



MCPB
Item # 9 A
June 10, 2010

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Mark Pfefferle, Acting Chief, Environmental Planning Division *MP*
Stephen D. Federline, Master Planner, Environmental Planning Division *SD*

FROM: *CS* Candy Bunnag, Planner Coordinator, Environmental Planning Division

DATE: May 27, 2010

SUBJECT: Staff Recommendations for Planning Board Approval of:
Special Protection Area (SPA) Preliminary/Final Water Quality Plan
for Mandatory Referral No. MR2010803, Rainbow Drive Sidewalk Construction
and Pavement Removal

STAFF RECOMMENDATIONS

Staff recommendations are made below for the Planning Board action on the following plan:

SPA Water Quality Plan recommendations:

1. Approval of the Preliminary/Final Water Quality Plan with the following conditions:
 - a. Total impervious surfaces of new sidewalk within the project area to be no more than 7583 square feet.
 - b. Submit plans that include specifications for restoration of areas where pavement will be removed into pervious, vegetated, natural surfaces.
 - c. Credits for impervious surface removal will be assigned to offset the following MCDOT projects only: this sidewalk project (Rainbow Drive sidewalk, Mandatory Referral MR2010803), Cape May and Good Hope Roads sidewalk project (Mandatory Referral MR04816-DPWT-01), and Thompson Road connection project (Mandatory Referral MR2010804).
 - d. Tree save plan, dated November 17, 2009, to be revised to include the following notes:
 - i. Specific locations of root pruning must be determined by the M-NCPPC forest conservation inspector or the certified arborist as part of the pre-construction meeting.
 - ii. Root pruning must be performed at the direction of a certified arborist or the M-NCPPC forest conservation inspector.

BACKGROUND

Montgomery County Department of Transportation (DOT) proposes to construct a new sidewalk along the south side of Rainbow Drive from its existing western terminus near Snider Lane to its intersection with Good Hope Road. The sidewalk will lie within the existing road right-of-way. The project area lies within the Upper Paint Branch Special Protection Area (SPA). In addition, DOT proposes to narrow specific segments of existing Rainbow Drive to create impervious surface credits for this sidewalk project and two other DOT projects in the SPA.

Most of the right-of-way within the project area is adjacent to existing single-family detached homes. The right-of-way crosses three tributaries of the Left Fork of Paint Branch in the three sections where it is adjacent to M-NCPPC Upper Paint Branch stream valley park. Forest lies within the stream valley park. But the road right-of-way does not contain forest.

Figure 1 shows the general location of the project area within the Upper Paint Branch SPA.

