**MCPB**
Item No.
Date: 09-13-12

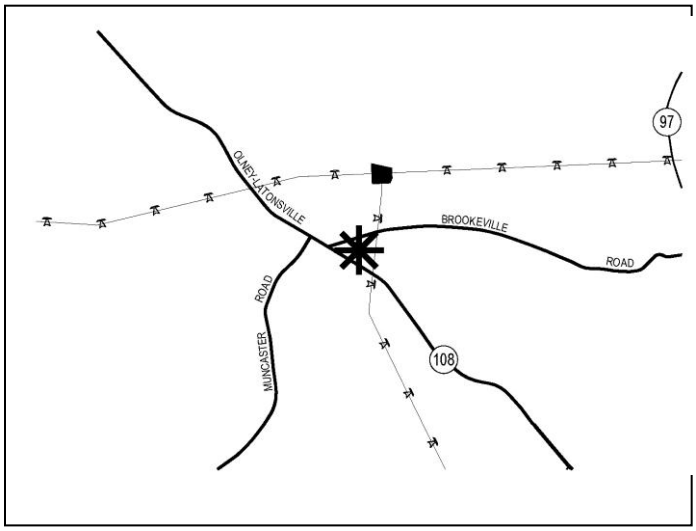
## Grey Goose Farm, Pre-Preliminary Plan, 720120010

EAW Richard Weaver, Acting Supervisor Area 3, richard.weaver@montgomeryplanning.org
JAC John Carter, Chief Area 3, john.carter@montgomeryplanning.org

**Staff Report Date:** August 31, 2012

### Description

A request for Planning Board direction regarding impervious surfaces in the Patuxent River PMA on 21.76 acres; RDT Zone; located on the east side of Olney-Laytonsville Road (MD 108) opposite intersection with Muncaster Road; Olney Master Plan.
**Submittal Date:** January 9, 2012
**Applicant:** Donnie Whitmeyer - Grey Goose Farms
**Review Basis:** Chapter 50, PMA Functional Plan
**Staff Recommendation:** Allow the Applicant to calculate imperviousness levels over the portion of the Property within the Patuxent watershed rather than over the transition zone. Require afforestation, stormwater and pervious pavement offsets.




### Summary

- Prior to submitting a Special Exception, the Applicant seeks non-binding advice on the impervious levels that can be achieved for three potential special exception uses on property located partially within the Patuxent River, Primary Management Area (PMA).
- At present, the Property is legally operated as a non-conforming wholesale nursery with an impervious level exceeding 38% within the Patuxent River portion, with no stormwater management controls.
- Through a fairly complete site redesign for the special exception uses, the Applicant is able to reduce impervious surfaces to 16.8% in the Patuxent and provide stormwater management.
- Prior to proceeding further with Special Exception and Preliminary Plan submissions, the Applicant seeks guidance from the Planning Board on the 10% impervious limit in the Patuxent PMA and the Olney Master Plan with respect to the proposal.

**SITE DESCRIPTION**

The subject property is located at the intersection of Brookeville Road and Olney-Laytonsville Road (MD 108), opposite the intersection with Muncaster Road. It is zoned Rural Density Transfer, RDT, and consists of a single unplatted parcel of 21.76 acres on which a wholesale nursery has operated under various owners since the 1980's ("Property" or "Subject Property"). The nursery operates as a legally conforming use under Zoning Ordinance Section 59-C-9.3, footnote 3, and is not subject to special exception approval. It is, however, limited only to the current use and must not diversify with other uses as limited by the Zoning Ordinance and the Montgomery County department of Permitting Service long as it operates as a the wholesale nursery use that existed since before October 22, 1985 (Attachments A). The State Department of Assessments & Taxation website indicates that the Property is afforded an Agricultural Transfer Tax.

Uses that surround the site include, one family residences (with possible non-residential uses) and a tavern/restaurant confronting on MD 108; a tree nursery confronting on Brookeville Road; an approved special exception golf course to the north and east with a one family residential homes (also with possible non-residential uses) also abutting the Property to the west.

The Property is occupied by numerous structures associated with the nursery operation and a one family residence. The nursery-oriented buildings are spread across the northernmost half of the Property and include a sales building; a new barn, new storage sheds and other accessory structures. The site has been paved with gravel, asphalt and asphalt millings to accommodate parking for customers and tractor trailers that both enter and exit the site at a single location on MD 108 between the intersections of Brookeville Road and Muncaster Road. Other features of the site include outdoor hardscape display areas, nursery stock areas, storage buildings, mulch bins and parking lots. The one family home is located centrally on the Property and does not appear to be actively related to the nursery operation. The driveway for the one family home is from Brookeville Road and there are no apparent vehicular connections between the residential use and the nursery operation. The southernmost portion of the Property, in front of the house, is maintained in an expansive lawn.

The Property is located on the drainage divide between the Patuxent (Hawlings) River and the Upper Rock Creek watersheds. The entirety of the nursery operation is located within the Patuxent River watershed and more specifically, within the Hawlings River portion of the Patuxent. The house sits atop the ridge line dividing the two watersheds. The Hawlings River is a Use IV-P stream; the Upper Rock Creek is a Use-III watershed and in a Special Protection Area ("SPA"). There is a tributary stream to the Hawlings River that traverses the northern portion of the site. In accordance with the Patuxent Primary Mangement Areas ("PMA") guidelines contained in the *Environmental Guidelines*, all land and new development within 660 feet of this tributary stream is within the PMA and subject to a impervious limitations to protect the water quality of the Patuxent River watershed.

**PROPOSAL** (Figures 1 and 2)

Pre-Preliminary Plan No. 720120010,Grey Goose Farm ("Application" or "Plan") was submitted to seek advice from the Planning Board on certain threshold issues prior to the Applicant moving forward with the time and expense of a formal submission for a special exception application and a preliminary plan. As stated above, the Property is currently a conforming wholesale nursery that has been in continuous use as such, since the 1980's. The use may continue in perpetuity, hence, aside from the Applicant's desire to secure special exceptions approvals, it is not otherwise required to submit for approvals by the Board of Appeals or the Planning Board.

The Applicant has prepared the pre-preliminary plan drawings to illustrate how the Property might be reconfigured to accommodate two additional special exception uses for a retail nursery and a landscape contractor in addition to the wholesale nursery. The Plan drawing shows a concerted effort to remove much of the old paved areas, walkways and buildings and construct a much more efficiently designed operation that improves traffic flow for cars and trucks and provides stormwater management. The proposal makes use of three newly constructed agricultural buildings (one barn and two storage sheds) that replaced buildings damaged in the snow storms of 2009. Because these building were built exclusively for agricultural purposes, MCDPS did not require building permits. However, if the special exceptions are approved, these "agricultural" buildings would be used for purposes other than agricultural and be subject to "retroactive" building permits, thereby requiring that the unplatted parcel be recorded by record plat through the submission of a preliminary plan. The changes to the existing use will also require special exception approvals.

The focus of this Planning Board discussion is not intended to be on the potential special exception uses, in fact, there is no pending application that would allow staff and the Board a proper review of a special exception, however; it is likely that the nature of the uses enter into this discussion. The uses proposed for the site include a wholesale nursery, a retail nursery and a landscape contractor. All three uses are defined in the Zoning Ordinance as *Agricultural - Commercial* and all require special exceptions to operate legally as newly established uses in the RDT zone. The discussion of these uses in the Ordinance generally concedes that all three uses are often present together in some relationship of sales to the public (retail), contractors (wholesale) and that there is typically a means to provide landscaping service to their customers (landscape contractor).

The Applicant wishes to gain any guidance from the Planning Board as to whether the submitted plans are satisfactory with respect to impervious levels and if they could possibly meet the goals for the protection of sensitive environmental features. The Application contains no detailed study or analysis to suggest that what is proposed is quantitatively as good, better, or worse than other options that might be available. The Applicant's submittal and testimony will rely on the general principle that less impervious surface is better. The Applicant contends that there will be substantial improvements to water quality by transforming the Property, which is now under limited regulatory control with 38% imperviousness within the Patuxent River portion and no stormwater management, to a property that is

under regulatory control with 16.8% imperviousness[1] within the Patuxent River portion, including stormwater management controls. Even though the proposal will continue to exceed the 10% imperviousness level recommended in the PMA transition zone, the Applicant believes that the proposal is sufficient to protect water quality in the Patuxent River and requests that the Planning Board support this concept at the Special Exception and Preliminary Plan stage.

