



MEMORANDUM

June 7, 2010

TO: Montgomery County Planning Board

VIA: Mary Bradford, Director of Parks *M Bradford*
Mike Riley, Deputy Director for Administration

Dr. John E. Hench, Ph.D., Chief, Park Planning and Stewardship Division *J Hench*

Doug Redmond, Natural Resources Manager, Park Planning and Stewardship Division *D Redmond*

FROM: Karl Hellmann, Natural Resources Specialist, Park Planning and Stewardship Division *K Hellmann*

PROJECT: ICC Compensatory Mitigation Projects
SC-2: Stream Restoration and Wetland Creation Project
RC-131/131A: Fish Passage Restoration Project

REVIEW TYPE: Mandatory Referral No. 10902-SHA-1

APPLICANT: Maryland State Highway Administration

Recommendation

Approve construction of SC-2 Stream Restoration and Wetland Creation Project located within Goshen Branch Stream Valley Park, and construction of RC-131/131A Fish Passage Restoration Project located in Meadowbrook Local Park and Rock Creek Stream Valley Unit 1.

Project Summary

SC-2 is a proposed wetland creation and stream restoration project located within Goshen Branch Stream Valley Park and RC-131/131A is a fish passage restoration project located in Meadowbrook Local Park and Rock Creek Stream Valley Unit 1. **Figures 1 and 2** show the limits of the 2 mitigation projects. SC-2 and RC-131/131A are State projects and are therefore not subject to County forest conservation regulations. Because the projects are located on parkland and will be turned over to M-NCPPC after the monitoring period is complete, the projects are subject to the Park Department's Technical Review process.

SC-2 consists of the restoration of 4,791 linear feet of stream and the creation of 21.26 acres of forested wetlands, 8.99 acres of riparian floodplain forest, and 8.94 acres of upland forest communities. Wetland creation will consist of excavating areas in the floodplain to an elevation consistent with the seasonal groundwater table. These excavated areas will then be re-graded and planted with native wetland vegetation to create wetlands. Stream restoration activities include the use of salvaged wood and live