Figure 1

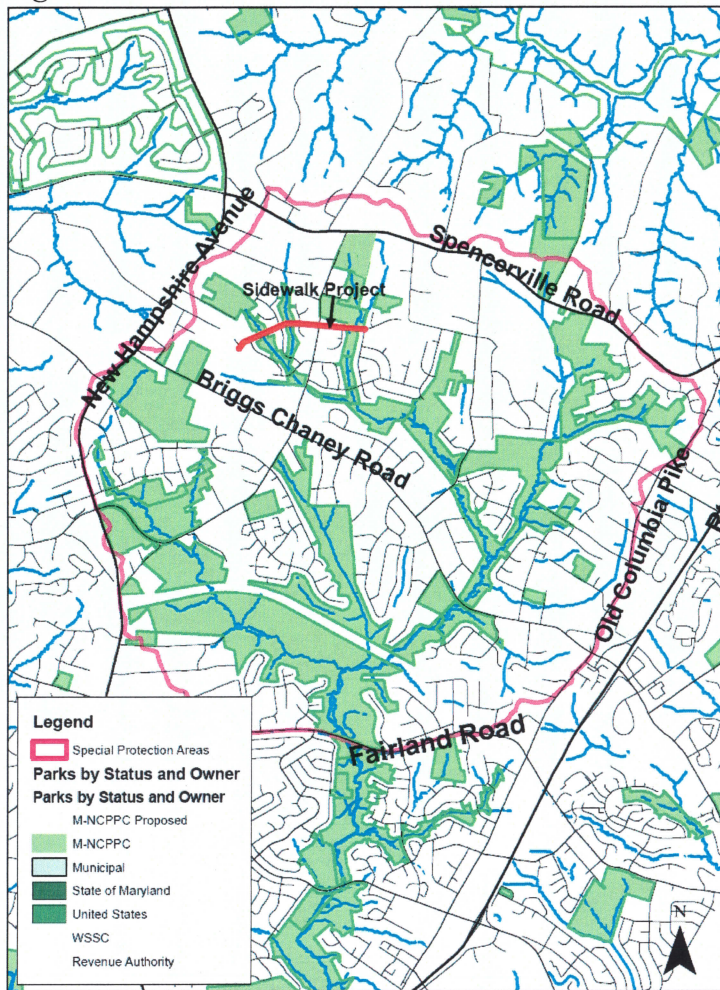


Figure 2 shows a more detailed location of the project area and its limits.

Figure 2



DISCUSSION

There are two items for Planning Board review for the Rainbow Drive Sidewalk Construction and Pavement Removal project: the mandatory referral and the Special Protection Area (SPA) Combined Preliminary and Final Water Quality Plan. This memorandum covers staff's review and recommendations on the SPA Combined Preliminary and Final Water Quality Plan.

The Board's action on the SPA Water Quality Plan is regulatory and binding. The Planning Board must act on the SPA Water Quality Plan before it can proceed to make recommendations on the mandatory referral.

SPA PRELIMINARY/FINAL WATER QUALITY PLAN REVIEW

DOT proposes to construct a 4-foot wide porous concrete sidewalk along the south side of Rainbow Drive. DOT also proposes to remove existing impervious surfaces by narrowing the width of certain segments of Rainbow Drive. This pavement removal is proposed to offset the increase in

impervious surfaces for three DOT projects in this SPA.

Review for Conformance to the Special Protection Area Requirements

As part of the requirements of the Special Protection Area law, a SPA Water Quality Plan should be reviewed in conjunction with a mandatory referral¹. Under the provision of the law, the Montgomery County Department of Permitting Services (DPS) and the Planning Board have different responsibilities in the review of a water quality plan. DPS has reviewed and conditionally approved the elements of the Preliminary/Final Water Quality Plan under its purview. The Planning Board responsibility is to determine if environmental buffer protection, SPA forest conservation and planting requirements, and site imperviousness limits have been satisfied.

Site Imperviousness

Impervious surface restrictions for development projects in the Upper Paint Branch SPA are set forth in the Environmental Overlay Zone for the Upper Paint Branch SPA. The Environmental Overlay Zone has an 8 percent imperviousness limit for new development projects.

Staff has defined this project as new construction since the project involves the construction of a new sidewalk. This determination is consistent with other sidewalk-only projects in the SPA. Staff defines the parameters for review of conformance to the impervious surface limits of the Environmental Overlay Zone as follows:

- **Impervious Area:** Count only the proposed new impervious surfaces (i.e., the sidewalk) within the road right-of-way (ROW), which is 7,583 square feet.
- **Total Tract Area:** Count the land area within the existing road ROW which is currently pervious from the near edge of the existing roadway to the closest ROW edge, or use the limits of disturbance when disturbance occurs outside the ROW. This land area totals 38,376 square feet for this project.

With these parameters, the project's imperviousness is proposed at 19.8 percent. To meet the 8 percent imperviousness limit, 4512 square feet of existing impervious surfaces would have to be removed within the SPA to offset an equal amount of new sidewalk pavement.

The applicant has minimized the amount of new impervious surfaces for the project. The length of new sidewalk is within the part of Rainbow Drive that currently has no sidewalk. The sidewalk would allow residents on or near Rainbow Drive to safely walk to and from Briggs Chaney Middle School, which is located at the eastern end of Rainbow Drive. The sidewalk is designed to be 4 feet wide, which is the minimum sidewalk width that DOT allows.

This project includes a component to remove a total of 18,252 square feet of existing impervious surfaces of Rainbow Drive itself. The removal of existing road pavement would be used to offset new impervious surfaces for the following DOT projects:

¹ Section 19-62 (c) of the Montgomery County Code states that "before engaging in any land disturbing activity on publicly owned property in an area designated as a special protection area, the applying agency or department should prepare a combined preliminary and final water quality plan."