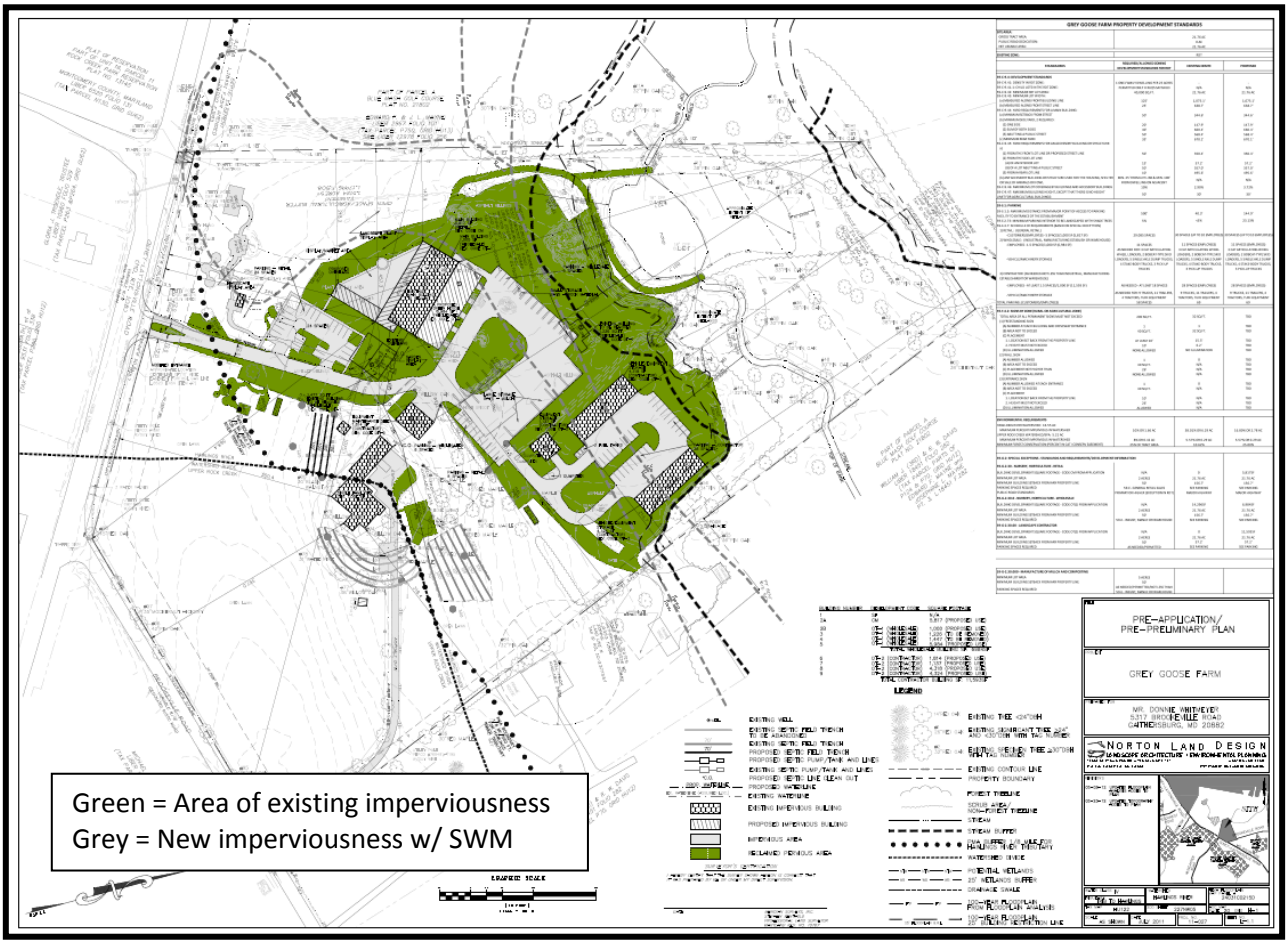



Figure 1

[1] The Applicant has requested an alternative procedure to calculate imperviousness discussed later in the report

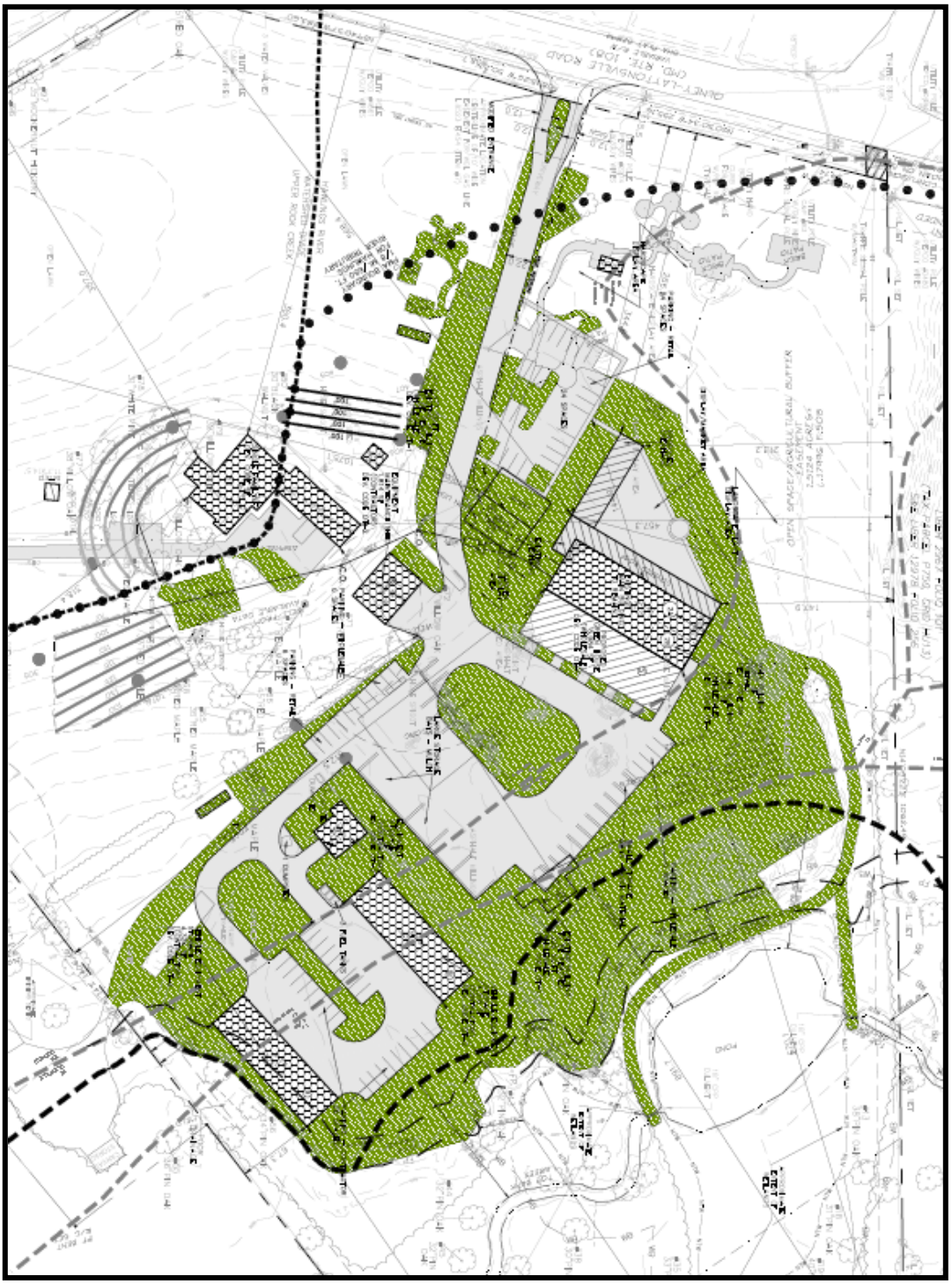


Figure 2

**DISCUSSION**

The Functional Master Plan for the Patuxent River Watershed - 1993, (See Attachment B) established policy recommendations to restore and maintain water quality in the Patuxent River watershed in Montgomery County. The Functional Plan recommended among other things, for the reduction of

nonpoint sources of runoff through a combination of agricultural and urban land management practices; expanded agricultural stream buffer programs; incentives for agricultural best management practices and the establishment of a Primary Management Area within which development densities are appropriately limited. The PMA is further refined in the Planning Board's Approved, *Environmental Guidelines* and the PMA and was used as guidance in the 2004, Olney Master Plan.

Environmental Guidelines (Attachment C)

In the review of regulatory plans, the requirements of Section 50-32 of the Montgomery County Subdivision Regulations instruct the Board as to when it must restrict development or *subdivision* of a property in order to protect the health, safety and welfare of future populations. This section provides the Board with the latitude to restrict development through a number of means including, rearrangement of lots, deletion of lots, the establishment of building restriction lines, easements, deed restrictions and covenants, or to otherwise deny a building permit for development in restricted areas. Since its first adoption in 1983, the *Environmental Guidelines* is the document that staff and the Planning Board have relied on to determine the appropriate protection measures for sensitive environmental features throughout the County. The *Environmental Guidelines* establish the setbacks for streams, wetlands, floodplains and other unsafe or unsuitable land and they also established the PMA guidelines for the County. The Patuxent River PMA guidelines are found on Pages 45 through 54 of the *Environmental Guidelines.*

Within Montgomery County, the PMA guidelines establish the protection measures for all tributaries of the Patuxent River watershed including those of the Hawlings River. For the mainstem of both the Patuxent River and Hawlings River, a one-quarter mile (1320 ft.) area on each side of the stream is established as the PMA. For the tributaries to each of these streams, a one-eighth mile (660 ft.) area on each side of the stream is established as the PMA. The cross section of the PMA (see figure 1) consists of two areas: 1) the normal stream valley buffers (typically 100 to 150 feet on each side of the stream), and 2) the remainder of the area outside the buffers but within the one-quarter mile (or one-eighth mile) distance; defined as the transition zone. The stream valley buffer is always held to 0% imperviousness except for required infrastructure. However, in the PMA transition zone just outside of buffers, the protection measures recommended in the Environmental Guidelines recommend that imperviousness levels for new development should not exceed 10%.

> "Overall imperviousness within the transition area of each new project development site should not exceed 10 percent." (pg. 50 Sec. VII D. 1. c.)

Impervious levels outside of the PMA are not restricted, although minimization of excessive or unnecessary pavement and rooftops is always a consideration in the review of regulatory applications.

