevated boardwalk, parallel to the Route 144 bridge, would extend to the edge of the Patapsco River. A set of stairs would lead down to a delineated trail parallel to the edge of the river. Since trail is located in the floodplain it would need to be constructed with a pervious surface; however, most pervious material is not suitable for use in the floodplain due to displacement caused by flooding. As a result, a well worn dirt path would be one solution.



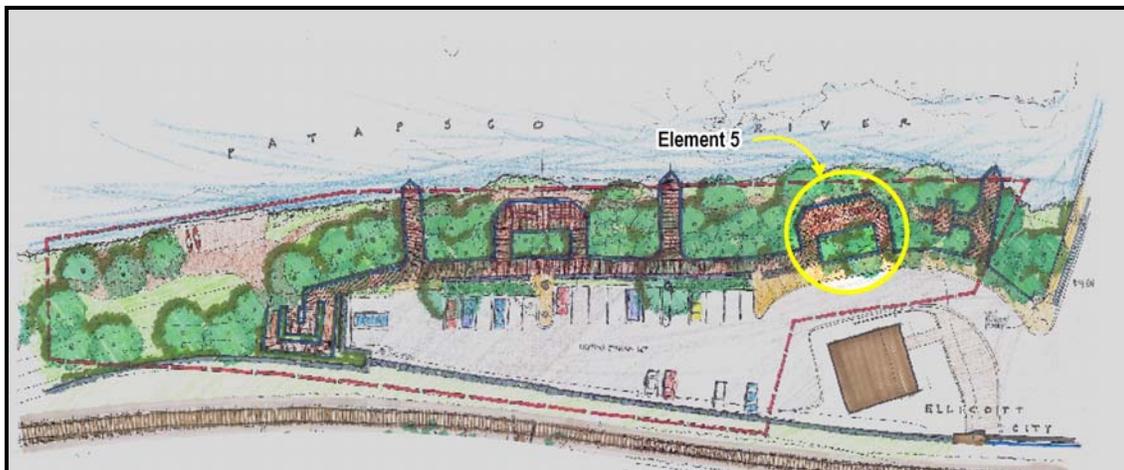
**FIGURE 3-3: DESIGN ELEMENT 3**

- Element 4 (Figure 3-4): An elevated boardwalk would cantilever from the existing parking lot retaining wall. The width of the boardwalk would be 10 feet. Trash receptacles would be located on the boardwalk.



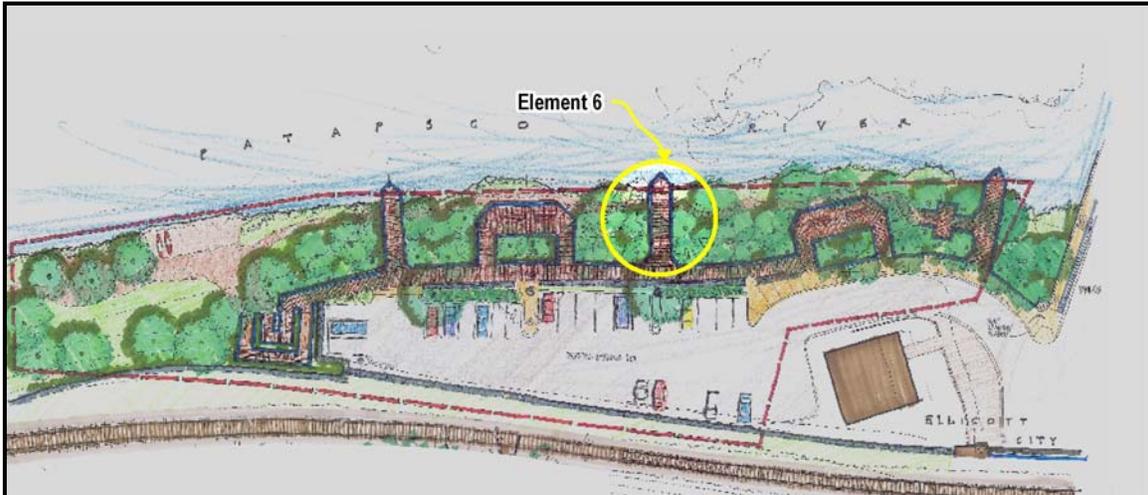
**FIGURE 3-4: DESIGN ELEMENT 4**

- Element 5 (Figure 3-5): An elevated D-shaped boardwalk that is accessible from the sidewalk and the southern terminus of design element 4. The center of the D-shaped pier would allow for mature vegetation to remain for riparian buffer benefits and canopy cover. The D-shape pier would also be a good location for benches to view the river and educational interpretive markers highlighting events of historical significance in Ellicott City (i.e., Captain John Smith’s up-river voyage, Ellicotts’ mills, First railroad terminal, Patapsco Female Institute, and Patapsco River floods).



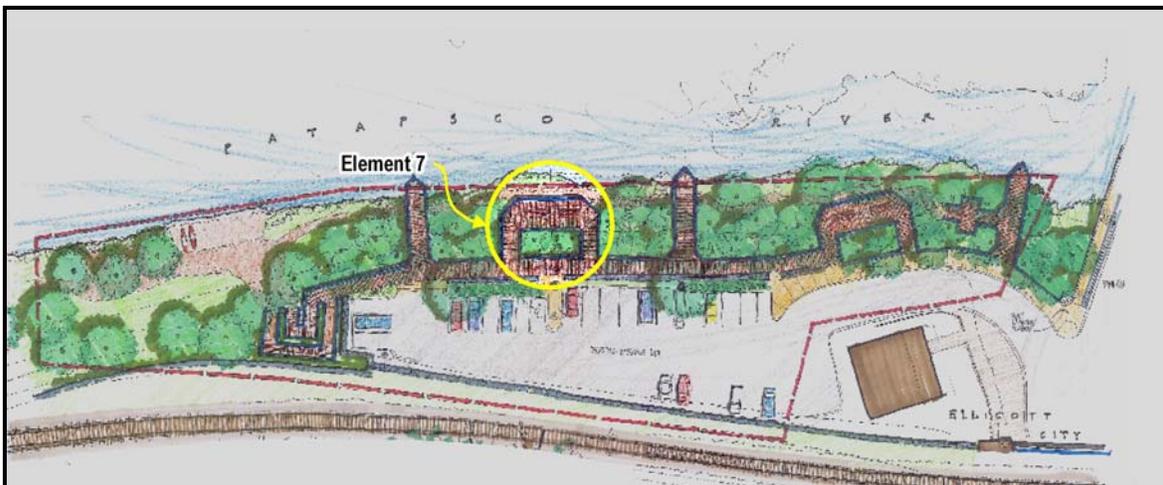
**FIGURE 3-5: DESIGN ELEMENT 5**

- Element 6 (Figure 3-6): Another elevated boardwalk, perpendicular to the existing retaining wall, would extend from the boardwalk cantilevering from the retaining wall to the edge of the Patapsco River. The width of the pier would be 8 feet. This pier would allow all visitors an opportunity to view the Patapsco River and to fish in the river. This element could be design to overhang into the Patapsco River if desired.



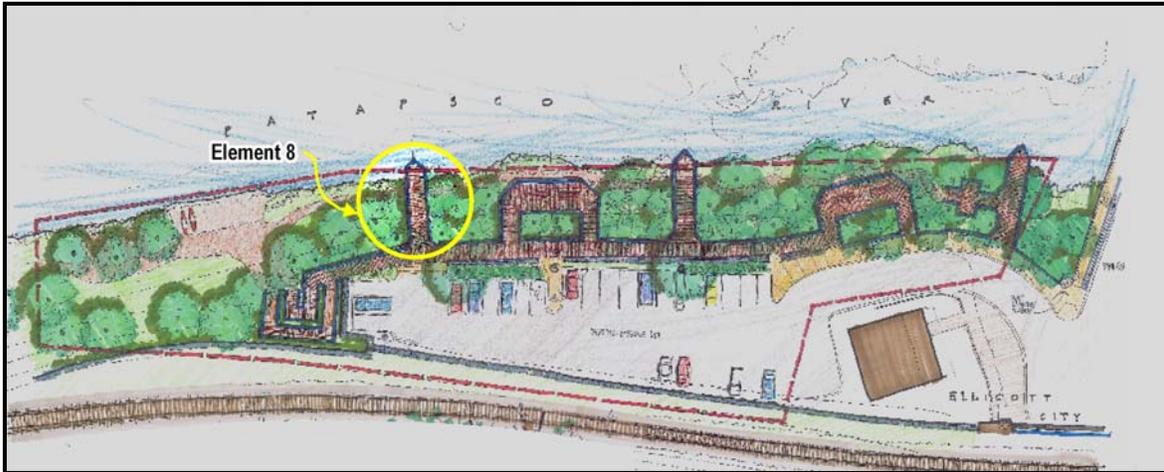
**FIGURE 3-6: DESIGN ELEMENT 6**

- Element 7 (Figure 3-7): Another elevated D-shape boardwalk would extend from the boardwalk cantilevering from the retaining wall towards the river's edge. This D-shape pier would also be a good location for benches and educational interpretive markers highlighting significant environmental elements of the site (i.e., 100-year floodplain, Riparian vegetation, Tree species, Shrub species, and Wildlife habitat (for birds, butterflies and mammals)).



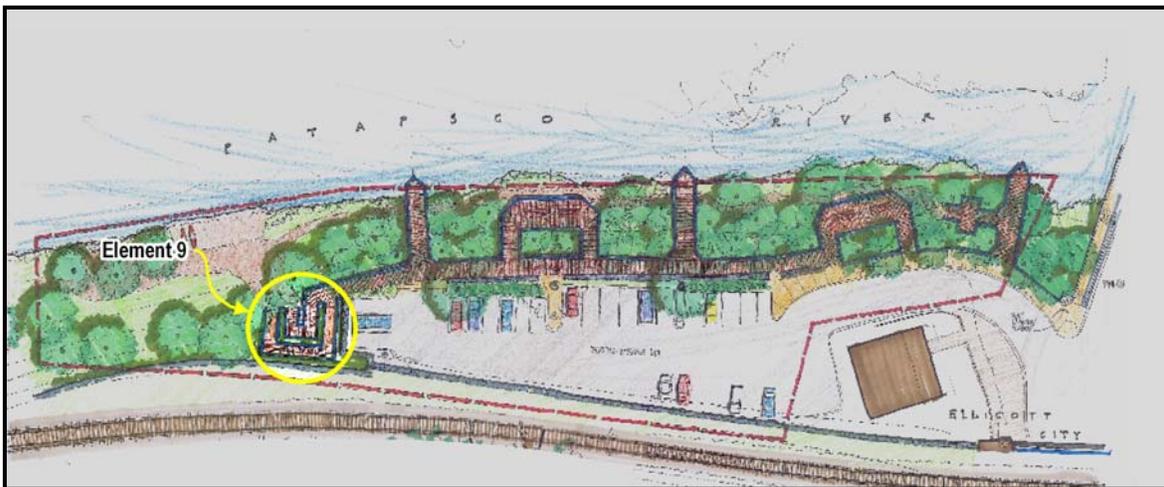
**FIGURE 3-7: DESIGN ELEMENT 7**

- Element 8 (Figure 3-8): Another elevated boardwalk, perpendicular to the existing retaining wall, would extend from the boardwalk cantilevering from the retaining wall to the edge of the Patapsco River. The width of the pier would be 8 feet. This pier would allow all visitors an opportunity to view the Patapsco River and to fish in the river. This element could be designed to overhang into the Patapsco River if desired. The additional pier structure could also be designed to allow persons with limited mobility to access the river's edge for fishing. The river adjacent to the proposed pier structure consists of a large pool that ranges between three to four feet in depth with some deeper areas probably present.



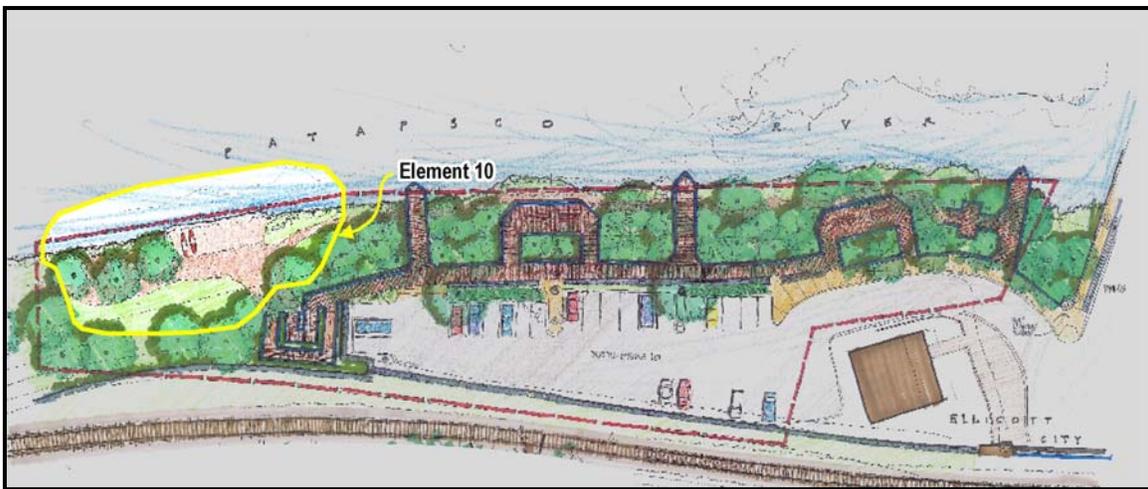
**FIGURE 3-8: DESIGN ELEMENT 8**

- Element 9 (Figure 3-9): An ADA-compliant ramp and stairs would provide access to the northern section of the study area. The ramp could also be used for carrying kayaks and canoes to and from the river's edge.