- This project to create a new sidewalk along Rainbow Drive requires removal of 4512 square feet of impervious surfaces in order to meet the 8 percent imperviousness limit.
- On July 31, 2008, the Planning Board conditionally approved a SPA Water Quality Plan for a DOT sidewalk project along Cape May and Good Hope Roads (Attachment 1). One of the conditions required DOT to remove 10,453 square feet of impervious surfaces in the Upper Paint Branch SPA so that the project could meet the 8 percent imperviousness limit. Although the removal of impervious surfaces for the Cape May and Good Hope Roads sidewalk project was required to be completed no later than September 1, 2009, the removal work was not done. It is proposed to be done as part of this current sidewalk project.
- A new project to connect Thompson Road with the eastern end of Rainbow Drive adjacent to Briggs Chaney Middle School. For this project, 4144 square feet of impervious surfaces is required to be removed in order for the project's imperviousness to comply with the Environmental Overlay Zone. However, there is not enough pavement removal on Rainbow Drive to completely offset the new impervious surfaces. Of the 4144 square feet of impervious surface removal required for the Thompson Road project, 3287 square feet of pavement removal will be generated from this Rainbow Drive sidewalk project.

Staff supports DOT's proposal to construct the sidewalk and remove impervious surfaces on selected segments of Rainbow Drive. Staff recommends that the areas where impervious surfaces are removed should be restored to attain an uncompacted soils layer suitable to allow vegetation to be established.

Environmental Buffers

Three tributaries of the Left Fork of Upper Paint Branch flow under Rainbow Drive at approximately Stations 9+50 (east of Valencia Street), 18+00 (east of Wembrough Street), and 37+00 (west of Aylesbury Street). The new sidewalk will cross two of the three streams over existing culverts that lie under the road within the right-of-way. Although sections of the new sidewalk lie within environmental buffers associated with these streams, the proposed sidewalk crossings are unavoidable and necessary to establish a continuous sidewalk system. The sidewalk crossings through the environmental buffers are already within disturbed areas of the right-of-way.

The third stream crossing (west of Aylesbury Street) will be affected by proposed pavement removal of Rainbow Drive. This will create a slightly lower amount of impervious surface within the environmental buffer of this tributary of Left Fork.

County DPS Special Protection Area Review Elements

DPS has reviewed and conditionally approved the elements of the SPA water quality plan under its purview with a synopsis provided below (see Attachment 2).

Site Performance Goals

As part of the water quality plan, the following performance goal was established for the site:

1. Maintain stream baseflow through the incorporation of disconnection of impervious surfaces to encourage groundwater recharge.
2. Minimize sediment loading through the use of quick stabilization of disturbed areas, using

sod.

Stormwater Management Concept

DOT proposes to construct the sidewalk using porous concrete. This type of concrete is a stormwater treatment measure since it allows precipitation that falls on the pavement to be infiltrated into the underlying soils.

Sediment and Erosion Control

All disturbed areas will be required to be stabilized with topsoil and sod as soon as possible and as work progresses.

Monitoring of Best Management Practices

Up to three observation wells must be installed to observe the rate of water infiltration and drawdown after a storm event. A crest gage must also be installed downstream of the westernmost Rainbow Drive stream crossing to measure the water surface of the stream during storm events.

REVIEW UNDER THE COUNTY FOREST CONSERVATION LAW

Forest Conservation Plan Exemption

The project qualifies for a forest conservation plan exemption (FCP exemption no. 42010086E) under the Section 22A-5(e)² of the County Forest Conservation Law. It is considered to be a County highway project that is part of a Capital Improvements Project (CIP) and is subject to Section 22A-9³ of the law. The project will not clear forest. Individual trees will be affected by the project, and a tree save plan has been submitted to show how individual trees near the project site will be protected. A 25-inch cherry within the road ROW is proposed to be cut because the tree is in poor condition and will be adversely affected by the project. Staff believes the submitted tree save plan minimizes the loss of individual trees. The tree save plan is acceptable if notes related to root pruning are added to the plan.

² Section 22A-5(e) covers a State or County highway construction activity that is subject to Section 5-103 of the Natural Resources Article of the Maryland Code, or Section 22A-9.