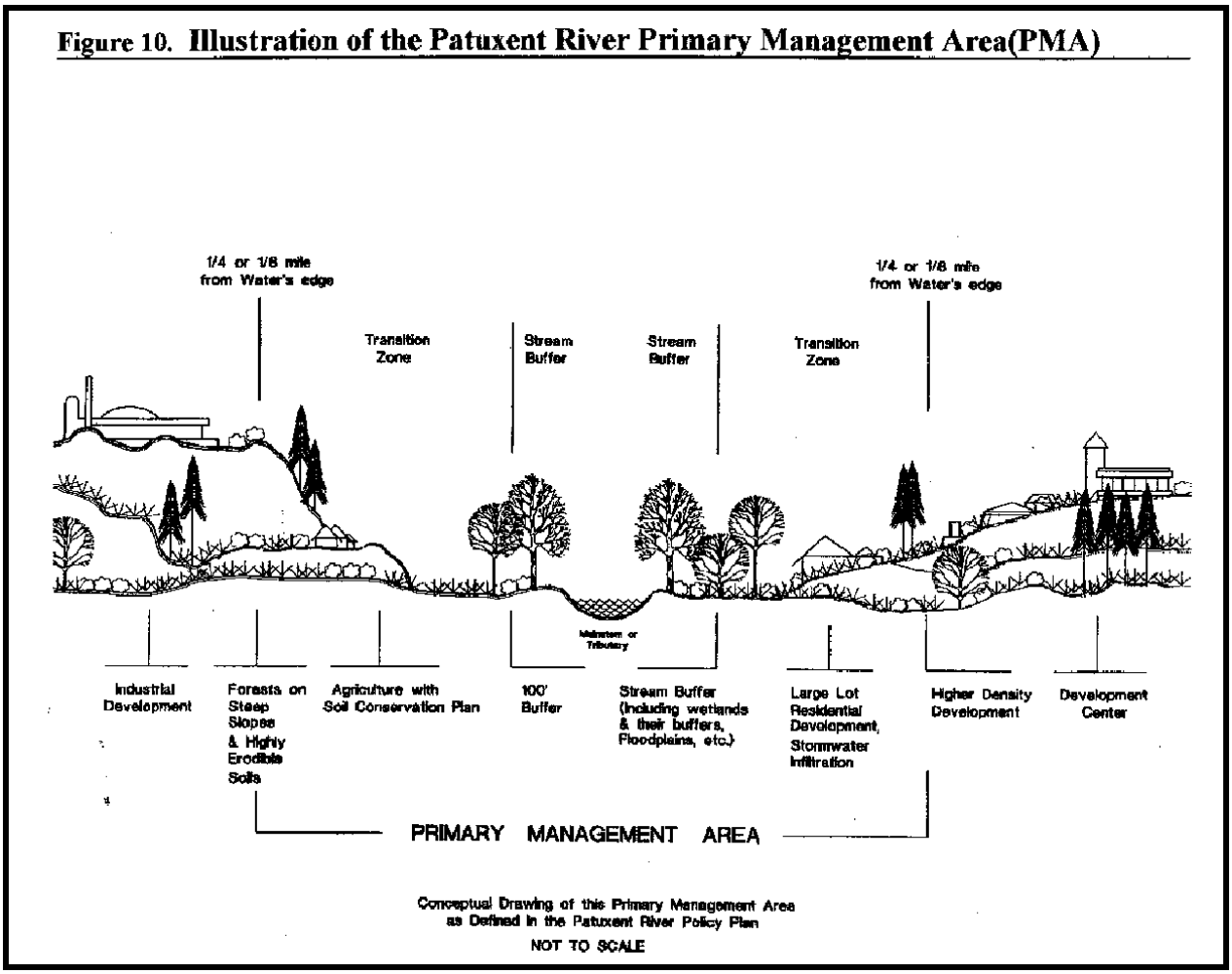



Figure 1

The PMA guidelines provide for relief from adherence to the 10% transition zone restriction on a case by case basis. This Applicant requests such relief and that is a substantial part of this Staff review.

> "If a higher imperviousness is desirable in the transition area to maintain community character, achieve compatibility, and/or accomplish master plan goals, imperviousness may be averaged over the entire development, not to exceed 10 percent on the entire site[2]." (pg. 50 Sec. VII D. 1. c.)

The Applicant has requested that the Planning Board consider this alternative method of imperviousness calculation for this project. Rather than use the standard calculation that bases the impervious area coverage on the imperviousness within the transition zone, the alternative method allows the impervious area coverage, expressed as a percentage, to be calculated over the entire site (within the

[2] If the property lies within two or more watersheds, only the portion of that property within the Patuxent River watershed as defined by natural or existing drainage divides is subject to this imperviousness guideline.

Patuxent). The Board must consider certain site specific goals to allow this method to be applied and that is discussed below.

The Calculation Method

The Subject Property is 21.76 acres in size with 16.55 acres in the Patuxent River watershed and 5.21 acres in the Upper Rock Creek watershed. The Upper Rock Creek watershed is a designated Special Protection Area but because this Property relies on septic systems, any development on the Property that would occur in the Upper Rock Creek portion would not be subject to the 8% impervious cap established in the Zoning Ordinance. However, any development in the Upper Rock Creek would be subject to a Water Quality Plan review. At present, there is only 0.29 acres (5.57%) of impervious surface in the Upper Rock Creek portion of the Property and there is no proposed change to that.

All re-development proposed by this Application is shown in the Patuxent River watershed where the existing nursery operation is currently located. Of the 16.55 acres in the Patuxent, 15.43 acres are within the PMA (660 feet from each side of the tributary stream). Within the 15.43 acre PMA, 5.46 acres are in the stream valley buffer and 9.97 acres are in the transition zone. The standard procedure to calculate imperviousness requires new development to not exceed 10% in the transition zone, see **Calculation E** below.

**A)** Total Property Area……..21.76 acres
Total Existing Imperviousness:……6.58 acres (30.2%)
Total Proposed Imperviousness:……3.07 acres (14.1%)

**B)** Total Hawlings River Watershed Area:……16.55 acres
Total Existing Impervious:……6.29 acres (38%)
Total Proposed Impervious:……2.78 acres (16.8%)

**C)** Total Hawlings River PMA Area:…….15.43 acres
Total Existing Impervious:……..6.25 acres (40.5%)
Total Proposed Impervious:……..2.73 acres (17.6%)

**D)** PMA - Stream Buffer Area:…….5.46 acres
Existing Impervious:……0.89 acres (16.3%)
Proposed Impervious:……0.00 acres (0%)

**E)** PMA – Transition Zone Area:….9.97 acres
Existing Impervious:……5.36 acres (53.76%)
Proposed Impervious:…….. 2.73 acres (27.4%)

As calculated under the standard procedure in **Calculation E** above, the impervious surfaces within the transition zone is 5.36 acres covering 53.76% of the transition zone. The Applicant would be able to reduce the imperviousness to 2.73 acres[3] or 27.4%.

Using the alternative method in **Calculation B** above, imperviousness would be calculated over the portion of the Property that is within the Patuxent (Hawlings River) watershed (16.55 acres). If permitted to do so, the existing imperviousness would be reduced from 6.29 acres (30.2%) to 2.78 acres (16.8%). The actual removal and reduction in impervious surfaces is essentially the same under either calculation. The goal of using the alternative method is to show that imperviousness over the entire tract can be reduced to 10% but allow imperviousness within the critical transition zone to exceed 10%. It is clear that this Application does not reach the 10% goal even if the alternative method is used, however, the use of the alternative method does hold value for this project.

To use the alternative method, the Board must find that it is desirable to have a higher level of imperviousness in the transition area in order to *maintain community character, achieve compatibility, and/or accomplish master plan goals*. Staff finds some merit as to why it would be desirable to consider higher imperviousness levels in the transition zone in order to address other goals.

Community Character The intersection of Brookeville Road and MD 108, is at a gateway to the Agricultural Reserve. Travelling north from Olney towards Laytonsville, the Subject Property is the first RDT zoned Property that one encounters. At this intersection, the view from the roadway towards the Property is that of an expansive lawn with a single family home. A split rail fence runs along Brookeville Road, a Rustic Road. The current wholesale nursery operation is located to the rear of the home and over the ridgeline separating the two watersheds. From this vantage point, the majority of the operation is shielded from views, and one focuses on the green, open space leading up to the home site. This intersection does have a certain community character not necessarily identified in a master plan or functional plan. The points at which Muncaster Road and Brookeville Road intersect with MD 108 in this area create a rather odd configuration that tends to slow traffic along MD 108. The fence along Brookeville Road; the tree nursery that confronts the Subject Property; the small restaurant and tavern that have existed at this intersection for decades and this areas proximity to Mt. Zion, a freed slave community dating to before the civil war, all lend to the character of this crossroad.

Similarly, the location of the existing nursery is shielded from views as on approaches from the north on MD108 by the tall berms on the Blue Mash Golf Course that line the MD108 frontage. The berms block views of the existing nursery until one gets to the intersection of MD 108 and Muncaster Road. However, a view of the one family home's lawn is readily seen from some distance north on MD 108.

To date, the Applicant has resisted locating any new impervious surfaces in the Upper Rock Creek watershed, which would essentially place development in the front lawn of the single family home.

[3] The plan proposes complete elimination of any impervious surfaces within the stream valley buffer that is not reflected in this calculation.

While this watershed is designated as an SPA, development here on the Subject Property would not be subject to the 8% impervious limit since it is not served by public sewer. The area in front of the house does not appear to have any significant physical limitations that would preclude development with buildings and parking. Staff estimates that there would be little issue with paving a driveway to access this area of the Property and that driveway could connect to the existing entrance way for the nursery without having to gain additional access to MD 108 or Brookeville Road. Again, while this portion of the Property is developable, no development has been proposed here.

View from intersection of MD 108 and Brookeville Rd.

View from the property's single family driveway on Brookeville Rd.

For these reasons, Staff believes that it would not be appropriate to locate any future development in front of the existing house. The Patuxent watershed portion of the Property is more appropriate since the majority of the transition zone is already disturbed here and the ridgeline effectively screens views to adjoining properties and the Rustic Road. Because impervious surfaces for the existing nursery already cover over (53.76%) of the transition area on this Property, it seems reasonable to continue with any re-development in the Patuxent rather than relocating imperviousness to the Upper Rock Creek watershed. Any development of the area along Brookeville Road and in the Upper Rock Creek would have negative community character impacts on this rural intersection.

Compatibility For many of the reasons cited above, re-development of this Property for non-agricultural uses would be more compatible with surrounding properties if it can be screened from views and continue to have access to the adjacent arterial highway, (MD108). The location of any future improvements is therefore, best located over the ridgeline and up against the Golf Course to the north. As one travels along MD 108 today, much of the activity is hidden from view behind the sales building and the new barn and the nursery stock that is located along this frontage. The ridgeline and berms on the adjacent golf course also screen the nursery effectively in its current location. If imperviousness and water quality were not an issue, any proposed development on this Property would be well accommodated where it is exists today from a compatibility standpoint.