**FIGURE 3-9: DESIGN ELEMENT 9**

- Element 10 (Figure 3-10): Northern section of the study area is a small open space area created by removing an existing concrete area created by illegal dumping. Some earth disturbing work would be required for the removal of the existing concrete area located in the 50-foot riparian area. Using the appropriate best management practices (BMPs) will limit any impacts to the Patapsco River due to sediment transportation during the removal of the concrete. Converting this concrete area into a semi-open area defined by riparian grasses, wildflowers, and shrubs would ultimately have a beneficial impact to the study area and the Patapsco River. This area would be delineated open grass area with various wild flowers and other vegetation conducive to riparian habitat. This area would be used for canoe and kayaking entry into and removal from the river and for fishing. The designated trail along the river's edge would connect to this area. Due to flooding, it is not recommended that benches, picnic tables, or trash receptacles be located in this area.



**FIGURE 3-10: DESIGN ELEMENT 10**

### 3.2 DESIGN CONCEPTS

The following four design concepts are based on a combination of the aforementioned 10 design elements. For instance Design Concept One uses only 5 of the 10 design elements; whereas, Design Concept Four considers the implementation of the all 10 design elements.

The following actions would be common to all four design concepts:

- To provide a view of the Patapsco River from the elevated piers and improve the vegetated riparian buffer, the removal the invasive/exotic vegetation throughout the study area is required under any proposed design concept. This is further discussed in section – 3.2 *Landscaping Opportunities*. Also the proposed location of the elevated boardwalks, under Concept Two, Three and Four, could be altered to avoid mature native trees that provide good riparian habitat. The proposed boardwalks would provide a good location for viewing birds and other wildlife with the overhanging tree canopy.
- Trash receptacles would only be placed on the boardwalk cantilevering from the retaining wall. No trash receptacles would be placed on the other sections of boardwalk running

perpendicular to the boardwalk cantilevering from the existing retaining wall or in the open space area in the northern section of the site.

- To improve the viewshed of the river from the study area the broken pieces of concrete pipeline that is currently located in the river's bed just north and south of the Route 144 Bridge should be removed.

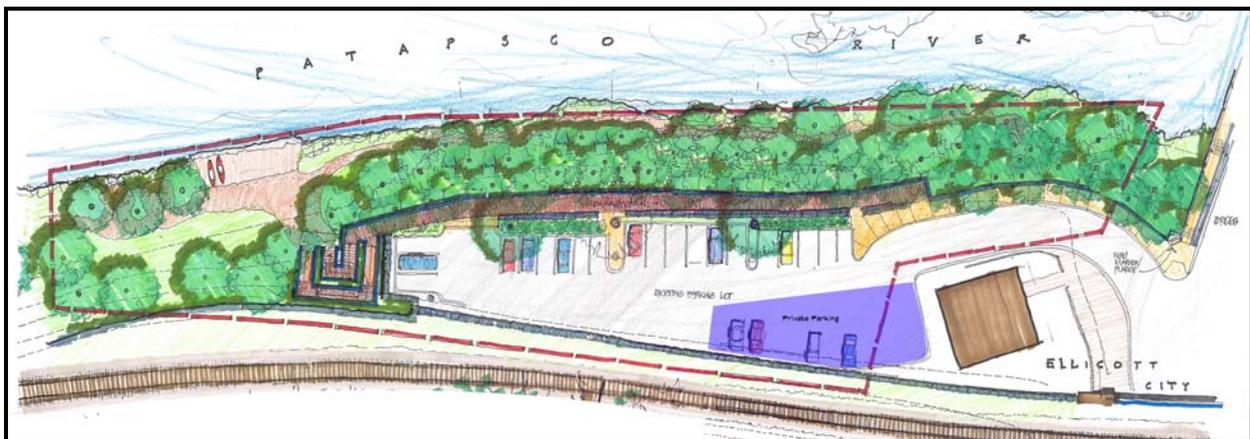
### 3.2.1 Design Concept One: Design Elements 1, 2, 4, 9, and 10

Under Design Concept One, design elements 1, 2, 4, 9, and 10 would be implemented (Figure 3-11). These five design elements include:

- the sidewalk connecting the boardwalk to Main Street,
- the park sign located on the northwest corner of Main Street and the parking lot entrance,
- the boardwalk cantilevering from the parking lot retaining wall,
- the ADA-compliant ramp and staircase, and
- the open space area located at the north section of the study area.

This alternative, in comparison to the other design concepts would require the least amount of construction within the floodplain and riparian buffer and decrease maintenance requirements. With the removal of the concrete currently located in the northern section of the study area in the riparian buffer, it is estimated that there will be a reduction in impervious surface inside the study area with the implementation of this design concept.

However, it is noted that this design concept would reduce the opportunity for visitors to experience the river's edge on an elevated pier. Interpretative signage would be located on the boardwalk that parallels the existing retaining wall (design element 4).



**FIGURE 3-11: DESIGN CONCEPT ONE**

### 3.2.2 Design Concept Two: Design Elements 1, 2, 3, 4, 9, and 10

Design Concept Two would include design elements 1, 2, 3, 4, 9, and 10 (Figure 3-12). These six design elements include:

- the sidewalk connecting the boardwalk to Main Street,
- the park sign located on the northwest corner of Main Street and the parking lot entrance,
- the elevated boardwalk, parallel to the Route 144 bridge, extending to the River and access to a foot trail paralleling the edge of the Patapsco River,
- the boardwalk cantilevering from the parking lot retaining wall,
- the ADA-compliant ramp and staircase, and
- the open space area located at the north section of the study area.

Design Concept Two, unlike Design Concept One, uses design element 3. This design element allows public access to the River's edge on an elevated boardwalk. Stairs descending from the end boardwalk near the river's edge lead to a foot trail that runs parallel to the river and connects to the northern section of the study area. Due to the additional pier structure proposed under Design Concept Two, more construction within the floodplain and riparian buffer would be required. This additional construction would not introduce additional impervious surface to the existing floodplain or riparian buffer; therefore, additional impacts are unlikely to occur. With the removal of the concrete currently located in the northern section of the study area in the riparian buffer, it is estimated that there will be a reduction in impervious surface inside the study area with the implementation of this design concept. Maintenance requirements would slightly increase under this Concept Design in comparison to Concept Design One. Interpretative signage could be located on the boardwalk cantilevering from the parking lot retaining wall.



**FIGURE 3-12: DESIGN CONCEPT TWO**

### 3.2.3 Design Concept Three: Design Elements 1, 2, 3, 4, 5, 7, 9, and 10

Under Design Concept Three, design elements 1, 2, 3, 4, 5, 7, 9, and 10 would be incorporated in the design. These eight design elements include:

- the sidewalk connecting the boardwalk to Main Street,
- the park sign located on the northwest corner of Main Street and the parking lot entrance,
- the boardwalk cantilevering from the parking lot retaining wall,
- the elevated boardwalk, parallel to the Route 144 bridge, extending to the River and access to a foot trail paralleling the edge of the Patapsco River,
- both D-shape elevated piers branching out from the boardwalk,
- the ADA-compliant ramp and staircase, and
- the open space area located at the north section of the study area.

Design Concept Three proposes the construction of two D-shape piers that branch out from the boardwalk paralleling the parking lot. These two additional structures allow visitors to get closer to the river's edge and provide a location for interpretative signs and benches. The open space in the middle of each pier allows mature trees and other riparian vegetation to remain. Keeping the existing tree canopy will help maintain the health of the river and also provide shade for visitors. In comparison to Design Concepts One and Two, additional construction in the floodplain and riparian buffer would be required. However, no impervious surface would be introduced to floodplain and the removal of vegetation would be very limited. With the removal of the concrete currently located in the northern section of the study area in the riparian buffer, it is estimated that there will be a reduction in impervious surface inside the study area with the implementation of this design concept. Maintenance requirements would slightly increase under this Concept Design in comparison to the two previous Concept Designs.

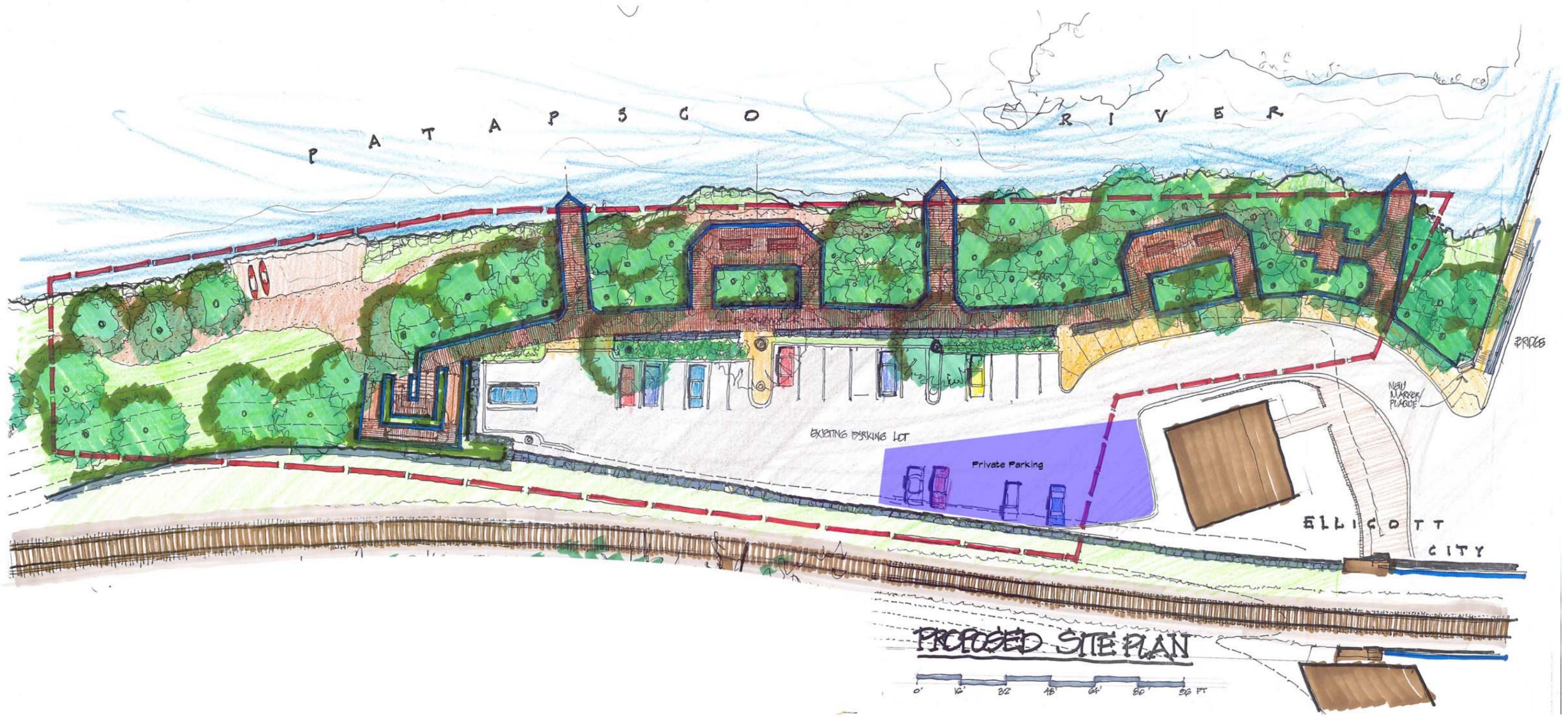


**FIGURE 3-13: DESIGN CONCEPT THREE**

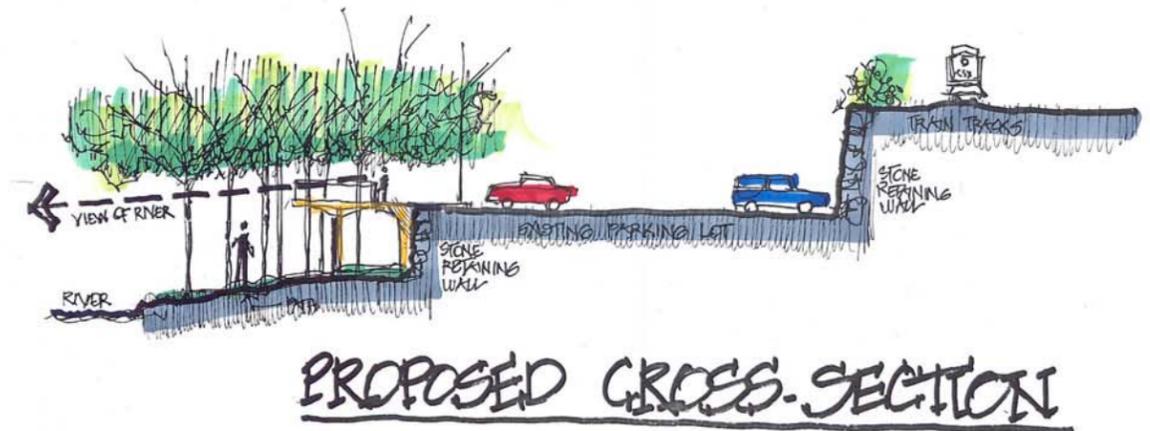
### **3.2.4 Design Concept Four: All 10 Design Elements**

Design Concept Four incorporates all 10 design elements in its layout (Figures 3-14 and 3-15). In addition to Concept Three, Concept Four includes the construction of two additional elevated boardwalks/piers (design elements 6 and 8) perpendicular to the existing retaining wall that would allow visitors an opportunity to access the river's edge for viewing. The additional pier structure located in the northern section of the study area (design element 8) could also be designed to allow persons with limited mobility to access the river's edge for fishing. The river adjacent to design element 8 consists of a large pool that ranges between three to four feet in depth with some deeper areas probably present. The hand railing located at the end of this pier structure would need to be designed allowing wheelchair users to have direct view of the river.