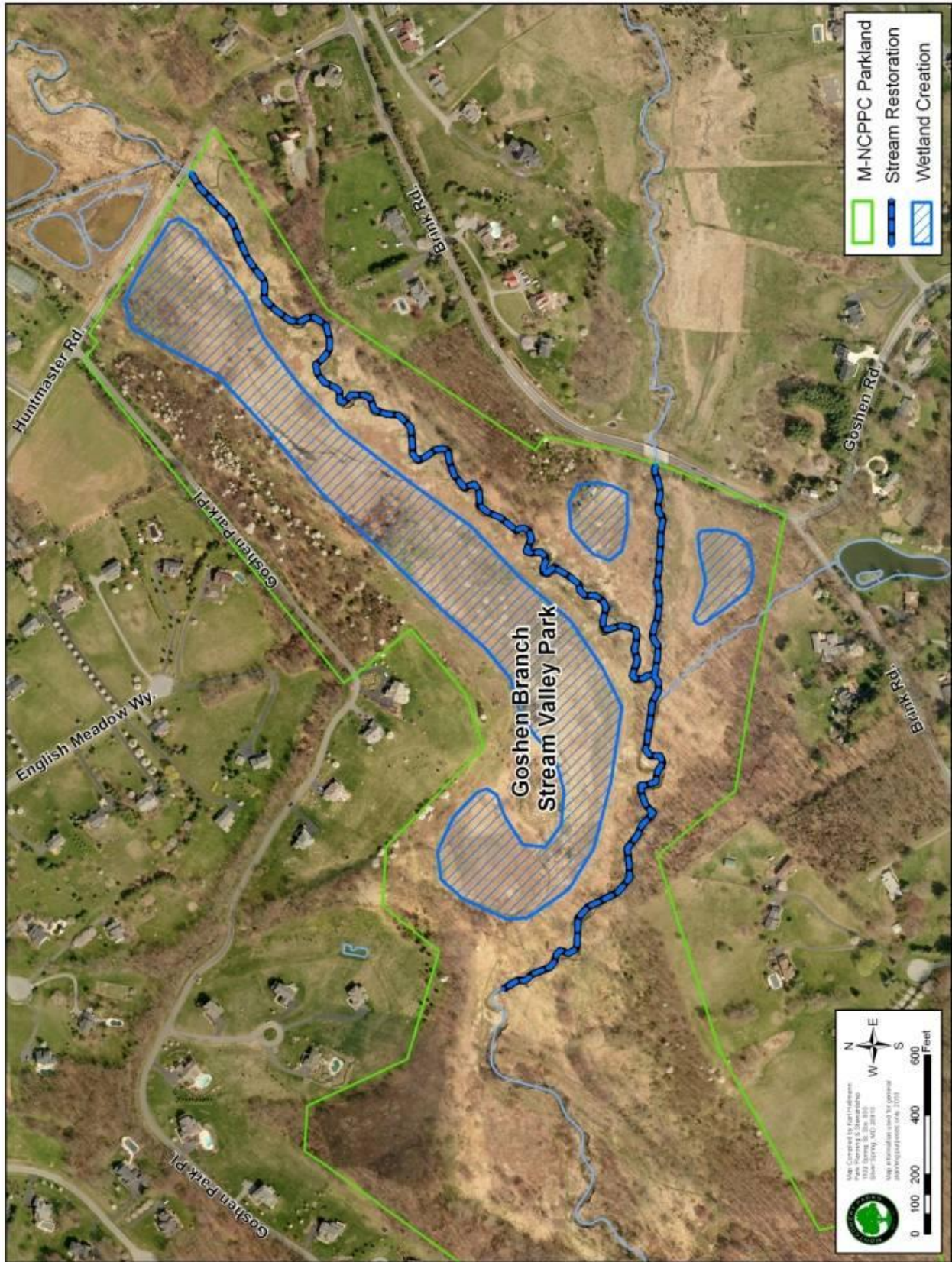


Figure 1. ICC Stream and Wetland Restoration Project SC-2

fascines to provide streambank protection along with the placement of rock bed sills in the center of the streambed to stabilize the channel.

RC131/131A consists of creating fish passages at 4 blockage sites located along a 2800 linear foot stretch of Lower Rock Creek. Three of the blockages are exposed sewer crossings and one is a historic ford. Restoring fish passages at these blockage sites will allow migratory species to reach upstream spawning grounds that were once inaccessible. Fish passage restoration activities consist of placing a series of rock weir structures downstream of the blockages that will lift the elevation of the stream to allow fish to pass over the blockages. This same technique has been used successfully at similar fish blockages located just downstream in the District.

Goshen Branch Stream Restoration and Wetland Creation Project SC-2

Background: Studies of the site's wetlands and streams were conducted from 2005 through 2009. The stream study consisted of a geomorphic assessment, which documented significant bank erosion throughout the site. This instability is most likely due to the forest clearing and the subsequent agricultural use (primarily dairy) of the land in the past. Based on aerial photographs, the stream has existed in this highly unstable state for a long period of time prior to this study, and will likely continue in this state without some level of intervention in the form of stabilization or restoration. The wetland study consisted of collecting information on the site's soils, surface water, groundwater, and vegetation. The areas where wetland creation has been proposed are currently meadows that are dominated by invasive plant species. The upper portion of the floodplain lacks woody vegetation, possibly due to soil compaction from historic cattle use, low soil pH, deer browsing, and beaver activity.

Design: The overall objectives of the project are to create forested wetlands and uplands and to restore the adjacent stream channels. The project consists of restoring 4,791 linear feet of stream and the creation of 21.26 acres of forested wetlands, 8.99 acres of riparian floodplain forest, and 8.94 acres of upland forest communities.