Master Plan Goals (Attachment D) The 2005 Olney Master Plan specifically placed the small portion of the Upper Rock Creek Watershed, north of MD 108, into the Special Protection Area adding it to the much larger SPA on the south side of MD 108 in the Upper Rock Creek Planning Area. (See pg. 80, Olney

MP) The Master Plan acknowledges that the RDT zoning on some of the smaller residential properties in this area of the Upper Rock Creek watershed was sufficient to protect water quality in these headwaters. However, the Master Plan specifically raises the concern that existing special exceptions, institutional uses and the expansion of these uses may have the potential to threaten water quality. Therefore, the Master Plan recommended that this portion of the Upper Rock Creek Watershed be placed in the SPA overlay zone to provide additional protection through impervious caps[4].

The Olney Master Plan area also contains a large portion of the Patuxent River watershed including the entirety of the Hawlings River watershed. The Master Plan recommended that the majority of the Patuxent River be zoned with low density agricultural zones that promote agriculture with residential densities of one unit per five acres to one unit per twenty-five acres. While the Hawlings River also has significant low density zoning, the watershed includes the town center of Olney with medium density residential and high density, mixed use zoning.

Page 77 of the Master Plan discusses the relationship of the Master Plan to the Patuxent watershed. The narrative within the heading *Patuxent River and Hawlings River Watersheds* includes a discussion of the PMA stating that …

> "Montgomery County has adopted the Patuxent River watershed Functional Master Plan that delineates a Primary Management Area (PMA) limiting use within ¼ mile from the Mainstem and 1/8 mile from all tributaries. In low-density zones, this area is restricted to 10 percent imperviousness…"

If taken literally, this language is less restrictive than that in the PMA guidelines. The entire PMA is not limited to 10%; rather, it is the transition zone that is limited to 10%. The stream valley buffer, which is included in the PMA is actually limited to 0%, in most instances. However, this citation from the narrative does indicate that the Olney Master Plan recognizes that d*evelopment* in the Patuxent should follow the PMA guidelines.

**CONCLUSIONS**

Staff concludes that there are competing policies that place significant restrictions on the Subject Property which is located on the dividing line between two sensitive watersheds: the Upper Rock Creek which has the highest water quality classification in the state (Use III), and the Hawlings River which has the second highest water quality classification in the state (Use IV-P). Each watershed is discussed in the Master Plan which supports measures to protect water quality and to reduce imperviousness. The Property is located on a Rustic Road at an intersection that has a certain rural character and is the entranceway to the Agricultural Reserve. The location of the existing facility appears to be in a location,

[4] The SPA overlay zone for Upper Rock Creek provides an exemption from the 8% imperviousness cap for development using septic systems.

albeit in the Patuxent watershed, that lends itself to the best screening opportunities and is the most compatible with surrounding uses.

The use of this Property for a nursery operation has been in existence since prior to the date of adoption of the Patuxent River Watershed Functional Master Plan in 1993, before any impervious restrictions were placed on the watershed. The imperviousness on the Property has expanded since 1993 and has now reached 38% as a legally conforming use. If there is an opportunity to physically remove imperviousness from the PMA transition zone, it would not be reasonable to relocate it to the Upper Rock Creek Watershed in an area that is also environmentally sensitive as the headwaters of a Use III, SPA watershed.

The current location of the wholesale nursery is arguably the most appropriate to re-develop the site for any new uses. Unfortunately, there is very little of the Property within the Patuxent watershed that is not in the transition zone. It is Staff's position that there is sufficient justification to permit impervious levels in excess of 10% within the transition area of this Property to accomplish these other goals. The Applicant should be able to use the alternative impervious calculation method described in the *Environmental Guidelines* to determine impervious coverage. If other uses are allowed on the Property, it should be approved with substantial reductions in the existing impervious areas, and if the Board is inclined to allow impervious levels that exceed 10 % as determined under the alternative method of calculations, offsets such as additional afforestation, oversized stormwater facilities, and pervious pavement should be provided that will provide additional enhancements to water quality in both watersheds.

Attachments:

A) MCDPS letters
B) PMA functional plan excerpts
C) Environmental Guidelines excerpts
D) Master Plan excerpts

# Attachment A

MCDPS Letters

DEPARTMENT OF PERMITTING SERVICES

Douglas M. Duncan
*County Executive*

Robert C. Hubbard
*Director*

May 25, 2000

Hogan and Hartson
Attorneys at Law
600 Jefferson Plaza
Suite 203
Rockville, Maryland 20852
Attention: Mr. Rocky Sorrell

Dear Mr. Sorrel:

This letter is in reference to the property located at 5317 Brookeville Road, Laytonsville, Maryland.

Based upon the review of information submitted to this office, and application of the Montgomery County Zoning Ordinance, Section 59-C-9.3, footnote 3, this office has reached the following decision:

1) The landscape contractor operation has been abandoned (discontinued for a period of 6 months or more) and is not permitted to be resumed.

2) A wholesale nursery may continue to be operated from this property in accordance with Section 59-C-9.3, footnote 3, of the Montgomery County Zoning Ordinance. The on-site operation cannot be expanded or enlarged and cannot be diversified to include retail facilities or a related use not in operation prior to October 22, 1985.

If you have any additional questions, please feel free to call me at 240-777-6253.

Sincerely,

Edward J. Calloway

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
*County Executive*

Diane R. Schwartz Jones
*Director*

May 24, 2012

Rebecca D. Walker
Miles & Stockbridge
11 N. Washington Street
Suite 700
Rockville, MD 20850

Dear Ms. Walker:

You have requested confirmation that the pole barn buildings that replaced the older barn buildings that were damaged/destroyed as a result of snow storms in early 2009.

Sec. 59-A-3.1. Building Permit states the following:

*A building permit must be issued by the director before any building or other structure can be erected, moved, structurally altered, added to, or enlarged and before any excavation can be started.* ***A building permit is not required for any building or structure to be used exclusively for purposes of agriculture upon land used exclusively for agriculture.*** *However, a building permit is required for any: (i) building or structure to be used for a purpose that is not exclusively agricultural in nature, including special exception uses, even though located on otherwise agricultural land, and (ii) any equestrian facility building or structure intended for use by participants or spectators at an equestrian event.*

The construction of the buildings is not an extension of the nonconforming use unless it is adding new uses to the nonconforming use. The use is permitted to intensify which means the same use can grow however, and no other uses can be added.

I hope that this clarifies the issues you have raised.

Sincerely,

Susan Scala-Demby

Susan Scala-Demby
Zoning Manager

# Attachment B

Patuxent PMA functional plan excerpts

(4) protection of properties from flood.

These objectives have been balanced with the need to protect agricultural activities in the watershed. This plan recognizes that the preservation of prime and viable agricultural land is a county priority. The functional master plan consists of the following elements which support the attainment of the plan's objectives:

(a) policies and recommendations identifying actions by the various involved agencies and jurisdictions to control pollution from urban and agricultural stormwater runoff;

(b) the concept of a Primary Management Area (PMA) as defined in the chapter, "Primary Management Area Guidelines for the Patuxent River Watershed in Montgomery County," Guidelines for Environmental Management of Development in Montgomery County, which establishes a land management corridor along all watershed rivers and streams to prevent the transport of sediment, nutrients, and pollutants to those watercourses;

(c) an interjurisdictional working group of appropriate local and state officials to be established by the County Executives of Montgomery, Howard, and Prince George's Counties to address the complicated policy needs of the tri-county upper watershed;

(d) floodplain maps for the Hawlings River and major tributaries within the basin, and maps showing stream channel erosion areas;[1]

(e) maps showing structures and properties inundated by the 100-year ultimate floods;[1]

(f) a summary of the technical report and WSSC findings which together provide land use and water quality information on which this plan is based.

The Patuxent River Watershed in Montgomery County makes up 30 percent of the county land area which was designated for agricultural and rural preservation in the Functional Master Plan for Preservation of Agriculture and Rural Open Space (1980). Within the watershed, more than 50 percent of the land has been designated as Agricultural Reserve (RDT zone) and the remainder as Rural Open Space (RC zone), excluding the communities of Damascus and Olney/Brookeville. The watershed also contains two drinking water reservoirs, Triadelphia and Rocky Gorge. This functional master plan differs from the two preceding watershed functional plans (the Functional Master Plan for Conservation and Management in the Seneca Creek and Muddy Branch Basins, 1977 and the Functional Master Plan for Conservation and Management in the Rock Creek Basin, 1980) in that it addresses water quality issues stemming from agricultural and low density development areas, as opposed to concentrated growth centers. This functional master plan reaffirms the objectives of the Functional Master Plan for Preservation of Agriculture and Rural Open Space, but re-examines the environmental implications of the land-use recommendations for the Patuxent River Watershed in light of recent and ongoing research in nonpoint sources of pollution. Nonpoint sources of pollution pose serious environmental and economic risks to the stream systems and drinking water reservoirs in the Patuxent River Watershed. Based on a technical study conducted as part of the development of this plan, as well as on other research conducted in the watershed, this functional master plan identifies areas of critical concern in the watershed and recommends and outlines a series of policy needs and monitoring requirements for ensuring the improvement and maintenance of water quality in the watershed streams and reservoirs.

[1] *These maps are available at the Montgomery County Planning Department, Environmental Planning Division, 8787 Georgia Avenue, Silver Spring, MD 20910.*

runoff and nonpoint source pollution. Future development should be planned in a manner sensitive to the purpose of the PMA and coordinated with existing nonpoint pollution control programs in the County.

## C
## MONTGOMERY COUNTY'S PATUXENT WATERSHED INITIATIVES

In 1984, the Montgomery County Council endorsed the state's Patuxent River Policy Plan and subsequently has participated in developing Annual Action Programs to achieve the objectives of the policy plan. This functional master plan and the technical study are elements of Montgomery County's participation in the state's Action Program. (See Appendix C). Pursuant to the recommendation in the state policy plan that local jurisdictions adopt their own Primary Management Area, the Montgomery County Planning Board approved the Patuxent River Watershed Primary Management Area guidelines in November 1991. These guidelines were developed with the input of a technical advisory group representing the concerns of County and state agencies. The Montgomery County Primary Management Area is consistent with the state's Patuxent River Policy Plan recommended PMA widths of 1/4 mile (1320') for each side of the Patuxent mainstem and 1/8 mile (660') for each side of all tributaries. In addition, Montgomery County is also recommending a 1/4 mile PMA for each side of the mainstem of the Hawlings River. The PMA guidelines for the Patuxent River Watershed in Montgomery County are approved as part of the staff guidelines entitled Environmental Management of Development in Montgomery County and are included in this functional master plan by reference.