Design Concept Four would require the most amount of construction and land disturbance in comparison to the previous concepts. However, with the removal of the concrete (proposed under design element 10) currently located in the northern section of the study area in the riparian buffer, it is estimated that there will be a reduction in impervious surface inside the study area with the implementation of Design Concept Four. With the additional pier structures, maintenance requirements would slightly increase under this Concept Design in comparison to Concept Design Three.



**FIGURE 3-14: DESIGN CONCEPT FOUR**



**FIGURE 3-15: DESIGN CONCEPT FOUR – RENDERING AND CROSS SECTION**

### 3.3 LANDSCAPING OPPORTUNITIES/RECOMMENDATIONS

It is recommended that landscaping in the study area be accomplished by removing exotic species and all new plantings involve species native to the region. A list of trees, shrubs, and herbaceous vegetation currently present in the study area or indigenous to the area has been compiled for consideration. Many of the species listed have ornamental value and would enhance the aesthetics of the area. To the extent feasible, the existing trees should be incorporated into the landscaping as replanting of trees is not recommended.

#### 3.3.1 Recommended Trees

The trees listed Table 3-1 are currently present in the riparian area within the study area. The listed species are native to the area and are therefore recommended to be incorporated into the project's landscape.

**TABLE 3-1: RECOMMENDED TREE SPECIES**

Tree Name	Scientific Name	Notes
Sycamore	<i>Platanus occidentalis</i>	dominant canopy species present – good riparian tree species
Box elder	<i>Acer negundo</i>	dominant subcanopy species present – it is native, but is sometimes considered to be a weedy species – many of the plants have a shrub type character with multiple stems
Black willow	<i>Salix nigra</i>	subcanopy species along the river bank – good riparian species
American beech	<i>Fagus grandifolia</i>	few present – good wildlife food source when the tree produces nuts
Silver maple	<i>Acer saccharinum</i>	few present – good riparian species

#### 3.3.2 Recommended Shrubs

Shrub species currently occurring on the site are limited to multiflora rose (*Rosa multiflora*), bush honeysuckle (*Lonicera* sp.), and wineberry (*Rubus phoenicolasius*). All three of these shrubs are exotic invasive species and should be removed.

The species listed in Table 3-2 are examples of low to moderate height native shrub species that occur in the Piedmont Region of Maryland, are suitable for riparian areas, tolerate partial to full shade, have high wildlife value, and some ornamental value.

### 3.3.3 Recommended Herbaceous Understory

Table 3-3 lists herbaceous understory species that are examples of native plants that occur in riparian areas, provide some ornamental value, and could be established, or currently occur on the site. These species could be planted in combination with other native herbaceous species that occur on the study area.

**TABLE 3-2: RECOMMENDED SHRUB SPECIES**

Shrub Name	Scientific Name	Notes
Spice bush	<i>Lindera benzoin</i>	good riparian shrub species – grows to approximately 10 feet in wooded areas – high wildlife value
Southern arrowwood	<i>Viburnum dentatum</i>	good riparian shrub species – grows to approximately 10 feet – moist to dry sandy soils in partial shade - high wildlife value
Mapleleaf viburnum	<i>Viburnum acerifolium</i>	good riparian species in moist, well drained soils in full sun to shade – grows to 7 feet - high wildlife value
Silky dogwood	<i>Cornus amomum</i>	good riparian species in wetter areas and along the river banks in open to partial shade – grows to 12 feet – high wildlife value
Common elderberry	<i>Sambucus canadensis</i>	good riparian species in wet to moist areas in full sun to full shade – grows to 12 feet – high wildlife value

**TABLE 3-3: RECOMMENDED HERBACEOUS UNDERSTORY SPECIES**

Name	Scientific Name	Notes
Jewelweed	<i>Impatiens sp.</i>	present on site – common native riparian and floodplain species
New York fern	<i>Thelypteris noveboracensis</i>	common native riparian and floodplain species – tolerates shade and partial shade – spreads easily – ornamental value
Christmas fern	<i>Polystichum acrostichoides)</i>	common native riparian and floodplain species – tolerates shade and partial shade – ornamental value
Royal fern	<i>Osmunda regalis</i>	native fern that tolerates full sun to full shade – good ornamental value
Smartweeds	<i>Polygonum spp.</i>	present on site – several common native riparian and floodplain species
False nettle	<i>Boehmeria cylindrical</i>	present on site – common native floodplain and riparian species
Bottlebrush grass	<i>Elymus hystrix</i>	native grass that tolerates moist to dry conditions in full sun to full shade – ornamental value
Virginia wildrye	<i>Elymus virginicus</i>	native grass that tolerates moist to dry conditions in partial to full shade – ornamental value
Indian woodoats	<i>Chasmanthium latifolium</i>	native clump grass that tolerates moist conditions and partial shade – high ornamental value

### 3.3.4 Wildflower

The wildflower species listed in Table 3-4 represent examples of flowers that could be incorporated into the landscape of the design concept in both shaded and open riparian areas. Numerous additional native species should do well in the study area if plant requirements are met. Wildflower mixes developed for Maryland Piedmont Region riparian habitats, available from commercial suppliers, could also be used. Some site preparation and management would be necessary to ensure successful plant establishment in the riparian environment.

**TABLE 3-4: RECOMMENDED WILDFLOWERS**

Name	Scientific Name	Notes
<b>Examples of Wildflowers for Shaded Riparian Areas</b>		
Wild columbine	<i>Aquilegia canadensis</i>	tolerates full sun to full shade and moist to dry conditions
Jack-in-the-pulpit	<i>Arisaema triphyllum</i>	tolerates partial to full shade and wet to moist conditions
Narrow-leaved spring beauty	<i>Claytonia virginica</i>	tolerates full shade and moist conditions
Toothwort	<i>Dentaria laciniata</i>	tolerates full shade and moist conditions
Dutchman's breeches	<i>Dicentra cucullaria</i>	tolerates full shade and moist conditions
Round-lobed hepatica	<i>Hepatica americana</i>	tolerates partial to full shade and moist to dry conditions
Woodland blue flox	<i>Phlox divaricata</i>	tolerates partial to full shade in moist conditions
Solomon's seal	<i>Polygonatum biflorum</i>	tolerates partial to full shade in moist to dry conditions
<b>Examples of Wildflowers for Open Riparian Areas</b>		
Butterfly weed	<i>Asclepias tuberosa</i>	tolerates full sun to partial shade in moist to dry areas – high ornamental value
Wild bergamot	<i>Monarda fistulosa</i>	tolerates full sun to partial shade in moist to dry conditions
Beardtongue	<i>Penstemon digitalis</i>	tolerates full sun to partial shade in moist to dry conditions
Black-eyed Susan	<i>Rudbeckia hirta</i>	tolerates full sun to partial shade in moist to dry conditions
Early saxifrage	<i>Saxifraga virginensis</i>	tolerates full sun to full shade in moist to dry conditions
Golden ragwort	<i>Senecio aureus</i>	tolerates full sun to full shade in wet to moist conditions
Virginia spiderwort	<i>Tradescantia virginiana</i>	tolerates full sun to full shade in moist conditions

### **3.3.5 Management of Exotic Invasive Species**

The majority of vine and understory species occurring in the floodplain habitat at the study area are exotic invasive species. Exotic species include nonindigenous species that humans intentionally or unintentionally introduce into an area outside of the species natural range. Much of the obstruction of view across the site is the result of the presence and abundance of these species (e.g., oriental bittersweet). Exotic species become invasive when they proliferate, spread, and persist to the detriment of native species and ecosystems. Exotic invasive plant species currently represent one of the leading causes of native habitat loss in the United States. Exotic invasive species identified in the study area are listed in Table 2-2.

Removal and control of exotic invasive species on the Patapsco River site should be based on management approaches designed to target specific species. Use of mechanical methods (e.g., pulling, digging up, cutting, etc.) for the removal of target species should be used in all cases where it has been determined to be a successful approach. Most of the exotic invasive species identified on the site can be successfully removed and managed through mechanical methods without the use of herbicides. Use of chemical approaches for the control of some species (e.g., tree of heaven) may be necessary. In all cases, only people trained in the proper use and handling of herbicides should be used to apply the treatments. The type and concentration of herbicide and the method and timing of application should be based on known successful treatment approaches for the targeted species and site-specific conditions (i.e., proximity to the river).

Monitoring and persistence in the repeated removal of species that reappear on the site is the key to long-term success. Monitoring of the site and repeated removal of exotic invasive species that reappear will be necessary for long-term success due to the accumulation of seed stock on the site, upstream sources of new seeds, and the ability of several species to restart from rootstock left after the plant has been removed.

Exotic invasive species management provides a great opportunity to get the community involved in management of the site. Volunteers have been successful in the control of exotic invasive species at numerous sites in Maryland and across the United States. Involvement of volunteers, including students and other youth groups, provides good opportunities to educate people regarding the threat of exotic invasive species and current approaches to their control and management, and provides the labor force necessary to successfully control these plants.

## **3.4 CONSTRUCTION COSTS**

Order of magnitude costs have been estimated for the four design concepts and are summarized in Tables 3-5 and 3-6 below. The total cost is estimated to range approximately between \$660,000 (Concept One) and \$955,000 (Concept Two). Greater cost estimate details for each design elements are provided in Table 3-7.

**TABLE 3-5: CONSTRUCTION COSTS FOR DESIGN CONCEPTS ONE AND TWO**

<b>DESIGN CONCEPT ONE</b>		
1 Design Element 1	\$	107,500
2 Design Element 2	\$	7,500
3 Design Element 4	\$	168,140
4 Design Element 9	\$	23,250
5 Design Element 10	\$	76,100
6 Conduct Initial Engineering Study (Site Surveying, Limited Geo-tech Borings, Retainin Wall Analysis)	\$	20,000
7 Perform Architectural/Engineering Services (Prepare Construction/Bid Documents, Const Administration)	\$	40,000
	<b>SUBTOTAL 'DC 1':</b>	<b>\$ 442,490</b>
<b>ADD:</b> Contingency at 15%	\$	66,374
<b>ADD:</b> General Conditions at 5%	\$	22,125
<b>ADD:</b> Performance Bond at 1.5%	\$	6,637
<b>ADD:</b> Insurances at 1%	\$	4,425
<b>ADD:</b> Mobilization/Demobilization at 1%	\$	4,425
<b>ADD:</b> Contractor's Overhead at 15%	\$	66,374
<b>ADD:</b> Contractor's Profit at 10%	\$	44,249
	<b>TOTAL ESTIMATED FOR DESIGN CONCEPT ONE:</b>	<b>\$ 657,098</b>
	<b>SAY</b>	<b>\$ 660,000</b>
<b>DESIGN CONCEPT TWO</b>		
1 Design Element 1	\$	107,500
2 Design Element 2	\$	7,500
3 Design Element 3	\$	37,500
4 Design Element 4	\$	168,140
5 Design Element 9	\$	23,250
6 Design Element 10	\$	76,100
7 Conduct Initial Engineering Study (Site Surveying, Limited Geo-tech Borings, Retainin Wall Analysis)	\$	20,000
8 Perform Architectural/Engineering Services (Prepare Construction/Bid Documents, Const Administration)	\$	45,000
	<b>SUBTOTAL 'DC 2':</b>	<b>\$ 484,990</b>
<b>ADD:</b> Contingency at 15%	\$	72,749
<b>ADD:</b> General Conditions at 5%	\$	24,250
<b>ADD:</b> Performance Bond at 1.5%	\$	7,275
<b>ADD:</b> Insurances at 1%	\$	4,850
<b>ADD:</b> Mobilization/Demobilization at 1%	\$	4,850
<b>ADD:</b> Contractor's Overhead at 15%	\$	72,749
<b>ADD:</b> Contractor's Profit at 10%	\$	48,499
	<b>TOTAL ESTIMATED FOR DESIGN CONCEPT TWO:</b>	<b>\$ 720,210</b>
	<b>SAY</b>	<b>\$ 720,000</b>