³ Section 22A-9 applies to construction of a highway by the County as part of an approved Capital Improvements Program project. This section states that the project should minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.



MONTGOMERY COUNTY PLANNING BOARD
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

OFFICE OF THE CHAIRMAN

August 5, 2008

Mr. Arthur Holmes, Jr., Director
Montgomery County Department
of Public Works and Transportation
101 Monroe Street, 10th Floor
Rockville, Maryland 20850

RE: Cape May Road and Good Hope Road Sidewalks:
CIP No. 506747
SPA Preliminary/Final Water Quality Plan and Mandatory Referral No. 04816-DPW&T-1

Dear Mr. Holmes:

The Planning Board reviewed the Mandatory Referral and the associated Special Protection Area (SPA) Preliminary/Final Water Quality Plan for this project at our regularly scheduled meeting on July 31, 2008. The Board's action on the SPA Water Quality Plan is regulatory, based on Article V (Water Quality Review in Special Protection Areas) of the County Code.

The Board approved the SPA Preliminary/Final Water Quality Plan with the following conditions:

1. Total impervious surfaces on the site will cover no more than 13,523 square feet, as shown on the sidewalk plan, dated October 22, 2007.
2. Applicant will conform to the conditions as stated in DPS' water quality plan approval letter dated June 5, 2007, with the modification that the impervious surfaces to be removed must not be on park property.
3. Native trees and shrubs will be planted on the MCDOT Maintenance Facility site no later than April 1, 2009. Native trees and shrubs to be planted will be consistent with the proposed landscape plan dated July 2008.
4. Tree protection measures, as shown on the tree preservation plan, must be implemented as part of the completion of the sidewalk construction.
5. MCDOT must remove 10,453 square feet of impervious surfaces within the Upper Paint Branch SPA after the plan for this work has been reviewed and approved by MNCPPC staff. Plans must include specifications for restoration of these areas to pervious vegetated natural surfaces. Prior to start of work, DOT must obtain the necessary permits for the work and conduct a pre-construction meeting with inspection staff from MNCPPC and DPS.

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Cape May Road and Good Hope Road Sidewalks
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The removal of impervious surfaces must be accomplished within one year of completing the sidewalk project or by September 1, 2009, whichever date is earlier. Written notification of the completion of the impervious surface removal must be sent to the Planning Director no later than September 15, 2009.

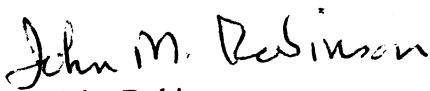
The Board also approved the Mandatory Referral with the following comments:

1. A Park permit is required for construction on Park property.
2. MCDOT should retain maintenance responsibility after construction for the sidewalk in the proposed easement area on park property.
3. Any grading on Park property outside the public right-of-way shall not be steeper than 3:1.
4. A Park approval block will be needed on Title Sheet and all other drawings which show impact on Park property.
5. A note is required on the plans that "No storage of materials and equipments will be allowed on Park property without a prior approval from our Park Manager and/or Park Inspector."
6. The proposed sidewalk construction should begin in August 2008 and be completed no later than September 2008, as agreed to during the Board's meeting in consideration of our granting more time for the removal of impervious surfaces.

Local residents and members of Action in Montgomery testified at the Board's meeting in strong support of this project. We agree that this project is urgently needed to ensure public safety and should be accomplished in the next month, but it also became clear in the testimony that there is another accessibility issue that your Department could help improve. Ride-On Route 39 serves the Good Hope-Union United Methodist Church and community center on Good Hope Road only during weekday peak hours. Residents spoke of the long walking distance required for their patrons to get from the bus stops on New Hampshire Avenue during off-peak hours and on the weekend. We request that you consider modifying transit service in this area to improve access to the church and community center.

Thank you for your attention to this matter. If you have any questions or comments concerning our review, please call Larry Cole at 301-495-4528.