## D
## MONTGOMERY COUNTY DEVELOPMENT REGULATIONS

The Montgomery County Planning Board and its Planning Department administer the subdivision regulations as set forth in the Montgomery County Zoning Ordinance. Protection of environmentally sensitive areas is an important factor in the Planning Board's decisions in administering subdivision regulations.

A major consideration is the impact of proposed development on stormwater runoff. The increase in impervious surfaces due to development contributes to increased runoff and the transport of sediment and pollutants to the streams. To provide a buffer between development and streams, thereby decreasing sediment and pollutant transport to streams, the County Zoning Ordinance prohibits development within the ultimate 100-year floodplain. In addition, the Planning Board has approved and adopted stream buffer guidelines for use in the review of development proposals. These guidelines recommend the preservation of buffer areas in their natural state, based on slope and soil conditions.

## ANIMAL STORAGE FACILITIES

Properly constructed storage facilities greatly reduce animal waste runoff. Many factors must be considered when storage basins are constructed. Soil type, depth to bedrock or water table, and prevailing wind direction are some of the major factors to be considered.

## RECOMMENDATIONS FOR CONTROLLING URBAN RUNOFF

All areas which are not zoned agricultural (agricultural zones include Rural, Rural Cluster, and Rural Density Transfer) are categorized as urban for the purpose of this plan. The Montgomery County portion of the Patuxent Watershed is primarily forested or in agriculture, with clustering of low-density development occurring predominantly in the Olney area. Based on the results of the technical report, existing urban runoff and subsequent stream channel erosion are the major contributors to urban pollution in the watershed. Appropriate stormwater management measures are necessary to control pollution from urban runoff.

Most of the watershed area is zoned agricultural, with few exceptions; therefore, development in the future is not likely to exacerbate the present situation, provided that the application of current measures to control urban runoff pollution will continue. The following measures are recommended to supplement existing County regulations and programs:

- adequate maintenance of SWM facilities;
- location of stormwater management facilities OUTSIDE buffer areas when feasible to avoid adverse impact to wetlands and habitat;
- implementation and enforcement of the Primary Management Area concept as detailed in the most recent edition of Guidelines for Environmental Management of Development in Montgomery County;
- a survey of existing stormwater outfalls should identify points where impacts from storm drainage outfalls are significant. Measures should be taken to mitigate or retrofit these problem areas;
- development of effective BMP's, beyond existing minimum requirements, to address continuing problems with urban runoff. High concentrations of sediment, phosphorous, nitrogen, industrial fluids, and heavy metals are commonly found in urban runoff. Street sweeping is a BMP that would reduce accumulated potential pollutants in urban areas;
- reduction of the level and frequency of application of lawn fertilizers to reduce phosphorus levels in runoff.



# C: PROTECTION OF GROUNDWATER & WELLS

## STRATEGY: IDENTIFY THE POTENTIAL FOR GROUNDWATER POLLUTION FROM SEPTIC SYSTEMS AND AGRICULTURAL CONTAMINANTS.

Subsurface flow as groundwater is both a source of drinking water supply for non-serviced areas of the watershed and the source of base flow in the tributary network. Potential sources of groundwater pollution include failed septic systems, leaking sewer lines, seepage from landfills, illegal disposal of oil and industrial chemicals, and leaching of agricultural contaminants

# Attachment C

Environmental Guidelines excerpts

# VII. THE PATUXENT RIVER WATERSHED PRIMARY MANAGEMENT AREA (PMA)

## A. Background and Purpose

The Patuxent River Policy Plan, adopted in 1984 by the Maryland General Assembly and the seven Patuxent watershed counties, was prepared by the Maryland Office of State Planning in order to give policy direction to local and State agencies in carrying out their programs and making regulatory decisions in the Patuxent River watershed. Seven Maryland counties have land area within the watershed: Montgomery, Howard, Prince George's, Anne Arundel, Calvert, Charles, and St. Mary's.

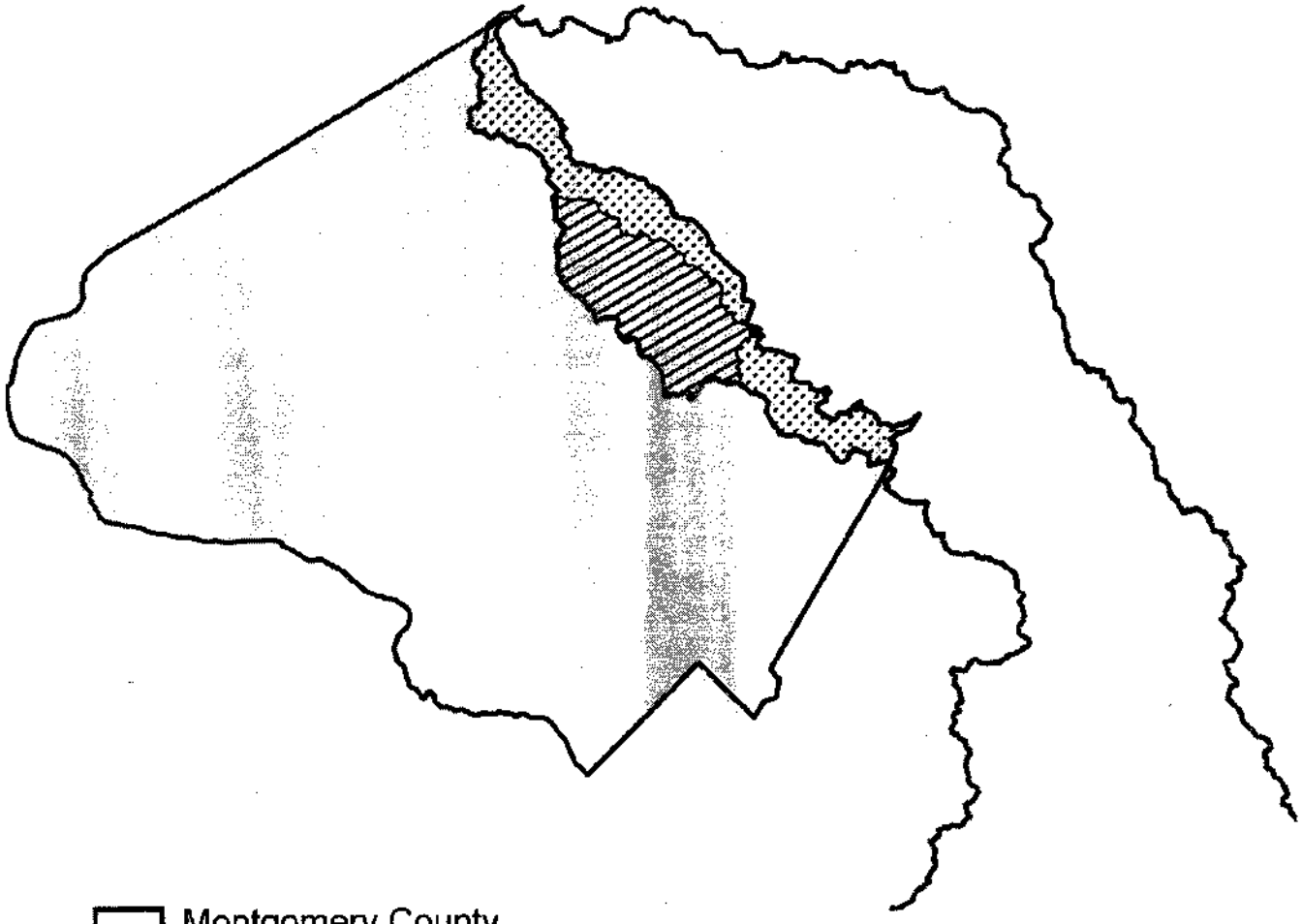
The following pages describe the Patuxent River watershed in Montgomery County and the Primary Management Area (PMA) guidelines used by the Montgomery County Department of Park and Planning to protect the watershed. These PMA guidelines were developed in accordance with the recommendation in the Patuxent River Policy Plan that local governments enact a Primary Management Area. The guidelines address the decline in the Patuxent River's water quality and the need, from an environmental perspective, to protect this resource. In addition, these PMA guidelines respond to the economic necessity of protecting the primary water supply reservoirs and recreational resources provided by the Patuxent River. The purpose of the Montgomery County Patuxent River PMA guidelines is to provide urgently needed land management strategies to help control nonpoint source runoff and preserve, restore, and protect the Patuxent, its drinking water supply reservoirs and the Chesapeake Bay. The guidelines have been approved by the Montgomery County Planning Board for use in the review of development proposals in the Patuxent River watershed.

## B. Introduction: The Patuxent River

The Patuxent River watershed, covering 910 square miles, lies entirely in the State of Maryland. This "scenic river", as designated by the State of Maryland, gently meanders through seven counties before draining into the largest and most bountiful estuary in the United States, the Chesapeake Bay. Approximately 61 square miles (39,065 acres) of Montgomery County drain into the headwaters of the Patuxent. In addition to being a tremendous recreational and economic resource, the river serves as a primary drinking water supply, containing both the Triadelphia and Rocky Gorge reservoirs. Both reservoirs are owned and operated by the Washington Suburban Sanitary Commission.

The Patuxent River, the reservoirs and the Chesapeake Bay are being heavily impacted by increasing pollution levels associated with land development and from the ongoing pollution associated with agricultural activities. Pollution impacting the Patuxent River and the Bay originates from both point and nonpoint sources. Point sources primarily include the piped discharge from sewage treatment plants and industry. The 1983 State *208 Water Quality Management Plan for the Patuxent Basin* (208 Plan) contains the strategy for controlling point sources of pollution. Point source pollution is addressed by the appropriate State and County agencies and therefore will not be addressed by these guidelines. The State 208 plan, which was developed pursuant to Section 208 of the Federal Clean Water Act, also addresses the impacts from nonpoint sources of pollution, which are the major source of the total sediment and nutrient pollutant load to the Patuxent River system.