**TABLE 3-6: CONSTRUCTION COSTS FOR DESIGN CONCEPTS THREE AND FOUR**

<b>DESIGN CONCEPT THREE</b>		
1	Design Element 1	\$ 107,500
2	Design Element 2	\$ 7,500
3	Design Element 3	\$ 37,500
4	Design Element 4	\$ 168,140
5	Design Element 5	\$ 52,700
6	Design Element 7	\$ 52,700
7	Design Element 9	\$ 23,250
8	Design Element 10	\$ 76,100
9	Conduct Initial Engineering Study (Site Surveying, Limited Geo-tech Borings, Retainin Wall Analysis)	\$ 20,000
10	Perform Architectural/Engineering Services (Prepare Construction/Bid Documents, Const Administration)	\$ 55,000
		<b>SUBTOTAL 'DC 3': \$ 600,390</b>
<b>ADD:</b> Contingency at 15%		\$ 90,059
<b>ADD:</b> General Conditions at 5%		\$ 30,020
<b>ADD:</b> Performance Bond at 1.5%		\$ 9,006
<b>ADD:</b> Insurances at 1%		\$ 6,004
<b>ADD:</b> Mobilization/Demobilization at 1%		\$ 6,004
<b>ADD:</b> Contractor's Overhead at 15%		\$ 90,059
<b>ADD:</b> Contractor's Profit at 10%		\$ 60,039
		<b>TOTAL ESTIMATED FOR DESIGN CONCEPT THREE: \$ 891,579</b>
		<b>SAY \$ 890,000</b>
<b>DESIGN CONCEPT FOUR</b>		
1	Design Element 1	\$ 107,500
2	Design Element 2	\$ 7,500
3	Design Element 3	\$ 37,500
4	Design Element 4	\$ 168,140
5	Design Element 5	\$ 52,700
6	Design Element 6	\$ 20,700
7	Design Element 7	\$ 52,700
8	Design Element 8	\$ 20,700
9	Design Element 9	\$ 23,250
10	Design Element 10	\$ 76,100
11	Conduct Initial Engineering Study (Site Surveying, Limited Geo-tech Borings, Retainin Wall Analysis)	\$ 20,000
12	Perform Architectural/Engineering Services (Prepare Construction/Bid Documents, Const Administration)	\$ 55,000
		<b>SUBTOTAL 'DC 4': \$ 641,790</b>
<b>ADD:</b> Contingency at 15%		\$ 96,269
<b>ADD:</b> General Conditions at 5%		\$ 32,090
<b>ADD:</b> Performance Bond at 1.5%		\$ 9,627
<b>ADD:</b> Insurances at 1%		\$ 6,418
<b>ADD:</b> Mobilization/Demobilization at 1%		\$ 6,418
<b>ADD:</b> Contractor's Overhead at 15%		\$ 96,269
<b>ADD:</b> Contractor's Profit at 10%		\$ 64,179
		<b>TOTAL ESTIMATED FOR DESIGN CONCEPT FOUR: \$ 953,058</b>
		<b>SAY \$ 955,000</b>

**TABLE 3-7: DETAIL CONSTRUCTION COSTS FOR EACH DESIGN ELEMENT**

Item Description/Task:	Quantity:	Unit:	Material/Labor & Equipment Unit Cost:	TOTAL Item Cost:
<b>DESIGN ELEMENT ONE</b>				
1 Clearing and Grading (Allowance - Removal of shrubs)	2,000	SF	\$ 10.00	\$ 20,000
2 Inspect/Repair of Retaining Wall (Allowance)	200	LF	\$ 60.00	\$ 12,000
3 Install Semi-Pervious Sidewalk (Includes Sub-base, Brick/Stone Pavers)	2,000	SF	\$ 30.00	\$ 60,000
4 Install Hand-Rail (Allowance)	200	SF	\$ 35.00	\$ 7,000
5 Install Gate (Metal Gate Access to Electrical Metering Station)	200	SF	\$ 35.00	\$ 7,000
6 Stormdrain Inlet (Shallow Drop Inlet)	1	EA	\$ 1,500.00	\$ 1,500
<b>SUBTOTAL 'DE 1':</b>				<b>\$ 107,500</b>
<b>DESIGN ELEMENT TWO</b>				
1 Install Park Signage on Main Street (Includes Graphic Design)	1	EA	\$ 5,000.00	\$ 5,000
2 Install Interpretive Signage (Includes Graphic Design)	1	EA	\$ 2,500.00	\$ 2,500
<b>SUBTOTAL 'DE 2':</b>				<b>\$ 7,500</b>
<b>DESIGN ELEMENT THREE</b>				
1 Install Elevated Boardwalk from Sidewalk (Allowance - Assume 6ft Wide Wooden Pier Structure with Concrete Support Structure)	300	SF	\$ 55.00	\$ 16,500
2 Install Stairs from Boardwalk to Ground Level (Allowance - Assume Wooden Structure)	120	SF	\$ 35.00	\$ 4,200
3 Install Hand Rail (Allowance)	400	LF	\$ 35.00	\$ 14,000
4 Delineate 3ft Wide Trail (Allowance - Assume Minor Clearing of shrubs)	350	LF	\$ 8.00	\$ 2,800
<b>SUBTOTAL 'DE 3':</b>				<b>\$ 37,500</b>
<b>DESIGN ELEMENT FOUR</b>				
1 Inspect/Repair of Retaining Wall (Allowance)	200	LF	\$ 60.00	\$ 12,000
2 Install Elevated Boardwalk Cantilevering from Retaining Wall (Allowance - Assume 10ft Wide Wooden Pier Structure with Concrete Support Structure)	2,500	SF	\$ 55.00	\$ 137,500
3 Install Hand Rail (Allowance)	250	LF	\$ 35.00	\$ 8,750
4 Install New Sod in Grass Areas (Assume 1" grass, on Level Ground, w/ Site Prep)	600	SF	\$ 0.65	\$ 390
5 Install New Low Plants/Shrubs/Flowers (Assume 20Ea @ \$75)	20	EA	\$ 75.00	\$ 1,500
6 Install New Metal Waste Receptacles (To Match Curved Metal Benches & Picnic Tables)	4	EA	\$ 750.00	\$ 3,000
7 Install New Interpretive Signage at Selected Locations (Includes Graphic Design)	2	EA	\$ 2,500.00	\$ 5,000
<b>SUBTOTAL 'DE 4':</b>				<b>\$ 168,140</b>

**TABLE 3-7: DETAIL CONSTRUCTION COSTS FOR EACH DESIGN ELEMENT (CONT.)**

Item Description/Task:	Quantity:	Unit:	Material/Labor & Equipment Unit Cost:	TOTAL Item Cost:
<b>DESIGN ELEMENT FIVE</b>				
1 Install Elevated D-Shape Boardwalk (Allowance - Assume 8ft Wide Wooden Pier Structure with Concrete Support Structure)	640	SF	\$ 55.00	\$ 35,200
2 Install Hand Rail (Allowance)	300	LF	\$ 35.00	\$ 10,500
3 Install Metal Benches (4 seats, Black, Mounted)	2	EA	\$ 1,000.00	\$ 2,000
4 Install New Interpretive Signage at Selected Locations (Includes Graphic Design)	2	EA	\$ 2,500.00	\$ 5,000
	<b>SUBTOTAL 'DE 5':</b>			<b>\$ 52,700</b>
<b>DESIGN ELEMENT SIX</b>				
1 Install Elevated Boardwalk from Sidewalk (Allowance - Assume 6ft Wide Wooden Pier Structure with Concrete Support Structure)	300	SF	\$ 55.00	\$ 16,500
2 Install Hand Rail (Allowance)	120	LF	\$ 35.00	\$ 4,200
	<b>SUBTOTAL 'DE 6':</b>			<b>\$ 20,700</b>
<b>DESIGN ELEMENT SEVEN</b>				
1 Install Elevated D-Shape Boardwalk (Allowance - Assume 8ft Wide Wooden Pier Structure with Concrete Support Structure)	640	SF	\$ 55.00	\$ 35,200
2 Install Hand Rail (Allowance)	300	LF	\$ 35.00	\$ 10,500
3 Install Metal Benches (4 seats, Black, Mounted)	2	EA	\$ 1,000.00	\$ 2,000
4 Install New Interpretive Signage at Selected Locations (Includes Graphic Design)	2	EA	\$ 2,500.00	\$ 5,000
	<b>SUBTOTAL 'DE 7':</b>			<b>\$ 52,700</b>
<b>DESIGN ELEMENT EIGHT</b>				
1 Install Elevated Boardwalk from Sidewalk (Allowance - Assume 6ft Wide Wooden Pier Structure with Concrete Support Structure)	300	SF	\$ 55.00	\$ 16,500
2 Install Hand Rail (Allowance)	120	LF	\$ 35.00	\$ 4,200
	<b>SUBTOTAL 'DE 8':</b>			<b>\$ 20,700</b>
<b>DESIGN ELEMENT NINE</b>				
1 Clearing and Grading (Allowance - Removal of shrubs)	1,600	SF	\$ 10.00	\$ 16,000
2 Install ADA Compliant Ramp (Allowance)	100	SF	\$ 55.00	\$ 5,500
3 Install Stairs from Boardwalk to Ground Level (Allowance)	50	SF	\$ 35.00	\$ 1,750
	<b>SUBTOTAL 'DE 9':</b>			<b>\$ 23,250</b>

**TABLE 3-7: DETAIL CONSTRUCTION COSTS FOR EACH DESIGN ELEMENT (CONT.)**

Item Description/Task:	Quantity:	Unit:	Material/Labor & Equipment Unit Cost:	TOTAL Item Cost:
<b>DESIGN ELEMENT TEN</b>				
1 Clearing and Grading (Allowance - Removal of shrubs)	3,000	SF	\$ 10.00	\$ 30,000
2 Remove Concrete located in the Riparian Buffer (Allowance - Assume Removal)	3,000	SF	\$ 10.00	\$ 30,000
3 Install New Sod in Grass Area (Assume 1" grass, on Level Ground, w/ Site Prep)	4,000	SF	\$ 0.65	\$ 2,600
4 Install New Riparian Habitat Plants/Shrubs/Flowers Throughout Site (Assume 36 Ea @ \$75)	36	EA	\$ 75.00	\$ 2,700
5 Install Riparian Habitat Trees throughout Site (Assume 12 Ea @ \$900)	12	EA	\$ 900.00	\$ 10,800
<b>SUBTOTAL 'DE 10':</b>				<b>\$ 76,100</b>

## 4.0 CONCLUSIONS AND RECOMMENDATION

After consideration of the existing conditions and public input, four concept designs were developed (see Chapter 3). All four concept designs meet the stated objective and goals of the study, fulfill the need for passive recreation, and conforms with the recognized site constraints (i.e., floodplains, riparian habitat, and sewer main). In order to move one of the concept designs forward into the implementation phase the following major tasks would need to be achieved:

**1 – Boundary Survey.** A survey of the site would need to be performed to identify the exact extent of the study area's property, exact location of utilities on site, location significant trees that would remain, site topography, and site benchmarks.

**2 – Design Process.** A schematic drawing based on the outcome of the Boundary Survey and the approved concept design (see Chapter 3) would be completed. Using the schematic drawing, the design development approval process would be initiated. This process involves the development of construction drawings and specifications produced by various engineers (i.e., civil, electrical, and structural), landscape architects, and architects.

**3 – Project Bidding and Permitting.** Using the construction drawings and specifications produced under Task 2, the project would be bid for construction and required permitting would be accomplished.

Based on the site features, as discussed in Chapter 2, permitting and approvals will be required for various Howard County agencies (i.e., Environmental, Planning, and Public Works). Additionally, permitting with the U.S. Army Corps of Engineers could be required if any of the proposed boardwalk structures would be extended onto the Patapsco River.

## **Appendix A – Public Involvement**

**October 19, 2004 – Informational Workshop I**



# Howard County Government Media Advisory

Office of Public Information  
3450 Courthouse Drive  
Ellicott City, Maryland, 21043

410-313-2022 / FAX 410-313-3299 / [www.co.ho.md.us](http://www.co.ho.md.us)

Victoria Goodman, Administrator  
[vgoodman@co.ho.md.us](mailto:vgoodman@co.ho.md.us)

## **DRAFT**

October 4, 2004

### **Media Contacts:**

Victoria Goodman, Public Information Administrator, 410-313-2022

John Byrd, Chief, Bureau of Parks, Dept. of Recreation and Parks, 410-313-4640

## **Department of Recreation and Parks Plans Workshop to Collect Feedback on the Patapsco River Open Space Improvements Study**

ELLICOTT CITY, MD. An informational workshop will be hosted by the Department of Recreation and Parks and the Army Corps of Engineers to discuss the feasibility of improving access to the Patapsco Riverfront in Historic Ellicott City from a county-owned open space parcel along the river. The workshop is set for Tuesday, October 19 at 7 p.m. in the Ellicott Room of the Howard Building, 3430 Courthouse Drive, Ellicott City.