Sincerely,



John Robinson
Vice Chairman

cc: Carolyn Biggins, MCDOT
LC:tc



ATTACHMENT 2
(1 of 5)

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

May 26, 2010

Carla Reid
Director

Ms. Rebecca Park
Montgomery County Department of Transportation
Division of Transportation Engineering
100 Edison Park Drive, 4th Fl.
Gaithersburg, Maryland 20878

Re: **Preliminary/Final Water Quality Plan**
for the Rainbow Drive Sidewalk and
Pavement Removal
SM File #: 237572
Tract Size/Zone: 1.9 acres/Public R/W
Watershed: Upper Paint Branch

SPECIAL PROTECTION AREA

Dear Ms. Park:

Based on a review by the Department of Permitting Services, the Preliminary/Final Water Quality Plan (PFWQP) for the above mentioned project is conditionally approved. This approval is for the elements of the Final Water Quality Plan of which DPS has lead agency responsibility, and does not include limits on imperviousness or stream valley buffer encroachments.

Site Description: The project encompasses approximately 1.9 acres of disturbance along Rainbow Drive. The project proposes to remove existing pavement to comply with pavement removal requirements associated with sidewalk that was constructed along portions of Cape May Road and Good Hope Road. The project also includes installation of a new 4-foot wide sidewalk on the south side of Rainbow Drive from Good Hope Road to Valencia Street. The project area is tributary to the Left Fork of the Upper Paint Branch. This watershed and has been designated as a Special Protection Area.

Stormwater Management: The new sidewalk will be constructed of pervious concrete.

Sediment Control: Strict sediment control is to be used throughout the project. All disturbed areas must be stabilized with topsoil and sod as soon as soon as possible and as work progresses.

Performance Goals: The performance goals that were established at the pre-application meeting are to be met as specified in the Preliminary and Final Water Quality Plan. They are as follows:

1. Maintain stream baseflow through the incorporation of disconnection of impervious surfaces to encourage groundwater recharge.
2. Minimize sediment loading through the use of quick stabilization of disturbed areas, using sod.

ATTACHMENT 2
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Monitoring: See "Attachment to the Final Water Quality Plan for Rainbow Drive Pavement Removal and Sidewalk. Description of SPA Monitoring requirements", dated May 2010.

Conditions of Approval: Prior to permanent vegetative stabilization, all disturbed areas must be topsoiled per the latest Montgomery County Standards and Specifications for Topsoiling. Other conditions may be added base on site conditions and regulatory requirements at the time of the subsequent plan reviews:

Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended Water Quality Plan requirements.

If you have any questions regarding these actions, please feel free to contact Mark Etheridge at (240) 777-6338.

Sincerely,



Richard R. Brush, Manager
Water Resources Section
Division of Land Development Services

RRB:dpm:CN237572

cc: C. Bunnag (MNCPPC-ED)
R. Gauza (MCDEP)
SM File # 237572

Qr: on-site 2 ac.
Ql: on-site 2 ac.
Recharge is provided on-site

ATTACHMENT 2
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**Attachment to the Preliminary/Final Water Quality Plan for Rainbow Drive
Sidewalk and Pavement Removal: Description of BMP Monitoring Requirements**

SM: # 237572

Date: May 25, 2010

The purpose of this attachment is to add specificity to the standard monitoring requirements and procedures contained in the BMP monitoring protocols. Some supplemental QA/QC, data analysis, reporting, submission and record keeping tasks will be explained. Since this is the first monitoring project of its kind in an SPA, careful coordination between the monitoring consultant and DEP is required to produce meaningful data and results.

Monitoring efforts and reports must employ scientific approaches in an attempt to document effects of pervious sidewalk on receiving streams and to determine performance of pervious sidewalk over time. Prior to initiation of monitoring, consultants must contact DEP and DPS to review monitoring locations, procedures, and requirements. Monitoring is to be done according to DEP BMP Monitoring Protocols and/or methods and protocols approved by DEP. Some supplemental requirements are provided in this attachment. DEP BMP Monitoring protocols are available at the DEP website:

<http://www.montgomerycountymd.gov/content/dep/spa/pdf/%20files/bmpprotocols.pdf>

Consistent methods are to be used so results can be compared with other SPA BMP monitoring projects. Thorough and careful analysis of data is required. Methods and assumptions should be detailed. Annual reports must adhere to the format and contain all required components in the order detailed in the SPA BMP Monitoring Report Checklist, also available online:

<http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>

Monitoring Requirements

1. Up to three (3) observation wells will be installed and used to observe the rate of drawdown and infiltration following a storm event. Data collection should occur in five-minute increments if using a pressure transducer or data logger. Wells will be installed on the downstream (south) side of the street near the stream crossings, either within or along the sidewalk. Locations of the wells will be determined in conjunction with DEP and DPS. If observation wells can be installed in the sidewalk, they must extend vertically to the bottom of the reservoir layer and be fitted with a lockable cap that is installed flush with the ground surface. Observation wells installed alongside the sidewalk should extend vertically to be in line with the reservoir layer and as close as possible to the proposed pervious concrete system.