## Figure 9. Upper Patuxent River Basin and Hawlings River Subbasin



Nonpoint source pollution is directly related to the land-use practices within the watershed and originates from urban, suburban, and agricultural lands. Effective land management strategies are needed to control the increase of disturbed ground and impervious surfaces within watersheds, from which surface runoff generates, transporting harmful nutrients, sediments, and pollutants to the river and its tributaries and causing adverse temperature changes. The 208 Plan for the Patuxent basin reported a serious decline in the river's water quality. Problems include increases in nutrient loading (particularly nitrogen and phosphorus) that result in harmful algal blooms and consequent harmful reductions in dissolved oxygen. The excessive algae coupled with increased sedimentation has also seriously increased the turbidity of the water. This increased turbidity prevents life-sustaining sunlight from reaching submerged aquatic vegetation and results in reduced habitat and food sources for both waterfowl and juvenile fish, in addition to the reduction of vital dissolved oxygen. In 1981, the WSSC issued a report stating that "the reservoirs are aging at faster than acceptable rates due to high nutrient inputs."

## C. The Patuxent River Policy Plan

The Patuxent River Commission and the Maryland Office of State Planning developed the *Patuxent River Policy Plan* (State Policy Plan) in cooperation with all seven Patuxent watershed counties. This Policy Plan was approved by these counties, including Montgomery County, and the General Assembly in 1984. The seven watershed counties and the General Assembly have agreed to accord special management and planning consideration to the lands bordering the streams in the Patuxent watershed. By approving the State Policy Plan, Montgomery County, along with other participating counties, has agreed with the recommendation to develop and implement the primary management area approach to watershed protection.

Based on the recommendations of the State Policy Plan, a conceptual primary management area (PMA) has been proposed for the streams within the Patuxent watershed in Montgomery County. Using the State Policy Plan as a guide, the Montgomery County Department of Park and Planning is proposing a set of criteria and guidelines to be applied to local development reviews. These guidelines could be amended by a joint watershed management policy planning effort between Howard County, Montgomery County, Prince George's County, WSSC, and the M-NCPPC.

The State Policy Plan criteria for designating a PMA are not regulatory standards. Rather, they provide general guidance for developing locally enforceable criteria suited to local conditions. The State Policy Plan contains ten major recommendations to direct land use planning and management toward watershed protection. For a complete list of the Policy Plan's ten recommendations, see Appendix D. Montgomery County's *PMA Guidelines for the Patuxent River Watershed* specifically address four of the ten recommendations put forth in the Policy Plan. These include State Policy Plan recommendations:

- Establishing a Primary Management Area (PMA)
- Providing Best Management Practices (BMPs)
- Preserving Agricultural Land
- Protecting Forest Cover

Montgomery County is in support of all ten of the State Policy Plan's recommendations although at this time these guidelines address only four. It should be noted that not all the Policy Plan's ten

recommendations fall within M-NCPPC jurisdiction. The *Patuxent River Watershed Functional Master Plan* contains a more comprehensive statement that addresses other aspects of the State Policy Plan that fall under M-NCPPC jurisdiction.

# D. The Montgomery County Primary Management Area

## 1. Establishing a Primary Management Area (PMA) for the Patuxent River watershed in Montgomery County

The Primary Management Area (PMA) in Montgomery County is a water quality protection and restoration area where land use activities are managed to protect and enhance water quality in the rivers and streams. The PMA is composed of strips of land that run along the entire length of all streams within the watershed. The recommended land uses and related activities within the PMA are managed through a series of specially designed programs directed to promote water quality in the streams.

The purpose of the Patuxent watershed PMA is to identify and manage land from which nonpoint source pollution is most likely to be transported to the river, to the two water supply reservoirs and ultimately to the Chesapeake Bay.

Montgomery County's PMA for the Patuxent is consistent with the PMA widths recommended in the State's Patuxent River Policy Plan, which are 1/4 mile (1320 feet) for the Patuxent mainstem and 1/8 mile (660 feet) for all tributaries. In addition, Montgomery County is also recommending a 1/4-mile management strip (PMA) for the mainstem of the Hawlings River. The Hawlings River watershed, a subbasin in the Patuxent watershed, lies entirely in Montgomery County (Figure 8). Greenhorne and O'Mara's *Technical Report for the Patuxent River Watershed* (February 1990) has identified the Hawlings River as a major contributor of nonpoint source pollutants to both the upper Patuxent River and to the Rocky Gorge Reservoir.

The area that will constitute the PMA as described above consists of approximately 17,488 acres, or approximately 45 percent of the Patuxent watershed.

a) Applicability

Montgomery County PMA guidelines will be recommended when the criteria in Table 4 (below) apply to a given property. Any properties that meet the criteria will then be required to delineate a Primary Management Area that will consist of a stream buffer and a transition area (Figure 9).

A property will be subject to PMA requirements ONLY when it is submitted to M-NCPPC for subdivision and/or site plan review. Agricultural land located within the Primary Management Area that is NOT submitted for review will not be subject to the recommended PMA - guidelines. Land that remains in agricultural use, as part of a plan for subdivision, however, will be subject to the recommended PMA stream buffer and transition area requirements made herein (Section D.3. Preserving Agricultural Land).

| Table 4. Criteria for Determining Primary Management Area Applicability |
|---|
| 1. The property contains or borders a stream that is tributary to the Patuxent and/or Hawlings River watersheds, OR the property is within a 1/4 mile of the mainstem or 1/8 mile of a tributary of the Patuxent and/or Hawlings River, and |
| 2. The property has been submitted to M-NCPPC for subdivision and/or site plan review.* |
| * Requests for lots for children of the property owner in rural zones that fall under the exempt provisions of the Montgomery County Zoning Ordinance, *do not* subject a farm to PMA requirements, provided the farm is operated in compliance with the soil and water quality conservation plan as determined by the Montgomery Soil Conservation District (MSCD) |

b) Delineating the Stream Buffer within the PMA

Within the designated PMA, be it 1/4 mile or 1/8 mile, it will be necessary to delineate a stream buffer on the land area directly adjacent to the watercourse. The State's Policy Plan recommends a 100-foot buffer of forest or natural vegetation on each side of the river and its tributaries. Montgomery County is recommending a stream buffer width consistent with its stream buffer guidelines, as identified in Table 1 (page 8). The stream buffer may be expanded to include any environmentally sensitive land features as described in Table 5. It is further recommended that a minimum of 50 feet of this buffer be forested. Afforestation will be necessary in stream buffer areas that do not meet this 50-foot forested minimum. The stream buffer area, based on the recommended widths in Table 1, will consist of approximately 1,257 to 2,515 acres, constituting approximately 7 to 14 percent of the PMA, or approximately 3 to 6 percent of the watershed.

The stream buffer area must be left undisturbed and in its natural state. Land disturbing activities such as clearing and grading will not be permitted in the stream buffer area. Activities that would be encouraged in the stream buffer area include afforestation and, possibly, the implementation of Best Management Practices (BMPs). The control of noxious weed species in the stream buffer area, such as thistles (Asteraceae or compositae), johnsongrass, shattercane and wildcane, and multiflora rose, will be permitted when deemed necessary and when done in a manner that minimizes disturbance to other vegetation. Any disturbance of the stream buffer will require M-NCPPC staff review.

The majority of the area along the Patuxent mainstem and a significant portion of the area adjacent to the Hawlings River mainstem that would be delineated as stream buffer are already included in existing and proposed parkland or WSSC property.

For a complete discussion of stream buffer requirements on agricultural land, refer to section D.3. Preserving Agricultural Land.

| Table 5. Recommended Environmentally Sensitive Land Features to be included in the PMA Stream Buffer Area |
|---|
| 1) The one-hundred year ultimate floodplain. |
| 2) All wetlands (and associated buffers) adjacent to the stream or to the one-hundred year floodplain. |
| 3) Slopes of twenty-five percent or greater abutting or adjoining the stream, the 100-year ultimate floodplain, or stream-side wetlands. |
| 4) Specific areas of critical habitat for rare or sensitive wildlife and/or vegetation, as defined in COMAR, Title 08.03.08. |

c) The Transition Area within the PMA

The land area remaining in the PMA that does not fall into the designated stream buffer will be managed as a transition area. Zoning densities of one unit per two acres or less will be recommended for the transition area. Possible zones include RE-2, RE-2C, Rural, RC, and RDT. New development will be accommodated in ways that minimize impacts on water quality and maximize the protection of existing environmental features. Overall imperviousness within the transition area of each new project development site[4] should not exceed 10 percent. If a higher imperviousness is desirable in the transition area to maintain community character, achieve compatibility, and/or accomplish master plan goals, imperviousness may be averaged over the entire development, not to exceed 10 percent on the entire site.[5] The planning challenge within the transition area will be to resist the tendency toward fragmented suburban sprawl by consciously siting development to optimize existing infrastructure and soil infiltration capacities while minimizing impacts to environmentally sensitive land features. Agricultural activities *will be* permitted in the transition area (see section D.3. Preserving Agricultural Land).