Citizens are invited to participate in the planning process and to submit ideas or concerns for use and possible improvements to the open space, a tree-and-vegetation covered parcel, 300 feet long and 60 feet wide, just north of the Patapsco River Bridge and accessed by the municipal parking lot off Main Street.

A study team is currently gathering and analyzing data to identify opportunities and constraints for improvement of the open space. The study team is expected to offer several alternatives to improve access to the riverfront while retaining the passive recreational character of the area and the integrity of the natural flood plain.

For more information on the Workshop, please contact John Byrd, 410-313-4640, or e-mail him at [jbyrd@co.ho.md.us](mailto:jbyrd@co.ho.md.us)

**Patapsco River Open Space Improvements  
Mailing List**

Congressional Interest

Honorable Elijah E. Cummings  
United States House of Representatives  
1632 Longworth H.O.B.  
Washington, D.C. 20515

Honorable Elijah E. Cummings  
United States House of Representatives  
1010 Park Avenue  
Suite 105  
Baltimore, Maryland 21207

Honorable Elijah E. Cummings  
United States House of Representatives  
754 Frederick Road  
Catonsville, MD 21228

State Interest

Delegate Gail H. Bates  
Lowe House Office Building, Room 306  
84 College Ave.  
Annapolis, MD 21401

Delegate Warren Miller  
Lowe House Office Building, Room 306  
84 College Ave.  
Annapolis, MD 21401 - 1991

Mr. Gary Burnett  
Maryland Department of Natural Resources  
State Forest & Park Service  
Patapsco Valley State Park  
8020 Baltimore National Pike  
Ellicott City, Maryland 21043

Maryland Cooperative Extension Service  
Attn: Ms. Georgia Eacker  
3525 Ellicott Mills Drive  
Suite L  
Ellicott City, Maryland 21043-4622

County Interest

Council Member Christopher J. Merdon  
3430 Courthouse Drive  
Ellicott City, Maryland 21043

Howard County Tourism  
P.O. Box 9  
Ellicott City, Maryland 21041

Howard County Master Gardeners  
3525-L Ellicott City Mills  
Ellicott City, Maryland 21043

Baltimore County Dept. of Recreation and Parks  
Attn: Ms. Jean Tansey, Chief Capital Planning  
and Development  
301 Washington Avenue  
Towson, Maryland 21204

League of Women Voters  
Attn: Ms. Betsy Grater, President  
10632 Little Patuxent Parkway  
Suite 10  
Columbia, Maryland 21044

League of Women Voters  
Attn: Ms. Kathy Heidepriem  
12243 Mt. Albert Road  
Ellicott City, Maryland 21042-1336

Local Interest

Oella Company, Inc.  
Attn: Mr. Charles L. Wagandt  
803 Oella Avenue  
Ellicott City, Maryland 21043

Washington Quality Foods  
Attn: Mr. Tom Rogers  
27 Frederick Road  
Baltimore, Maryland 21228

Ellicott City Business Association  
Attn: Mr. Jarrad Spahn  
5310 Dorsey Hall Drive  
Ellicott City, Maryland 21043

Audubon Society of Central Maryland  
Attn: Mr. Robert Schaefer  
P.O. Box 660  
Mount Airy, Maryland 21771

Audubon Society of Central Maryland  
Attn: Robin Kummer  
3248 Murray Road  
Finksburg, Maryland 21048-2408

**Patapsco River Open Space Improvements  
Mailing List**

Chesapeake Audubon Society  
Attn: Mr. Mark Schilling  
P.O. Box 317,  
Baltimore, MD 21228

Howard County Sierra Club  
Attn: Mr. Dennis Luck  
7015 Pindell School Road  
Fulton, Maryland 20759-9716

Trout Unlimited  
Attn: Mr. Jay Sheppard  
3359 Cranberry Road  
Laurel, Maryland 20724-2419

Center for Watershed Protection  
Attn: Mr. Tom Schueler  
8391 Main Street  
Ellicott City, Maryland 21043-4605

Howard County Conservancy  
Attn: Mr. Ned Tillman, President  
4811 Manor Lane  
Ellicott City, Maryland 21043-6119

Howard County Conservancy  
Attn: Ms. Lynne Nemeth  
P.O. Box 175  
Woodstock, Maryland 21163-0175

Patapsco Female Institute Historical Park  
P.O. Box 293  
3691 Sarah's Lane  
Ellicott City, Maryland 21041

Ellicott City Restoration Foundation  
P.O. Box 92  
Ellicott City, Maryland 21041

Historic Ellicott City, Inc.  
P.O. Box 244  
Ellicott City, Maryland 21041

Ellicott City B&O Railroad Station Museum  
Attn: Ms. Lisa Mason Chaney  
2711 Maryland Avenue  
Ellicott City, Maryland 21043

Patapsco Valley and Heritage  
P.O. Box 96  
Ellicott City, Maryland 21041

The Trolley Stop  
Attn: Fran Fields  
6 Oella Avenue  
Ellicott City, Maryland 21043

Old Mill Bakery & Café  
Attn: Mr. John Read  
4 Frederick Road  
Ellicott City, Maryland 21043

8000 Main Street Companies  
Attn: Mr. Don Reuwer  
8000 Main Street  
Ellicott City, Maryland 21043

The Phoenix  
Attn: Mr. Mark Hemmis  
8049 Main Street  
Ellicott City, Maryland 21043

Forget-Me-Not-Factory  
Attn: MR. Barry Gibson  
8044 Main Street  
Ellicott City, Maryland 21043

Zebop  
Attn: Mr. Tom Canning  
8034 Main Street  
Ellicott City, Maryland 21043

Three Kings of Egypt  
Attn: Mr. Mohamed Askar  
8020 Main Street  
Ellicott City, Maryland 21043

Retropolitan  
Attn: Ms. Ryland  
8006 Main Street  
Ellicott City, Maryland 21043

Joan Eve  
Attn: Ms. Joan Shea  
8018 Main Street  
Ellicott City, Maryland 21043

**Patapsco River Open Space Improvements  
Mailing List**

Antique Depot  
Attn: Mr. John Lantenbach  
3720 Maryland Avenue  
Ellicott City, Maryland 21043

Clay Station  
Maryland Avenue  
Ellicott City, Maryland 21043

Ms. Cindy Hirshberg  
Tiber-Husdon Watershed Partnership  
3194 St. Johns Lane  
Ellicott City, Maryland 21042-2602

Lawyers Hill-Rockburn Association  
Attn: Ms. Cathy Hudson, President  
6018 Old Lawyers Hill Road  
Elkridge, Maryland 21075-6923

Columbia Association  
Attn: Ms. Jan Clark  
10221 Wincopin Circle  
Columbia, Maryland 21044-4645

Columbia Association  
Attn: Mr. Chick Rhodehamel  
10221 Wincopin Circle  
Columbia, Maryland 21044-3496

Maryland League of Conservation Voters  
Attn: Ms. Nancy Davis  
7172 Sanner Road  
Clarksville, Maryland 21029-1803

Chesapeake Bay Trust  
Attn: Ms. Kerri Bentkowski  
3891 White Rose Way  
Ellicott City, Maryland 21042-5827

Clark's Elioak Farm  
Attn: Ms. Martha Ann Clark  
4370 Centennial Lane  
Ellicott City, Maryland 21043-6214

PTA Council of Howard County  
Attn: Ms. Marianne Pettis  
14254 Tridelphia Road  
Glenelg, Maryland 21737-9524

Slater Associates, Inc.  
Attn: Mr. John Slater, President  
5560 Sterrett Place  
#302  
Columbia, Maryland 21044-2629

Middle Patuxent Environmental Area  
Attn: Ms. Cheryl Farfaras, Manager  
7120 Oakland Mills Road  
Columbia, Maryland 21046-1621

Middle Patuxent Valley Association  
Attn: Mr. Ken Paynter  
6333 Departed Sunset Lane  
Columbia, Maryland 21044-6009

Forestry Board  
Attn: Mr. Jim Rose  
5455 Wingbome Court  
Columbia, Maryland 21045-2450

Ellicott City Residence Association  
Attn: Mr. Dan Murray  
4914 Worthington Way  
Ellicott City, Maryland 21043

Greater Elkridge Community Association  
Attn: Mr. David Grabowski  
6379 Euclid Avenue  
Elkridge, Maryland 21075

October 6, 2004



Howard County Government  
Department of Recreation & Parks  
7120 Oakland Mills Road  
Columbia, MD 21046

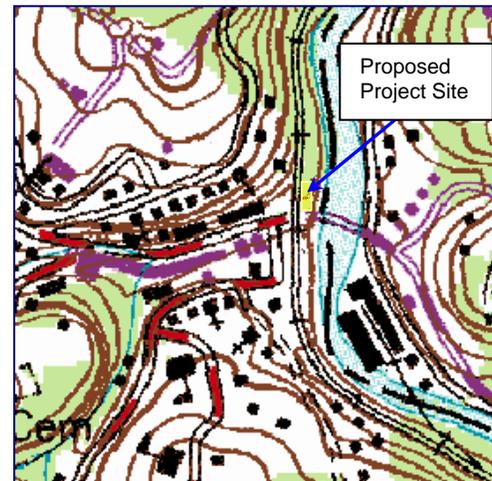
# Public Notice

## Department of Recreation and Parks Plans Workshop to Collect Feedback on the Patapsco River Open Space Improvements Study

An informational workshop will be hosted by the Department of Recreation and Parks and the Army Corps of Engineers to discuss the feasibility of improving access to the Patapsco Riverfront in Historic Ellicott City from a county-owned open space parcel along the river. The workshop is set for Tuesday, October 19 at 7 p.m. in the Ellicott Room of the Howard Building, 3430 Courthouse Drive, Ellicott City.

Citizens are invited to participate in the planning process and to submit ideas or concerns for use and possible improvements to the open space. The open space site is a tree-and-vegetation covered parcel, 300 feet long and 60 feet wide, just north of the Patapsco River Bridge and accessed by the municipal parking lot off Main Street.

The proposed study is an initial planning-level effort that will include preliminary sketches of potential enhancements for consideration at the site. The proposed study is expected to offer several alternatives to improve access to the riverfront while retaining the passive recreational character of the area and the integrity of the natural flood plain.



The workshop will offer opportunities for the public to share ideas on the development of the area and identify any concerns. Currently, the study team is gathering and analyzing data to identify opportunities and constraints for improvements of the open space. The study team will share this information at the workshop. The public is encouraged to attend, review the information to be presented and offer their comments. Public comments will be recorded and considered as part of the study process.

This public notice is being sent to organizations and individuals known to have an interest in this study (Enclosure). Please bring this notice to the attention of any other organizations or individuals with an interest in this matter. For more information on the Workshop or the Patapsco River Open Space Improvements study, please contact Mr. John Byrd, Chief, Bureau of Parks and Program Services, Phone: (410) 313-4640, or e-mail: [jbyrd@co.ho.md.us](mailto:jbyrd@co.ho.md.us).



# Historic Ellicott City Patapsco River Open Space Study

## Informational Workshop

October 19, 2004



## Agenda

- ▶ Welcome and Introductions
- ▶ Opening Remarks
- ▶ Present Study Objectives and Goals
  - Feedback Session: Study Objectives and Goals
- ▶ Present Site Constraints and Opportunities
  - Feedback Session: Site Constraints and Opportunities
- ▶ Next Steps and Wrap Up

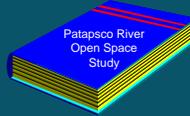


## Purpose of Workshop

- ▶ Opportunity for all study partners to provide feedback!



USACE, Baltimore District



Howard County, Department of Recreation and Parks



Interested Community Members

Patapsco River Open Space



## Study Activities

- ▶ Tasks include:
  - Stakeholder Workshop(s)
  - Data Inventory and Collection
  - Identification of Enhancement and Passive Use Opportunities
  - Report

Patapsco River Open Space





## Study Objective and Goals:

### OBJECTIVE:

Create Opportunity for Public Use and Enhance the Riparian Area.