Stream Restoration Objectives:

- Adjust sharp meanders to create a more gentle, stable stream geometry
- Enhance the stream's connection to the floodplain by excavating the adjacent floodplain for wetland creation
- Use woody debris to provide habitat in pools and stabilize stream banks
- Plant stream banks and riparian corridor with woody vegetation
- Minimize impacts to existing trees and water resources
- Improve aquatic habitat by stabilizing pools and riffles
- Enhance overall aesthetic quality of stream and riparian area

Wetland Creation Objectives:

- Excavate down to top of the seasonal high groundwater table (~17-30 inches below the ground surface) to provide proper wetland hydrology
- Plant native wetland species to establish vegetation
- Enhance habitat for amphibians and other wildlife by creating wetlands
- Protect planted trees from deer browsing by using deer protection fencing
- Control invasive plant species with herbicides

Figure 2. ICC Fish Blockage Removal Project RC-131/131A



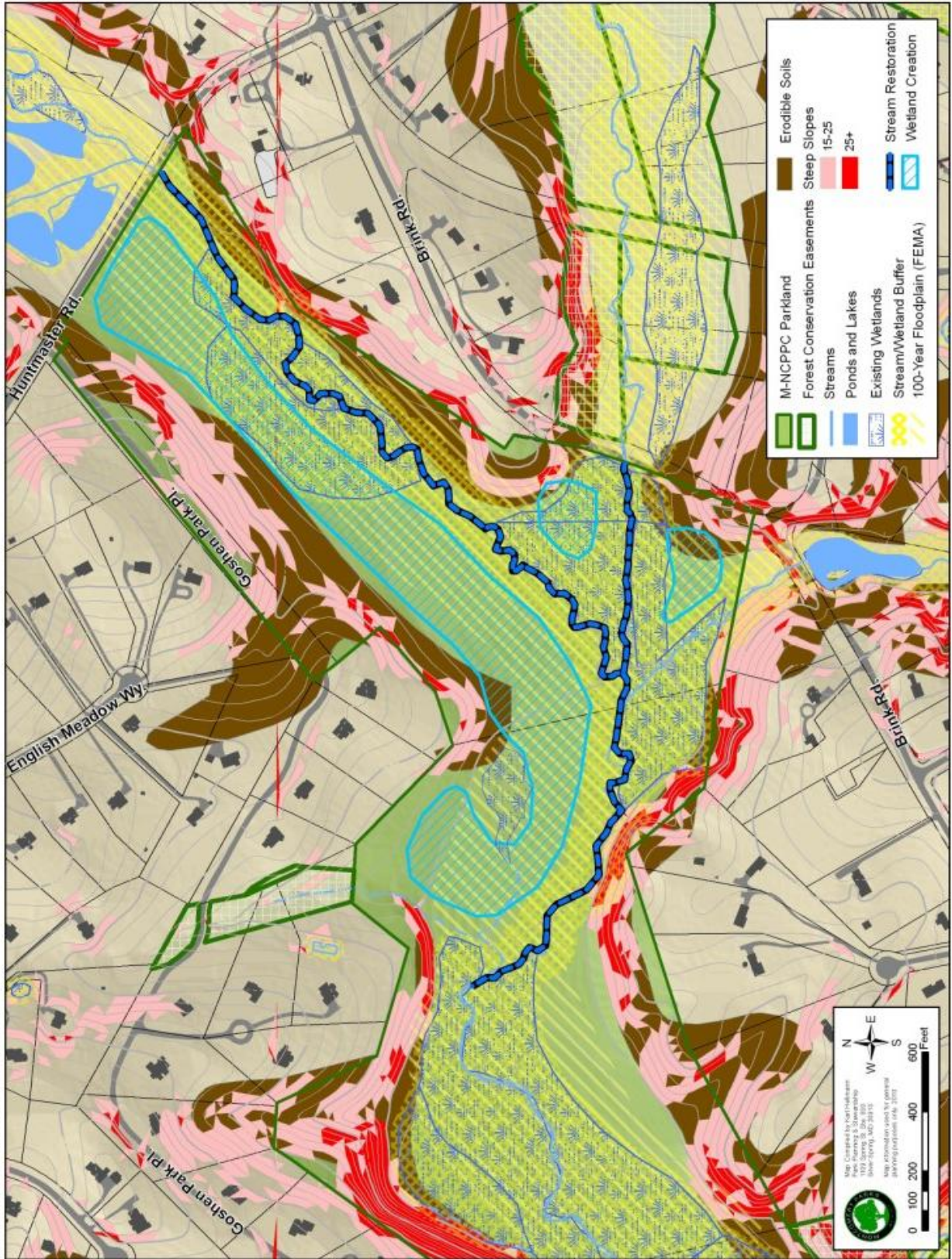
The wetland creation portion of the project will require the removal of a significant amount of soil from the floodplain area. A portion of the excavated soil will be placed on-site, outside of the floodplain to create upland forest. Any excess soil will be temporarily stockpiled on-site prior to being hauled off-site. The contractor and SHA will be responsible for finding an off-site location where the material can be placed.