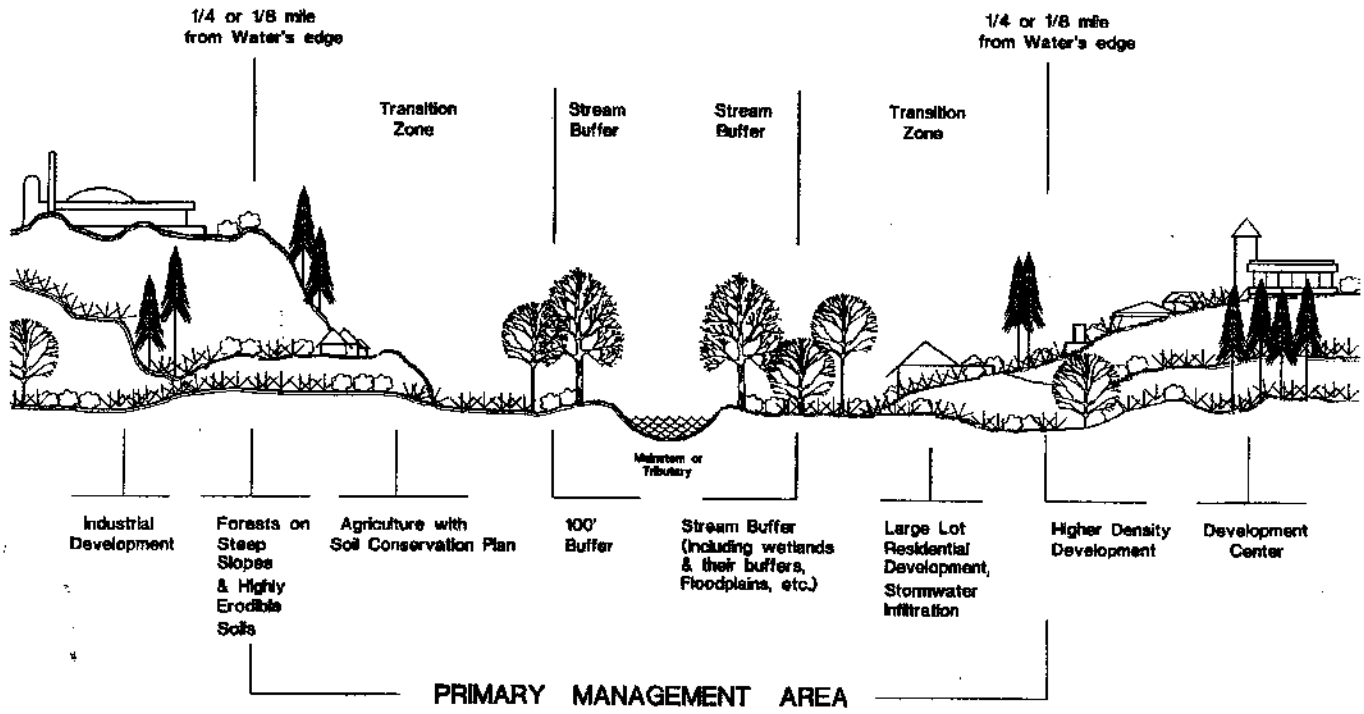
d) Existing Areas in Nonconformance with the PMA Guidelines

Properties for which the PMA guidelines are applicable (Table 4) but that have existing zoning densities greater than RE-2 will be subject to "nonconformance requirements". Nonconformance requirements consist of stormwater management and best management practices applied to the property that will minimize the impacts of higher density zones,

[4]This imperviousness guideline is now applied to new projects that are reviewed by the Planning Board, such as preliminary plans of subdivision, site plans, zoning cases, special exception cases, and mandatory referrals. The guideline would not apply to projects that require only building permit review.

[5]If the property lies within two or more watersheds, only that portion of that property within the Patuxent River watershed (as defined by natural or existing drainage divides) is subject to this imperviousness guideline.

## Figure 10. Illustration of the Patuxent River Primary Management Area(PMA)




Conceptual Drawing of this Primary Management Area as Defined in the Patuxent River Policy Plan

NOT TO SCALE

particularly higher levels of imperviousness, on water quality. These requirements will also apply to RE-2C, RC, and RDT zones where use of cluster development results in densities greater than one unit per two acres. Table 6 describes some, but certainly not all, possible BMPs.

## 2. Providing Best Management Practices (BMPs)

The provision of BMPs in the Primary Management Area is required for all areas where zoning densities are higher than RE-2, as previously discussed. The use of BMPs will also be encouraged in lower density areas during the development review process to facilitate clustering of development and the maximization of soil infiltration capacities. Soil and water conservation plans utilizing BMPs are strongly encouraged on agricultural lands in the PMA, with the incentive of a reduction in the recommended stream buffer width on portions of properties submitted for subdivision and/or site plan review that will be used for agricultural purposes.

| Table 6. Possible Best Management Practices (BMPs) |
|---|
| 1. Locating and possibly clustering development to maximize suitable developable land areas and to minimize negative impacts to water quality and other environmental considerations such as tree stands and wetlands. |
| 2. Widening the stream buffer area to ensure increased infiltration of pollutants, nutrients, and sediments over the extended run. |
| 3. Afforestation of more than the required 50-foot minimum of forest cover within the stream buffer. |
| 4. Utilizing more innovative and effective stormwater management. Maximize infiltration and design ponds to effectively mitigate for both temperature and nutrient/sediment removal. Design for the ten-year storm rather than the required two-year storm. |
| NOTE: Applicants may design and implement, upon staff and Planning Board approval, their own innovative BMP(s). The goal with this option is to foster and encourage a genuine effort between the County and developers to devise and implement effective, innovative, and environmentally sensitive land management practices. |

## 3. Preserving Agricultural Land

The preservation of prime and viable agricultural land is a goal of the Patuxent watershed primary management area as it is throughout upper Montgomery County. It is hoped that the designation of the Patuxent PMA will help achieve the delicate balance between development and agriculture while ensuring water quality.

As discussed earlier, these guidelines only apply to properties that are proposed for development (Table 4). Existing agricultural land will not be subject to these guidelines unless it is included in a development proposal application submitted to M-NCPPC.

In order to encourage the retention of agricultural uses on at least a portion of properties proposed for development, the stream buffer will be reduced from the buffer strip widths listed in Table 1, to 100 feet for land that remains in agriculture and has adopted a soil and water conservation plan approved by the Montgomery Soil Conservation District. However, depending on the site, the stream buffer may be extended to include environmentally sensitive land features (Table 5). It is also recommended that a minimum of 50 feet of the 100-foot stream buffer be forested. Agricultural activities utilizing BMPs are encouraged in the transition area of the PMA and the reduction of the stream buffer from that recommended in Table 1 to 100 feet is done in recognition that the maximization of available land is a necessity for a viable farm. The Planning Board may grant a variance to the PMA 100-foot stream buffer requirement on agricultural portions of plans when the applicant can demonstrate to the satisfaction of staff and the Planning Board that water quality would not be degraded by agricultural activities.

It must also be recognized that the intent of the Primary Management Area is to protect and restore water quality conditions in the Patuxent watershed. To this end, the infiltration and nutrient storage capabilities of forested buffer strips are considerable, as are the beneficial effects such a buffer strip would have on water temperatures and habitat. In order to preserve water quality and avoid the increased regulation that may occur if water quality continues to decline, the Montgomery Soil Conservation District is entreated and encouraged not only to comply with the forested buffer strip recommendations made herein, which are based on studies conducted by and endorsed by the Cooperative Extension Service and the U.S. Fish and Wildlife Service, but also to re-examine the buffer strip requirements currently recommended by the USDA Natural Resources Conservation Service (NRCS) (4 times the percent slope up to 99 feet), in order to provide more environmentally sensitive practices, particularly in special management areas such as the Patuxent River watershed.

The 100-foot recommended minimum buffer width is based upon literature reviews conducted by both the Department of Natural Resources and Office of State Planning. To be effective, buffer areas should be disturbed as little as possible; however, disturbance of the stream buffer for the purpose of controlling noxious weeds, such as thistles (Asteraceae or compositae), johnsongrass, shattercane and wildcane, and multiflora rose, will be permitted when deemed necessary and when done in such a manner that the disturbance of other vegetation is minimized.

## 4. Protecting Forest Cover/Re-establishing Forest Cover

Consistent with the Montgomery County Forest Conservation Program and the State ReLeaf Program, the PMA will be targeted as a potential and logical location for preserving and/or re-establishing forest cover. The widespread benefits of forest cover on water quality include infiltration, sediment and nutrient storage and recycling, minimization of temperature impacts, reduction of wind speeds, providing an energy input into stream ecosystems, and providing potential wildlife habitat.

The opportunity for reforesting a significant portion of publicly owned land in the Patuxent watershed PMA is great and should be maximized. Reforestation/afforestation will be strongly encouraged in the stream buffer area and in already developed and/or disturbed areas within the PMA. Preservation will always be recommended in the stream buffer areas, as well as in the transition area when and where there are large, beneficial, and/or unique tree stands.

The implementation of Montgomery County's Forest Conservation Law and the need to

designate potential tree receiving areas may provide the opportunity for developers to contribute to the reforestation/afforestation of buffers within agricultural areas as an off-site planting alternative. In addition, farmers may pursue incentive programs such as the State Conservation Reserve Program, the Maryland Agricultural Cost-Share Program, and the Green Shores Program in order to comply with the 50 foot forested buffer strip recommendation.