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2. DEP must be notified prior to observation well installation. Maryland grid coordinates (decimal degrees, Maryland State Plane NAD 83 feet) should also be submitted within one week of well installation. Rain data must be considered in analysis and plotted with well data. Results from individual storms must also be plotted, discussed, and characterized.
3. A crest gage is to be installed downstream of the westernmost Rainbow Drive stream crossing (in the tributary that roughly parallels Valencia Street). The gage will be used to determine the highest (maximum) elevation of the water surface of the stream during a storm event. Bankfull height is to be determined using the crest gage correlated with rain data. Peak flow discharge measurements are to be measured monthly.
4. Rain data is to be considered in the analysis. Rain data will be obtained from DEP from the gage to be installed at the Colesville Depot.
5. Locations of all monitoring stations are to be provided to DEP within one week of station establishment. GPS locations (in decimal degrees) are preferred, but a map with the approximate locations marked will be acceptable for the initial submission. GIS data (Maryland State Plane, NAD 83 feet) will need to be included as part of the data submission with the annual report. DEP will create an ArcMap layer showing locations of all monitoring stations in the Special Protection Areas.
6. SPA BMP monitoring reports must include a table with dates of all major construction activities which take place on the site (groundbreaking, clearing, grading, sediment control construction, sediment control maintenance, BMP conversion, pond maintenance, etc.) and adhere to the SPA BMP monitoring report structure and content requirements:
<http://www.montgomerycountymd.gov/content/dep/downloads/bmpchecklist.pdf>

Data should be analyzed to determine the effectiveness of environmental site design and BMPs in maintaining pre-development groundwater levels and quality as well as promoting infiltration. Data from the pre-construction period should be compared to results obtained in subsequent periods. Graphs should be provided to support conclusions.
7. Progress reports are to be submitted quarterly. These reports are to document the site conditions, status of the monitoring, identify any problems, and assure monitoring is on schedule and being completed as required. A progress report template is available online on the DEP website.
8. If applicant requires a bridge of an existing DEP contract to complete the monitoring and reporting requirements, the request must come through DEP and justification for obtaining the funds must be reviewed and approved by DEP.

ATTACHMENT 2
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Pre-construction monitoring will include collection of baseline data at the crest gage (item 2) for a minimum of three (3) months. Baseline monitoring of item 1 is also required if observation wells are installed in the ground alongside the sidewalk. DEP must be notified prior to commencement of pre-construction monitoring and will meet in the field to determine monitoring station locations. A pre-construction monitoring report (as outlined in Item 5) and accompanying data must be deemed acceptable by DEP and DPS prior to the issuance of a sediment control permit (i.e., prior to any pavement removal, sidewalk installation, or any disturbance).

Monitoring of items 1 and 2 will continue for five years post construction, with monitoring occurring on years 1, 3, and 5. The crest gage should be monitored monthly and monthly data downloads from the loggers are recommended. The post construction monitoring period will begin following as-built certification and approval and issuance of a post construction stream monitoring permit. An annual monitoring report is due by December 1 of each year. BMP monitoring reports are to be delivered with data in an electronic format DEP and DPS. All information submitted to DEP will be public information that DEP may freely copy and distribute.

Questions on the monitoring requirements and procedures may be directed to the following personnel:

Rachel Gauza (DEP)
(240) 777-7729
rachel.gauza@montgomerycountymd.gov

Mark Etheridge (DPS)
(240) 777-6338
mark.etheridge@montgomerycountymd.gov

Leo Galanko (DPS)
(240) 777-6242
leo.galanko@montgomerycountymd.gov