### GOALS:

1. Create Passive Recreational Use
2. Enhance the Environmental Character
3. Maintain the Natural Floodplain
4. Other (FEED BACK)



## Site Constraints and Opportunities

- ▶ Zoning
- ▶ Water Resources
- ▶ Floodplain
- ▶ Topography
- ▶ Soils
- ▶ Fish and Wildlife
- ▶ Vegetation
- ▶ Cultural Resources
- ▶ Utilities



## Zoning

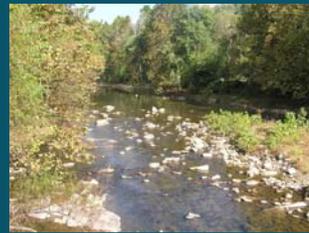
- ▶ Study Area = Office/Commercial
- ▶ North of Study Area = Low Density Residential
- ▶ West of Study Area = High Density Residential



## Water Resources

- ▶ Large pool with riffle upstream of the bridge
- ▶ An Island occurs in the central area of the river
- ▶ Substrate = cobbles and boulders with areas of sand and silt accumulation
- ▶ No indication of wetlands

*“The abundance of boulders and cobbles in the substrate along with the large pool area, areas of overhanging vegetation, and other instream structures provides good potential habitat for fish and other aquatic fauna.”*





## Water Resources

Patapsco River Open Space

- ▶ Section 16.116. Protection of Wetlands, Streams, and Steep Slopes
- ▶ Riparian Buffer Requirement: 50 Feet of perennial streambank in nonresidential zoning districts



## Floodplain

Patapsco River Open Space

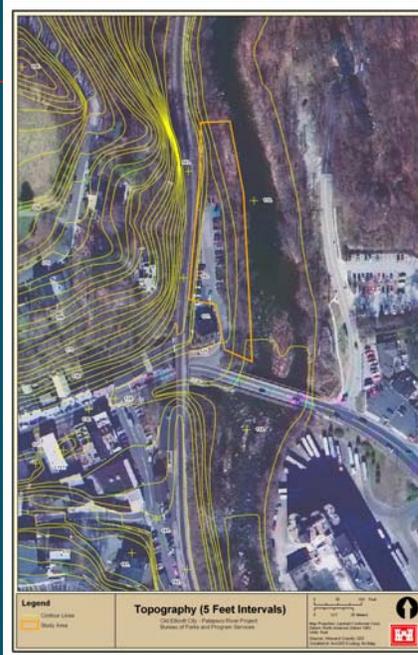
- ▶ Site is located in the 100-Year Floodplain
- ▶ Section 16.115. Floodplain Preservation





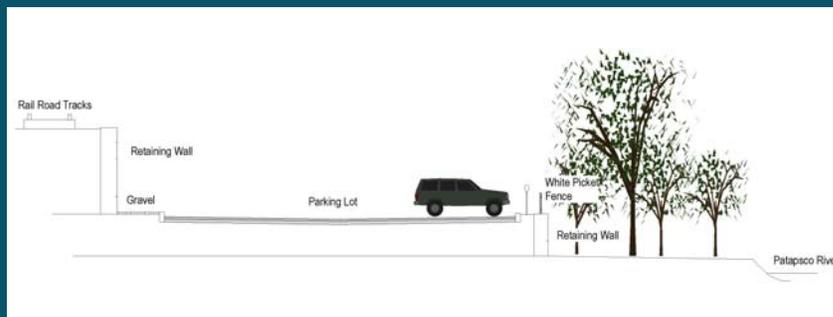
## Topography

- ▶ Tiered Topography:
  - 1<sup>st</sup> Tier = Railroad Tracks
  - 2<sup>nd</sup> Tier = Parking Lot
  - 3<sup>rd</sup> Tier = River's Edge
- ▶ 3<sup>rd</sup> Tier is flat and slopes gently to the river's edge.



## Topography

### Typical Site Cross-Section





## Soils

- ▶ Codorus Silt Loam (Co).
  - Occurs on floodplains
  - Moderately well drained or somewhat poorly drained
  - Slope = 0 to 3%
  - Seasonal high water table
  - Disturbed by past development, concrete (bridge, parking lot, dam, sewer, etc.)
  - Boulders placed on floodplain for bank stabilization.
  - Banks of the floodplain: recently deposited fine sands and silt from floods



## Fish and Wildlife

- ▶ Wildlife signs observed
  - Raccoon
  - White-tailed deer
  - Several bird species
  - Bluegills and bass in river



*“Provides habitat for species that utilize floodplain corridors and adjacent riverine habitats.”*



## Vegetation

- ▶ Dominant tree species:
  - Sycamore (dominant overstory)
  - Box elder
- ▶ Other native tree species:
  - Black willow (4 on shoreline)
  - Black locust
  - American beech
  - Silver maple
  - Catalpa
- ▶ Native understory vegetation:
  - Jewelweed
  - Smartweeds
  - False nettle
  - Wood nettle
  - Virginia creeper
  - Grape



## Vegetation

- ▶ Exotic Invasive Species Identified in Study Area
  - Oriental bittersweet
  - English ivy
  - Japanese honeysuckle
  - Bush honeysuckle
  - Tree of heaven
  - Multi flora rose
  - Wineberry
  - Japanese hops
  - Privet
  - Stilt grass
  - Garlic mustard
  - Mile-a-minute weed



Oriental bittersweet

*“Exotic invasive plant species currently represent one of the leading causes of native habitat loss in the United States.”*

*“Exotic species become invasive when they proliferate, spread, and persist to the detriment of native species and ecosystems.”*



## Vegetation

- ▶ Section 16.117 Forest Conservation and Preservation of Natural Cover
- ▶ Howard County Landscape Manual
- ▶ Howard County Forest Conservation Manual



## Cultural Resources

- ▶ There are no historic sites within the study area.
- ▶ Surrounding sites include:
  - The Bridge Market
  - Old Nat'l Pike Milestone
  - Ellicott City RR Station
  - B&O RR Station (Historic Easement)
- ▶ Ellicott City Historic District – Section 16.118. Protection of Historic Resources





## Utilities

- ▶ A 30-inch sewer main runs between the parking lot retaining wall and the river's edge
- ▶ Overhead power lines and meter station are located in the southern section of the study area
- ▶ No water or natural gas lines bisect the study area
- ▶ Parking lot drains to one outfall, no pretreatment



## Opportunities

- ▶ Incorporate Low Impact Development (LID) Techniques into Existing Parking Lot.
- ▶ Interpretive Markers Highlighting Historical Significance
- ▶ Habitat Enhancement (e.g., Butterflies, Birds, Vegetation)
- ▶ Management of Invasive Species
- ▶ Wildlife/River Viewing
- ▶ Benches/Picnic Tables
- ▶ Landscaping
- ▶ Other (FEED BACK)



## Next Steps

- ▶ Consolidate input received from workshop
- ▶ Review site opportunities and constraints
- ▶ Formulate potential alternatives, uses, and features/amenities
- ▶ Prepare report
- ▶ Present potential alternatives, uses, and features/amenities to community

**Patapsco River Open Space Improvements Study  
Ellicott City, Maryland**

**Workshop Summary  
October 19, 2004 – 7pm to 8:30pm**

**Hosted By:  
Howard County – Department of Recreation and Parks  
And the  
U.S. Army Corps of Engineers – Baltimore District**

**Meeting Presenters:**

Howard County Department of Recreation and Parks  
John Byrd, Chief, Bureau of Parks and Program Services

U.S. Army Corps of Engineers – Baltimore District  
Susan Hughes, Program Manager

The Louis Berger Group, Inc.  
Daniel Bairley, AIA, Architect  
Michael Schuster, AICP, Planner

**Meeting Summary:**

An informational workshop was held to solicit public input on the study's goals and objective and design opportunities. The workshop took place on October 19 between 7pm and 8:30pm at the George Howard Building (Ellicott Room), Howard County Government Center. Approximately twelve citizens from the local community attended the workshop to listen and to voice their ideas on the future of the study area. An introduction to the project was provided by John Byrd (Howard County Recreation and Parks), followed by a brief discussion of the purpose of the workshop presented by Susan Hughes (Corps of Engineers – Baltimore District). Michael Schuster and Daniel Bairley (Louis Berger Group) then presented the study's objective and goals and collected public feedback. The following ideas were presented by the public during this feedback session:

- Verify the location of 100-Year floodplain within the study area. Has the location of the floodplain changed since last map by the Federal Emergency Management Agency (FEMA)? Include the location of the floodplain into Baltimore County.
- Any enhancements within the study area should be followed with a maintenance plan to address trash collection and other maintenance issues.
- In the past illegal activities (i.e., underage drinking and vandalism) have occurred in the study area and specifically beneath the bridge. Security issues will need to be addressed to attract the public to this site.
- Create an access point to the river for Canoe/Kayaking entry.
- Review historical planning documents for the study area.

Michael Schuster and Daniel Bairley (Louis Berger Group) continued by presenting the site constraints and opportunities within the study area. After their presentation, public feedback was again solicited to obtain the public's ideas for the future of study area. The following comments were received during this feedback session:

- Create a connection that would allow pedestrian crossing the bridge to gain easy access to the study area.
- All elements or activities proposed for the study area should be compliant with the Americans with Disabilities Act (ADA).
- Create a fishing area within the vicinity of the 3 to 4 foot pool located just north of the parking lot.
- Clean-up the debris from an old sewer line that currently lies in the bed of stream to the north and south of the bridge.
- Place interpretive signage in the study areas that presents the historical elements of the old Ellicott City Mill.
- Replace the old check dam that existing just north of the bridge. Historically the old dam created an ice skating surface for winter recreation.

In addition to the above comments, the identification of property ownership was briefly discussed at the workshop. The property within the study area is owned by Howard County; however, the identification of adjacent property holders still requires attention.

The workshop was adjourned at 8:30pm. It was indicated at the end of the workshop that a follow-up public meeting would be held to present the site alternatives to the public for further input in the near future.

**January 12, 2005 – Informational Workshop II**



# Howard County Government Media Advisory

Office of Public Information  
3450 Courthouse Drive  
Ellicott City, Maryland, 21043

410-313-2022 / FAX 410-313-3299 / [www.co.ho.md.us](http://www.co.ho.md.us)

Victoria Goodman, Administrator  
[vgoodman@co.ho.md.us](mailto:vgoodman@co.ho.md.us)

December 28, 2004

## **Media Contacts:**

Victoria Goodman, Public Information Administrator, 410-313-2022

John Byrd, Chief, Bureau of Parks, Dept. of Recreation and Parks, 410-313-4640

## **Department of Recreation & Parks to Present Initial Concept Plans on Patapsco River Open Space Improvements Study**

ELLICOTT CITY, MD – The Department of Recreation and Parks and the Army Corps of Engineers will hold a public meeting to present initial concept plans to improve access to the Patapsco Riverfront in Historic Ellicott City using a county-owned open space parcel along the river. The meeting will be held on Wednesday, January 12 at 7:30 pm in the Ellicott Room of the George Howard Building, 3430 Courthouse Drive, Ellicott City.

The parcel, located just north of the Patapsco River Bridge and accessed by the municipal parking lot off Main Street, is approximately 300-feet long by 60-feet wide, located within the 100-year floodplain and currently covered with a mixture of native and exotic vegetation. The concept was designed to retain the passive recreational character of the area and the integrity of the natural floodplain.

The presentation will include preliminary sketches, with variations, of site enhancements to be considered. The plans were developed following an extensive study and analysis of site conditions and a public hearing where individuals were invited to participate in the planning process by offering their ideas and concerns for the use and improvements to the open space parcel.

For more information on the public meeting or on the Patapsco River Open Space Improvements Study Workshop, please contact John Byrd, 410-313-4640, or e-mail him at [jbyrd@co.ho.md.us](mailto:jbyrd@co.ho.md.us)

**Patapsco River Open Space Improvements  
Mailing List**

Congressional Interest

Honorable Elijah E. Cummings  
United States House of Representatives  
1632 Longworth H.O.B.  
Washington, D.C. 20515

Honorable Elijah E. Cummings  
United States House of Representatives  
1010 Park Avenue  
Suite 105  
Baltimore, Maryland 21207

Honorable Elijah E. Cummings  
United States House of Representatives  
754 Frederick Road  
Catonsville, MD 21228

State Interest

Delegate Gail H. Bates  
Lowe House Office Building, Room 306  
84 College Ave.  
Annapolis, MD 21401

Delegate Warren Miller  
Lowe House Office Building, Room 306  
84 College Ave.  
Annapolis, MD 21401 - 1991

Mr. Gary Burnett  
Maryland Department of Natural Resources  
State Forest & Park Service  
Patapsco Valley State Park  
8020 Baltimore National Pike  
Ellicott City, Maryland 21043

Maryland Cooperative Extension Service  
Attn: Ms. Georgia Eacker  
3525 Ellicott Mills Drive  
Suite L  
Ellicott City, Maryland 21043-4622

County Interest

Council Member Christopher J. Merdon  
3430 Courthouse Drive  
Ellicott City, Maryland 21043

Howard County Tourism  
P.O. Box 9  
Ellicott City, Maryland 21041

Howard County Master Gardeners  
3525-L Ellicott City Mills  
Ellicott City, Maryland 21043

Baltimore County Dept. of Recreation and Parks  
Attn: Ms. Jean Tansey, Chief Capital Planning  
and Development  
301 Washington Avenue  
Towson, Maryland 21204

League of Women Voters  
Attn: Ms. Betsy Grater, President  
10632 Little Patuxent Parkway  
Suite 10  
Columbia, Maryland 21044

League of Women Voters  
Attn: Ms. Kathy Heidepriem  
12243 Mt. Albert Road  
Ellicott City, Maryland 21042-1336

Local Interest

Oella Company, Inc.  
Attn: Mr. Charles L. Wagandt  
803 Oella Avenue  
Ellicott City, Maryland 21043