Sensitive Natural Resources Impacts: It is important to consider the potential impacts that may occur to any sensitive natural resources that are located within the project area. Like any stream restoration or wetland creation project, SC-2 will have some temporary impacts to the existing natural resources. However, considering that the majority of the existing natural resources are in fairly poor condition (lack of forest, extensive invasive vegetation, unstable stream banks, etc.) the long term benefits of the project should outweigh the temporary impacts to these existing resources. SHA has worked with M-NCPPC to assure that impacts to any existing natural resources, in particular the trees along the streambanks and high quality wetlands, are minimized as much as possible. The Resource Atlas map on the following page displays the locations of sensitive resources in the project area (**Figure 3**). There are no biodiversity or best natural areas located in the project area.

Two shingle oaks, a tree species that has been listed as uncommon in Montgomery County, have been identified within the project limits. These trees have been displayed on the design plans and will be avoided during construction. Orange construction fencing will be placed around the critical root zones of the trees to prevent impacts.

There is a high quality wetland located near the western portion of the large proposed wetland cell that will be avoided during construction. The land surrounding this existing high quality wetland will be excavated and graded to enhance the existing wetland.

Figure 3. SC-2 Resource Atlas Map



Wetland or Stream Impacts: Due to the need to provide construction access and movement of materials used as part of the restoration project, temporary impacts to jurisdictional waters including wetlands or their buffers occur. These activities are being coordinated as required with the Maryland Department of the Environment and the U.S. Army Corps of Engineers. All areas affected during construction will be fully stabilized and revegetated.

Maryland Historical Trust: *Cultural or Historic Architectural Resources:* Cultural Resource Studies completed in 2009 did not identify any significant archeological sites or historic properties within the general vicinity of the project. Two archeological sites were found to lack the integrity required for National Register eligibility. By letter dated March 17, 2010, SHA determined that the project would have no effect to historic properties. MHT concurred with this finding on March 31, 2010. No comments were received from consulting parties, including the Montgomery County Historic Preservation Office.

Forest Conservation Plan (FCP): The Maryland Department of Natural Resources is responsible for the approval of the Forest Conservation Plan. Due to the need to provide construction access and movement of materials used as part of the restoration project, there will be limited impacts to forested areas. These activities are being coordinated with the Maryland Department of Natural Resources as required and mitigated in accordance with the Forest Conservation Act. Following project completion, extensive planting of trees and shrubs will occur.

Montgomery County Noise Ordinance: As proposed, the project is not expected to have any significant affect on traffic within the adjacent communities. Therefore, an environmental traffic noise analysis and assessment was not conducted. However, temporary noise impacts may occur from construction activity. Areas around the construction zone will experience varied periods and degrees of noise that differ from that of the surrounding ambient community noise levels. The noise produced can vary greatly based on the type of construction, the mix of equipment, and the construction procedures being employed. SHA will perform all construction activities in accordance with Montgomery County noise and traffic codes.

Traffic Control: The project site will be accessed from Huntmaster Road and Brink Road. SHA is coordinating with the appropriate staff of the Montgomery County Department of Transportation for construction access and materials transport.

Public Meetings: A public meeting was held on March 9, 2010 to provide the community with an opportunity to review and comment on plans for the project. Several of the adjacent landowners attended the meeting and reactions to the project were favorable.

Funding: The proposed compensatory mitigation project is being funded by the Maryland State Highway Administration.