Washington Quality Foods  
Attn: Mr. Tom Rogers  
27 Frederick Road  
Baltimore, Maryland 21228

Ellicott City Business Association  
Attn: Mr. Jarrad Spahn  
5310 Dorsey Hall Drive  
Ellicott City, Maryland 21043

Audubon Society of Central Maryland  
Attn: Mr. Robert Schaefer  
P.O. Box 660  
Mount Airy, Maryland 21771

Audubon Society of Central Maryland  
Attn: Robin Kummer  
3248 Murray Road  
Finksburg, Maryland 21048-2408

Chesapeake Audubon Society

**Patapsco River Open Space Improvements  
Mailing List**

Attn: Mr. Mark Schilling  
P.O. Box 317,  
Baltimore, MD 21228

Howard County Sierra Club  
Attn: Mr. Dennis Luck  
7015 Pindell School Road  
Fulton, Maryland 20759-9716

Trout Unlimited  
Attn: Mr. Jay Sheppard  
3359 Cranberry Road  
Laurel, Maryland 20724-2419

Center for Watershed Protection  
Attn: Mr. Tom Schueler  
8391 Main Street  
Ellicott City, Maryland 21043-4605

Howard County Conservancy  
Attn: Mr. Ned Tillman, President  
4811 Manor Lane  
Ellicott City, Maryland 21043-6119

Howard County Conservancy  
Attn: Ms. Lynne Nemeth  
P.O. Box 175  
Woodstock, Maryland 21163-0175

Patapsco Female Institute Historical Park  
P.O. Box 293  
3691 Sarah's Lane  
Ellicott City, Maryland 21041

Ellicott City Restoration Foundation  
P.O. Box 92  
Ellicott City, Maryland 21041

Historic Ellicott City, Inc.  
Attn: Ms. Janet Kusterer  
P.O. Box 244  
Ellicott City, Maryland 21041

Ellicott City B&O Railroad Station Museum  
Attn: Ms. Lisa Mason Chaney  
2711 Maryland Avenue  
Ellicott City, Maryland 21043

Patapsco Valley and Heritage

P.O. Box 96  
Ellicott City, Maryland 21041

The Trolley Stop  
Attn: Fran Fields  
6 Oella Avenue  
Ellicott City, Maryland 21043

Old Mill Bakery & Café  
Attn: Mr. John Read  
4 Frederick Road  
Ellicott City, Maryland 21043

8000 Main Street Companies  
Attn: Mr. Don Reuwer  
8000 Main Street  
Ellicott City, Maryland 21043

The Phoenix  
Attn: Mr. Mark Hemmis  
8049 Main Street  
Ellicott City, Maryland 21043

Forget-Me-Not-Factory  
Attn: Mr. Barry Gibson  
8048 Main Street  
Ellicott City, Maryland 21043

Zebop  
Attn: Mr. Tom Canning  
8034 Main Street  
Ellicott City, Maryland 21043

Three Kings of Egypt  
Attn: Mr. Mohamed Askar  
8020 Main Street  
Ellicott City, Maryland 21043

Retropolitan  
Attn: Ms. Ryland  
8006 Main Street  
Ellicott City, Maryland 21043

Joan Eve  
Attn: Ms. Joan Shea  
8018 Main Street  
Ellicott City, Maryland 21043

Antique Depot  
Attn: Mr. John Lantenbach

**Patapsco River Open Space Improvements  
Mailing List**

3720 Maryland Avenue  
Ellicott City, Maryland 21043

#302  
Columbia, Maryland 21044-2629

Clay Station  
Maryland Avenue  
Ellicott City, Maryland 21043

Middle Patuxent Environmental Area  
Attn: Ms. Cheryl Farfaras, Manager  
7120 Oakland Mills Road  
Columbia, Maryland 21046-1621

Ms. Cindy Hirshberg  
Tiber-Husdon Watershed Partnership  
3194 St. Johns Lane  
Ellicott City, Maryland 21042-2602

Middle Patuxent Valley Association  
Attn: Mr. Ken Paynter  
6333 Departed Sunset Lane  
Columbia, Maryland 21044-6009

Lawyers Hill-Rockburn Association  
Attn: Ms. Cathy Hudson, President  
6018 Old Lawyers Hill Road  
Elkridge, Maryland 21075-6923

Forestry Board  
Attn: Mr. Jim Rose  
5455 Wingbome Court  
Columbia, Maryland 21045-2450

Columbia Association  
Attn: Ms. Jan Clark  
10221 Wincopin Circle  
Columbia, Maryland 21044-4645

Ellicott City Residence Association  
Attn: Mr. Dan Murray  
4914 Worthington Way  
Ellicott City, Maryland 21043

Columbia Association  
Attn: Mr. Chick Rhodehamel  
10221 Wincopin Circle  
Columbia, Maryland 21044-3496

Greater Elkridge Community Association  
Attn: Mr. David Grabowski  
6379 Euclid Avenue  
Elkridge, Maryland 21075

Maryland League of Conservation Voters  
Attn: Ms. Nancy Davis  
7172 Sanner Road  
Clarksville, Maryland 21029-1803

Mr. Mark Wilson  
2642 West Chester Ave  
Ellicott City, MD 21043

Chesapeake Bay Trust  
Attn: Ms. Kerri Bentkowski  
3891 White Rose Way  
Ellicott City, Maryland 21042-5827

Mr. Ed Lilly  
4801 Wilkens Ave  
Baltimore, MD 21228

Clark's Elioak Farm  
Attn: Ms. Martha Ann Clark  
4370 Centennial Lane  
Ellicott City, Maryland 21043-6214

Ms. Grace Kubofeik  
4801 Carman Dr  
Ellicott City, MD 21043

PTA Council of Howard County  
Attn: Ms. Marianne Pettis  
14254 Tridelphia Road  
Glenelg, Maryland 21737-9524

Mr. Bob Garner  
608 Norhvost Way  
Catonsville, MD 21228

Slater Associates, Inc.  
Attn: Mr. John Slater, President  
5560 Sterrett Place

Mr. John Slater  
4993 Dalton Dr.  
Columbia, MD 21045

Mr. Steve Schreiner  
South Benjamin Way

**Patapsco River Open Space Improvements  
Mailing List**

Oella, MD 21043

Mr. Lee Moser  
9229 W. Stayman Dr.  
Ellicott City, MD 21042



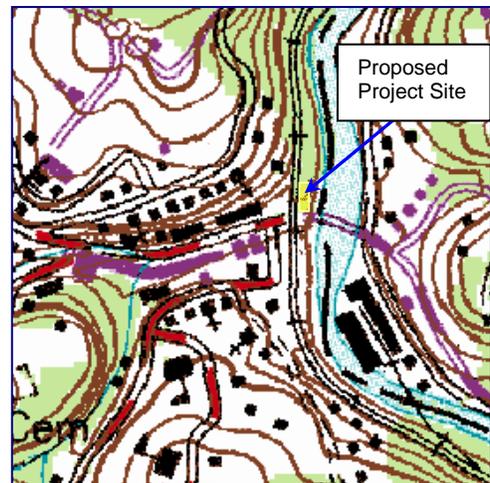
Howard County Government  
Department of Recreation & Parks  
7120 Oakland Mills Road  
Columbia, MD 21046

# Public Notice

## Department of Recreation & Parks to Present Initial Concept Plans on Patapsco River Open Space Improvements Study

ELLICOTT CITY, MD – The Department of Recreation and Parks and the Army Corps of Engineers will hold a public meeting to present initial concept plans to improve access to the Patapsco Riverfront in Historic Ellicott City using a county-owned open space parcel along the river. The meeting will be held on Wednesday, January 12 at 7:30 pm in the Ellicott Room of the George Howard Building, 3430 Courthouse Drive, Ellicott City.

The parcel, located just north of the Patapsco River Bridge and accessed by the municipal parking lot off Main Street, is approximately 300-feet long by 60-feet wide, located within the 100-year floodplain and currently covered with a mixture of native and exotic vegetation. The concept was designed to retain the passive recreational character of the area and the integrity of the natural floodplain.



The presentation will include preliminary sketches, with variations, of site enhancements to be considered. The plans were developed following an extensive study and analysis of site conditions and a public workshop where individuals were invited to participate in the planning process by offering their ideas and concerns for the use and improvements to the open space parcel.

This public notice is being sent to organizations and individuals known to have an interest in this study (Enclosure). Please bring this notice to the attention of any other organizations or individuals with an interest in this matter. For more information on the public meeting or on the Patapsco River Open Space Improvements Study Workshop, please contact John Byrd, 410-313-4640, or e-mail him at [jbyrd@co.ho.md.us](mailto:jbyrd@co.ho.md.us).



## Historic Ellicott City Patapsco River Open Space Study

### Informational Workshop II

### Presentation of Design Concepts

January 12, 2005



## Agenda

- ▶ Welcome and Introductions
- ▶ Opening Remarks
- ▶ Review Study Objectives and Goals
- ▶ Summarize Site Constraints and Opportunities
- ▶ Present Design Elements
- ▶ Present Design Concepts
  - Feedback Session
- ▶ Next Steps and Wrap Up



## Planning Assistance to States Program

- ▶ Purpose of the Program:
  - For the Corps to provide technical assistance to non-Federal entities with planning and managing water and related land resources
- ▶ Authorization:
  - Section 22 of the Water Resources Development Act (WRDA) of 1974, as amended



## PAS Program Summary

- ▶ Technical assistance is cost-shared between Corps and non-Federal entity (i.e. Howard County).
- ▶ Cost-sharing provides opportunities for innovation and flexibility.
- ▶ Close coordination with the non-Federal entity throughout the investigation.
- ▶ Assistance is planning level and does not include design for project construction.
- ▶ Corps conducts technical investigations and prepares findings in conjunction with the non-Federal entity.
- ▶ Implementation of improvements/projects is the responsibility of the non-Federal entity



## Study Activities

- ▶ Tasks include:
  - Task 1 – Site Reconnaissance
  - Task 2 – Collection of Site Data/GIS Analysis
  - Task 3 – Review Site Opportunities and Constraints
  - Task 4 – Informational Workshop I
  - Task 5 – Develop Design Concepts
  - Task 6 – Prepare Report
  - Task 7 – Information Workshop II



## Study Objective and Goals:

### OBJECTIVE:

Create Opportunity for Public Use and Enhance the Riparian Area.

### GOALS:

1. Create Passive Recreational Use
2. Enhance the Environmental Character
3. Maintain the Natural Floodplain
4. Feed back from October 19, 2004 Informational Workshop



Patapsco River Open Space



## Public Workshop I - Public Feed Back

- ▶ Canoe/Kayak entry and removal
- ▶ Connect to pedestrian crossing the MD Route 144 Bridge
- ▶ Elements/Activities ADA compliant
- ▶ Fishing Area
- ▶ Clean-up debris (concrete pipeline) located in the River
- ▶ Encourage participation of Baltimore County
- ▶ Security/Public Safety
- ▶ Develop a maintenance plan to address trash collection and other maintenance issues
- ▶ Remove Exotic Invasive Species



Patapsco River Open Space



## Site Background

- ▶ Zoning
- ▶ Water Resources
- ▶ Floodplain
- ▶ Topography
- ▶ Soils
- ▶ Fish and Wildlife
- ▶ Vegetation
- ▶ Cultural Resources
- ▶ Utilities





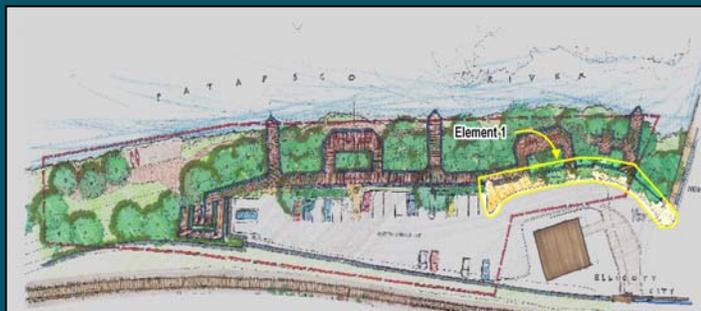
## Design Elements

- ▶ Based on a series of elevated piers (a boardwalk)
- ▶ The elevated boardwalks limit disturbance to the riparian area and do not increase impervious surface
- ▶ Various Design Elements can be selected or deleted to formulate and/or phase potential Design Concepts
- ▶ Using the Design Elements, four Design Concepts were created



## Design Element One

- ▶ Semi-pervious sidewalk (e.g., brick/stone pavers; porous asphalt)
- ▶ Sidewalk connects to the MD Route 144 Bridge sidewalk.