Implementation: Construction is expected to begin January 2011 following the award of the contract under the normal SHA bid process that is used for similar environmental contracts. In accordance with MDE requirements, there is a Time of Year restriction from March 1st until June 15th to protect aquatic life in the Goshen Branch watershed. Therefore, the construction period is anticipated to continue into the fall of 2011.

Maintenance: Following construction, the maintenance and monitoring of the site will be conducted by SHA for five years, or until deemed successful by the regulatory agencies. Upon completion of the maintenance and monitoring period, the project will be turned over to M-NCPPC.

Figure 4. RC-131/131A Resource Atlas Map



Fish Passage Restoration Project RC-131/131A

Background: In 2003 the National Park Service began targeting and removing migratory fish blockages located along the mainstem of Rock Creek in the District. Fish passage restoration activities have included the addition of a fish ladder at the Peirce Mill Dam, modification of historic fords, removal of abandoned sewer lines, and the placement of rock weir structures downstream of blockages that could not be removed. These significant efforts have been made to restore the American shad, blueback herring and alewife populations that historically used these upstream freshwater areas of Rock Creek as spawning grounds.

The National Park Service has been successful with restoring migratory fish passages throughout Rock Creek in the District. The next upstream migratory blockages in Rock Creek are located in Montgomery County. The main objective of RC-131/131A is to provide fish passage restoration at these upstream blockages. These blockages consist of three exposed sewer lines and one historic ford. Successfully restoring these fish passages will open up approximately 14 miles of potential spawning habitat that was inaccessible in the past.

Design: The design for RC-131/131A consists of placing a series of rock weir structures downstream of the fish blockages that will lift the elevation of the stream to allow fish to pass over the blockages. The series of rock weirs also provides a gradual elevation change in the stream that allows fish to successfully migrate upstream and rest between structures.

The project design has been based on the following restoration objectives:

- Restore fish passage by increasing the depth of flow over existing blockages to 1 foot minimum and 3 feet per second maximum velocity
- Enhance aquatic habitat by providing resting habitat for migrating fish and increasing oxygenation throughout the riffle weir structure
- Provide bank stabilization along fish passage reaches using a combination of rock toe protection and live branch layering
- Improve riparian buffer conditions with native tree plantings along the banks of Rock Creek

Sensitive Natural Resources Impacts: It is important to consider the potential impacts that may occur to any sensitive natural resources that are located within the project area. SHA and M-NCPPC have coordinated these efforts to assure that impacts to the natural resources in the project area are minimized as much as possible. Impacts to some of the trees in the stream buffer and along the stream banks will be required to access the stream in locations where fish weir structures have been proposed. These disturbed areas will be stabilized and replanted once construction of the fish weir structures has been completed. In-stream construction will also cause temporary impacts to the streambed, which will naturally re-stabilize over time. The Resource Atlas map on the following page displays the locations of sensitive resources in the project area (**Figure 4**). There are no biodiversity or best natural areas located in the project area.

Wetland or Stream Impacts: There will be no impacts to wetlands or wetland buffers. Temporary and permanent impacts will occur within the stream channel due to access and construction of the rock structures. These activities are being coordinated as required with the Maryland Department of the Environment and the U.S. Army Corps of Engineers. All areas affected temporarily during construction will be fully stabilized, revegetated and restored to pre-construction conditions.

Maryland Historical Trust: Cultural or Historic Architectural Resources: Cultural resources studies for the project are ongoing as the design evolves. There will be no impacts to known cultural resources in Meadowbrook Park, which includes Meadowbrook Stables, the Meadowbrook Recreation Center building, and the site of the original Beach Drive ford over Rock Creek. As such, no impacts to National Register eligible properties or to cultural resources of significance to Montgomery County are anticipated. Consultation with the MHT and consulting parties, including the Montgomery County Historic Preservation Office will take place in 2010 or 2011. A Historic Work Permit is not required for the project because the project's Limit of Disturbance (LOD) is located outside the boundaries of the designated historic properties.

Forest Conservation Plan (FCP): Due to the need to provide construction access and movement of materials used as part of the restoration project, there will be limited impacts to forested areas. These activities are being coordinated with the Maryland Department of Natural Resources as required and mitigated in accordance with the Forest Conservation Act. Following project completion, extensive planting of trees and shrubs will occur.

Montgomery County Noise Ordinance: As proposed, the project is not expected to have any significant affect on traffic within the adjacent communities. Therefore, an environmental traffic noise analysis and assessment was not conducted.

Traffic Control: Three of the weir sites will be accessed from Beach Drive, and one of the weir sites will be accessed from Meadowbrook Parking Lot via Meadowbrook Lane. SHA is coordinating with the appropriate staff of the Montgomery County Department of Transportation for construction access and materials transport.

Access and Pedestrian Safety: Due to the project being located in an urban area that is utilized on a daily basis by pedestrians and recreational facility users, extra safety precautions will be taken throughout the construction period of the project. Orange construction fencing will be placed around the access routes and storage areas for each of the work sites to prevent pedestrians from entering the construction areas. Site specific access routes and safety precautions are discussed below.

Fish Weir 1: Fish weir 1 will be accessed from Beach Drive. The access route and staging area will be located in an open field just south of the nearby soccer field. There are no existing trails that pass through the proposed LOD and therefore pedestrian passage should not be a concern.

Fish Weir 2: Fish weir 2 will be accessed from the parking lot at Meadowbrook Local Park. The storage area for this site is located in an open grass area just south of the proposed fish weir. Extra precaution will be taken when driving construction equipment through the parking lot to reach the storage area. Access to the stream will come from the proposed storage area. There are no existing trails that pass through the proposed LOD for this site.

Fish Weirs 3 & 4: Fish weirs 3 and 4 will be accessed from Beach Drive. The parking lot just south of the three baseball fields will be the access point for these two sites. Access for Fish weir 3 will pass through the center baseball field and down a gradual bank slope that enters the stream. Access for Fish weir 4 will pass through the eastern baseball field and into an existing clearing through the woods. These baseball fields are currently used as practice fields for little league baseball.

Construction for these sites will take place between the months of December and March, which is the time period when the fields are not permitted. Once construction has been completed, the access routes through the baseball fields will be removed and the areas will be returned to their pre-construction conditions.

A ten foot section of the hard surface trail that extends around the outfields will need to be closed during construction to allow equipment to access the weir sites. The trail is located adjacent to the parking lot. Pedestrians that use the hard surface trail will still be able to walk through a section of the parking lot, located outside the LOD, to reach the other side of the trail. Extra precaution will need to be taken when driving construction equipment through the parking lot to reach the access and storage areas.

Public Meetings: A public meeting was held March 11, 2010 to provide the community an opportunity to review and comment on plans for the project. The meeting was well attended and reactions were generally favorable.

Funding: The proposed compensatory mitigation and environmental stewardship projects are being funded by the Maryland State Highway Administration.

Implementation: Construction is expected to begin December of 2010 following the award of the contract under the normal SHA bid process that is used for similar environmental contracts. In accordance with MDE requirements, there is a Time of Year restriction from March 1st until June 15th to protect aquatic life in the Rock Creek watershed. Therefore, the construction period could continue to early fall of 2011.

Maintenance: Following construction, the maintenance and monitoring of the site will be conducted by SHA up to five years, or until deemed successful by the regulatory agencies. Upon completion of the maintenance and monitoring period, the project will be turned over to M-NCPPC.

cc: Gene Giddens, Acting Deputy Director for Operations
Brian Woodward, Chief, Southern Region Operations
Steve Chandlee, Regional Operations Manager, Southern Region
Mike Horrigan, Chief, Northern Region
Jim Humerick, Regional Operations Manager, Northern Region
Darien Manley, Chief, Park Police
Kate Stookey, Chief, Park Information and Customer Service
David Vismara, Chief, Horticultural Services
Mitra Pedoeem, Chief, Park Development Division
Andy Frank, Environmental Engineering Supervisor, Park Development
Tina Schneider, Senior Environmental Planner, Environmental Division