## Design Element Two

- ▶ Park Sign - located on the northwest corner of the entrance to the parking lot and Main Street
- ▶ Interpretive marker (e.g., history of Ellicott City, high water marks, or other significant pieces of information)



## Design Element Three

- ▶ Elevated boardwalk extending to the River's edge
- ▶ Walking trail parallel to the River's edge connecting to the northern section of the site





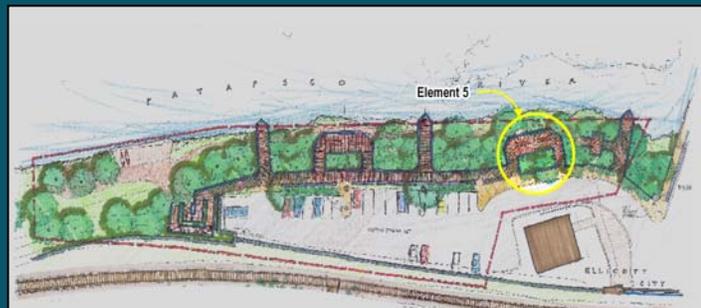
## Design Element Four

- ▶ Elevated boardwalk cantilevering from the existing parking lot retaining wall
- ▶ Concrete support structures with wood planks
- ▶ Trash receptacles



## Design Element Five

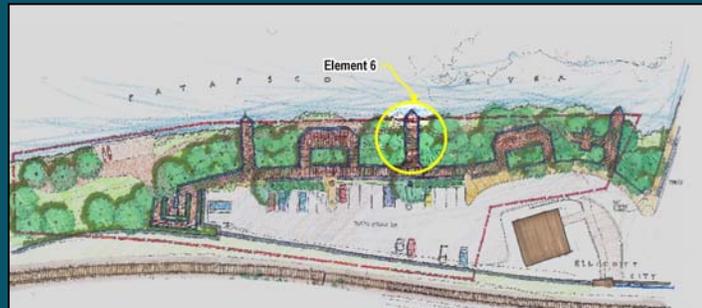
- ▶ Elevated D-shaped boardwalk
- ▶ Allow for mature vegetation to remain
- ▶ Benches to view the river
- ▶ Educational interpretive markers (historical events of Ellicott City)





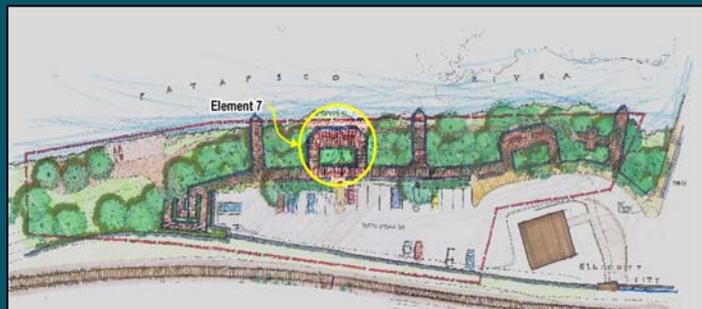
## Design Element Six

- ▶ Elevated boardwalk perpendicular to retaining wall
- ▶ Allows visitors an opportunity to view the Patapsco River from its edge.



## Design Element Seven

- ▶ Elevated D-shaped boardwalk
- ▶ Allow for mature vegetation to remain
- ▶ Benches to view the river
- ▶ Educational interpretive markers (highlighting significant environmental elements of the site)





## Design Element Eight

Patapsco River Open Space



- ▶ Elevated boardwalk perpendicular to retaining wall
- ▶ Allows visitors an opportunity to view the Patapsco River from its edge.
- ▶ allow persons with limited mobility to access the river's edge for fishing (adjacent to large pool)



## Design Element Nine

Patapsco River Open Space



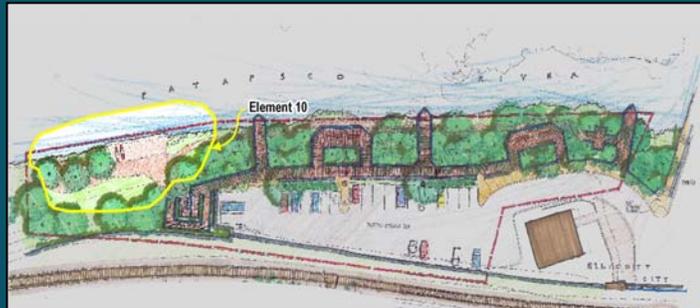
- ▶ An ADA-compliant ramp and stairs would provide access to the northern section of the study area
- ▶ The ramp could also be used for carrying kayaks and canoes to and from the River's edge





## Design Element Ten

- ▶ Small open space area (remove existing concrete)
- ▶ Replace concrete with riparian grasses, wildflowers, and shrubs
- ▶ Kayak and Canoe entry and removal area
- ▶ Due to flooding, benches, picnic tables, or trash receptacles are not recommended



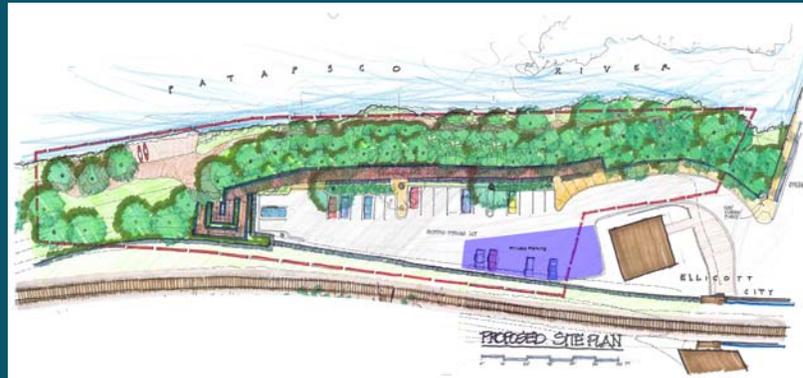
## Design Concepts

- ▶ Based on combinations of the 10 Design Elements
- ▶ Common actions for all proposed Design Concepts:
  - remove exotic invasive vegetation throughout the study area
  - place trash receptacles on the boardwalk cantilevering from the retaining wall only
  - remove broken pieces of concrete pipeline located in the River's bed just north and south of the MD Route 144 Bridge



## Design Concept One

- ▶ Includes Design Elements: 1, 2, 4, 9 and 10
- ▶ Least amount of construction
- ▶ No Walking Trail
- ▶ Locate interpretative signs on elevated boardwalk (Design Element 4)
- ▶ Cost – \$660,000



## Design Concept Two

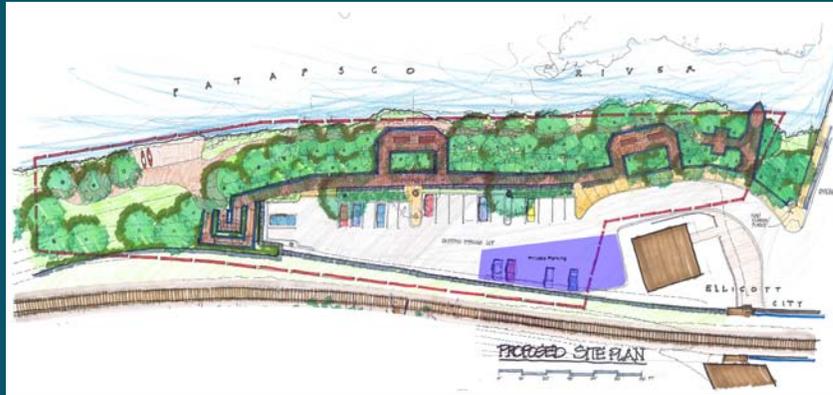
- ▶ Includes Design Elements: 1, 2, 3, 4, 9 and 10
- ▶ Adds Design Element 4 (Elevated boardwalk to the River's edge and Walking Trail)
- ▶ Cost – \$720,000





## Design Concept Three

- ▶ Includes Design Elements: 1, 2, 3, 4, 5, 7, 9 and 10
- ▶ Adds Design Elements 5 and 7
  - Two D-shape piers that branch out from the boardwalk paralleling the parking lot
- ▶ Cost – \$890,000



## Design Concept Four

- ▶ Includes all 10 Design Elements
- ▶ Adds Design Elements 6 and 8
  - Two additional elevated boardwalks/piers perpendicular to the existing retaining wall allowing visitors an opportunity to access the River's edge for viewing
- ▶ Cost – \$950,000





## Design Concept Four (Cont.)



## Design Concept Costs Comparison

- ▶ Design Concept One = \$660,000
- ▶ Design Concept Two = \$720,000
- ▶ Design Concept Three = \$890,000
- ▶ Design Concept Four = \$955,000

Note: Order of Magnitude Costs Estimates



## Landscape Opportunities

- ▶ Remove exotic invasive species
- ▶ New plantings = native species conducive to riparian habitat
- ▶ Incorporate existing trees into the landscaping – alter location of the boardwalks
- ▶ Lists of recommended native trees, shrubs, and herbaceous vegetation have been compiled based on riparian values, tolerant of partial to full shade, have high wildlife value, and some ornamental value



## Examples of Recommended Native Vegetation

- ▶ **Trees Species:**
  - Sycamore
  - Box Elder
  - Black Willow
- ▶ **Shrubs Species:**
  - Spice Bush
  - Southern Arrowhead
  - Mapleleaf viburnum
- ▶ **Herbaceous Understory Species:**
  - Jewel Weed
  - New York Fern
  - Christmas Fern
- ▶ **Wildflower Species:**
  - Wild columbine (Shaded Areas)
  - Jack-in-the-pulpit (Shaded Areas)
  - Butterfly weed (Open Areas)
  - Wild bergamot (Open Areas)



## Management of Exotic Invasive Species

- ▶ Designed to target specific species
- ▶ Use of mechanical methods vs. use of herbicides
- ▶ Repeated removal of species that reappear on the site is the key to long-term success
- ▶ Reappearance is caused by:
  - the accumulation of seed stock on site
  - from upstream sources of new seeds
  - the ability of several species to restart from rootstock left after the plant has been removed
- ▶ Labor resources for removal of exotic invasive species:
  - Community Involvement
  - Several volunteer groups in Maryland Student and Youth Groups (i.e., Boy Scouts)



## Next Steps

- ▶ Hold a Public Hearing before the Recreation and Parks Advisory Board in Fall of '05 to determine the level of community support
- ▶ If approved, include the preferred Concept Design in a future Capital Budget request



Patapsco River Open Space



# Questions and Comments...

**Patapsco River Open Space Improvements Study  
Ellicott City, Maryland**

**Hosted By:  
Howard County – Department of Recreation and Parks  
And  
U.S. Army Corps of Engineers – Baltimore District**

**Workshop Summary  
January 12, 2004 – 7:30pm to 9:00pm**

**Meeting Presenters:**

Howard County Department of Recreation and Parks  
John Byrd, Chief, Bureau of Parks and Program Services

U.S. Army Corps of Engineers – Baltimore District  
Larry Eastman, Program Manager

The Louis Berger Group, Inc.  
Jess Commerford, AICP, Vice President  
Shannon Cauley, Senior Natural Resource Specialist  
Michael Schuster, AICP, Planner

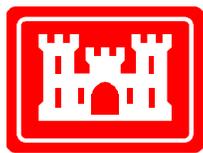
**Meeting Summary:**

An informational workshop was held to solicit public input on the design elements and the four design concepts that were created. The workshop took place on January 12, 2005 between 7:30pm and 9:00pm at the George Howard Building (Ellicott Room), Howard County Government Center. Approximately fourteen citizens from the local community attended the workshop to listen and to voice their opinions of the design elements and design concepts. John Byrd (Howard County Recreation and Parks) started the public meeting by discussing possible next steps that would need to be achieved to implement a potential design concept. Mr. Byrd was followed by Larry Eastman (Corps of Engineers – Baltimore District) with a discussion of the Section 22 process and how the Corps became involve in this project with the County. Michael Schuster (Louis Berger Group) then presented a summary of the project area's constraints, limitations, and opportunities, design elements, and the four design concepts. Additionally, Shannon Cauley (Louis Berger Group) discussed the management of invasive species on the project site pre and post the implementation of any proposed passive recreation use of the site. Upon completion of the presentation a question and comment period was open to the public. Many of the questions regarded clarification of the design elements. The following comments were presented during the public feedback session:

- Possible location of pedestrian bridge north MD Route 144 Bridge that would connect to the Number Nine Trolley Line Trail.
- Verify the location of all cultural resources prior to any development.

- Verify purpose of the concrete pad located within the riparian buffer north of the site. Make sure that it does not serve as stream bank stabilization. The concrete is located roughly 4 to 6 feet in from the stream bank and the currently stream bank is defined by large rocks/boulders; therefore, its unlikely that the concrete serves as stream bank stabilization.
- A maintenance plan will need to be address as the design concept is moved forward.
- Security and safety would need to be addressed due to the isolation of the project site and known illicit congregation.
- Address parking loss during construction of any development within the project area.
- Possible connection to the project area with parkland in Baltimore County and land south of the MD Route 144 Bridge through trail under the bridge.
- Hide the electrical substation with park entrance sign or with vertical wood slats.

The workshop was adjourned at 9:00pm. They following next steps towards the implementation of one of the concept designs were discussed at the end of the meeting: (1) Hold a public hearing before the Recreation and Parks Advisory Board in Fall of 05' to determine the level of community support and opinions and (2) If approved, include the preferred Concept Design in a future Capital Budget request.



**US Army Corps  
of Engineers**  
Baltimore District