## E. Septic Field Requirements within the PMA

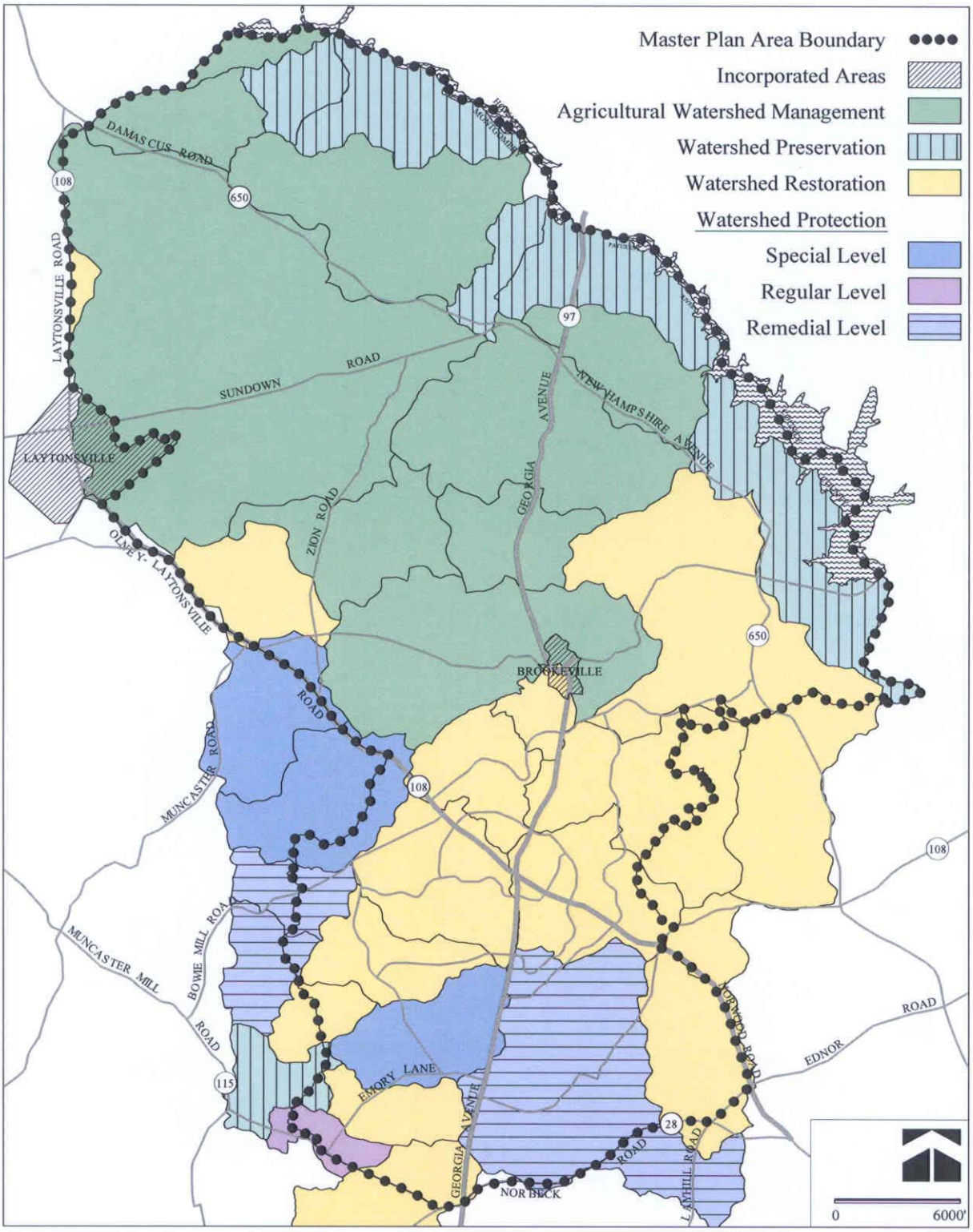
County Executive Regulation 28-93AM prohibits the location of sewage disposal systems within 300 feet measured horizontally from the normal high water level of a water supply reservoir or within 200 feet measured horizontally of the banks of a stream that feeds therein. The PMA policy plan recommends a minimum 300 foot septic setback for the Patuxent and Hawlings mainstems and a minimum 200 foot setback for all other watershed tributaries. Septic fields will not be permitted in the stream buffer. Any variance to the provision of septic fields within the transition area will be determined on a case-by-case basis.

A detailed technical study by the WSSC and/or the County Health Department on the health hazards associated with potential septic failures is strongly endorsed along with these PMA guidelines. The technical study should also provide recommendations pertaining to design, siting and minimum buffers required for septic fields.

# Attachment D

Master Plan excerpts

## Stream Management Strategy




Source: Countywide Stream Protection Strategy, 1998.

2. **Encourage pollution prevention measures in conjunction with these techniques, to further enhance their effectiveness.**

3. **Endorse the Montgomery County Department of Environmental Protection efforts to restore streambanks and to control stormwater from existing development.**

### Patuxent River and Hawlings River Watersheds

The Olney Master Plan Area includes a portion of the Patuxent River mainstem watershed and the entirety of the Hawlings River watershed, a major tributary of the Patuxent River. The planning area portion of the Patuxent River mainstem watershed drains to the Triadelphia Reservoir and the Hawlings River joins the mainstem downstream of the Triadelphia Reservoir. Water from the Hawlings River combines with that from the mainstem to fill the Howard T. Duckett Reservoir further downstream, outside the Master Plan area. Both reservoirs are part of the drinking water system maintained by the Washington Suburban Sanitary Commission for service to Montgomery and adjacent counties.

The Patuxent River and Hawlings River watersheds are the focus of a multi-jurisdictional effort to protect the area draining to the reservoir watersheds. Montgomery County has adopted the Patuxent River watershed Functional Master Plan that delineates a Primary Management Area (PMA) limiting use within 1/4 mile from the Mainstem and 1/8 mile from all tributaries. In low-density zones, this area is restricted to 10 percent imperviousness. In areas with existing zoning allowing densities greater than one dwelling unit per two acres (RE-2), best management practices are required to mitigate the impacts of higher densities. See the Land Use Chapter for more detailed discussion of protection of environmental resources in the Patuxent watershed.

**Recommendations:**

1. **Protect forested areas and wetlands that contribute to the health of the drinking water supply through the development process and applicable conservation programs.**

2. **Encourage application of agricultural conservation measures and best management practices.**

3. **Support efforts to restore stream and retrofit stormwater facilities through the Department of Environmental Protection watershed restoration program.**

4. **Endorse the Montgomery County stream restoration and retrofit projects proposed by the Hawlings River Watershed Restoration Study.**

5. **Encourage application of agricultural conservation measures and best management practices.**

6. **Coordinate the Legacy Open Space Program with the Washington Suburban Sanitary Commission and the Patuxent Reservoir Protection Group to identify properties for potential purchase in fee or easements that contribute to protection of the drinking water reservoirs.**

7. **Work with the Maryland Department of Natural Resources to develop an agreement to assure that farming leases in the Patuxent State Park do not contribute substantially to the sediment and nutrient loads to the reservoir.**

### Northwest Branch

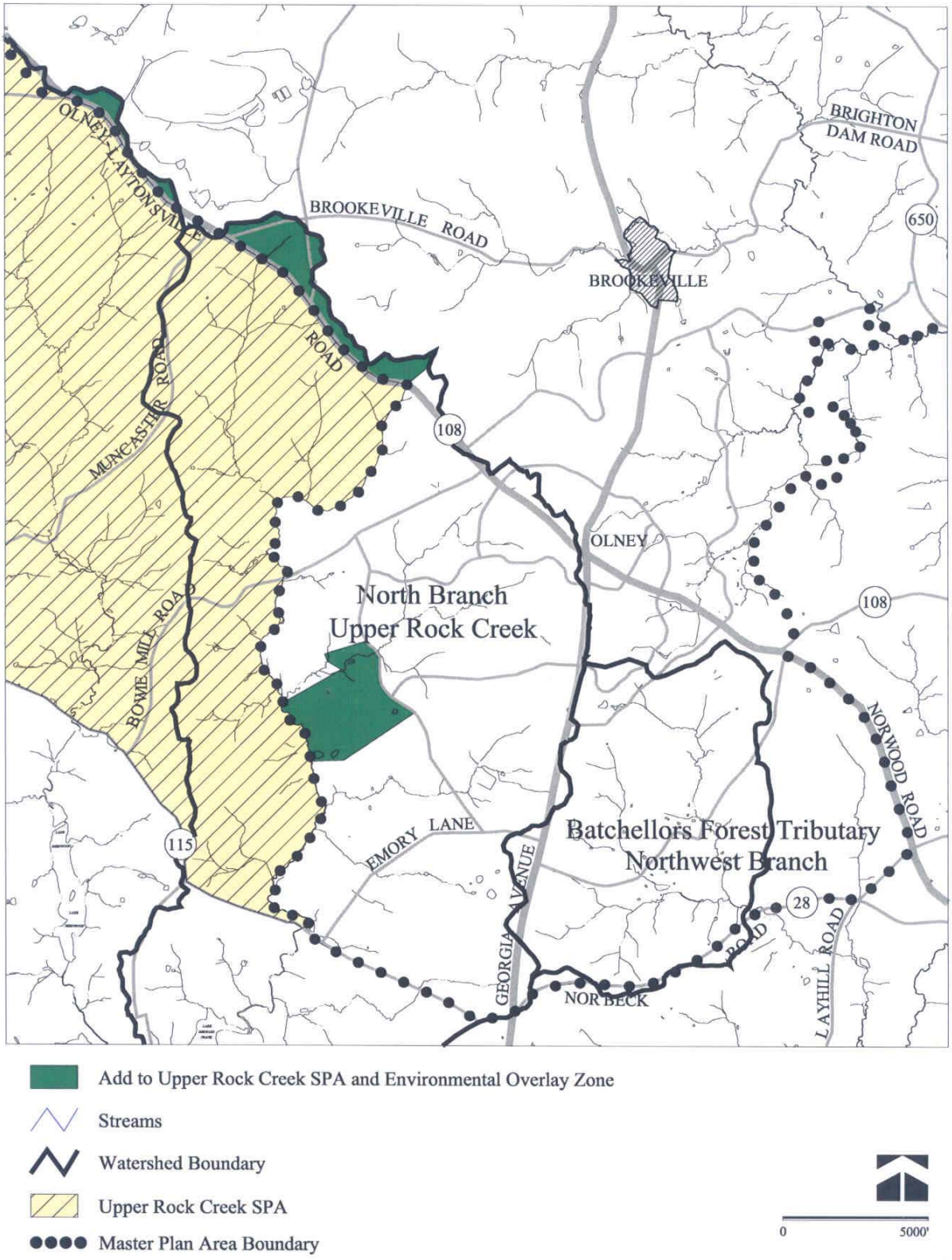
Protection of the current low-density, semi-rural nature of the Southeast Quadrant of the Master Plan area is particularly important because it contains two of the main tributaries forming the headwaters of the Northwest Branch: Batchellors Forest and Batchellors Forest East Tributaries. These stream systems are in relatively good condition and are supported by relatively uninterrupted forested stream valley buffers with forested areas in the headwaters of the first order streams.

Management strategies recommended in the Countywide Stream Protection Strategy include restoration of stream conditions to address problems caused by past development and to provide the stability to accommodate the small, incremental impacts of expected development. Protection of these resources is essential to the health of the stream and wildlife habitat. Many interruptions in the stream buffer can be restored as part of the development process on vacant and redevelopable property. This effort, along with projects identified in the Anacostia River Restoration Study, will provide the remedial management indicated in the CSPS.

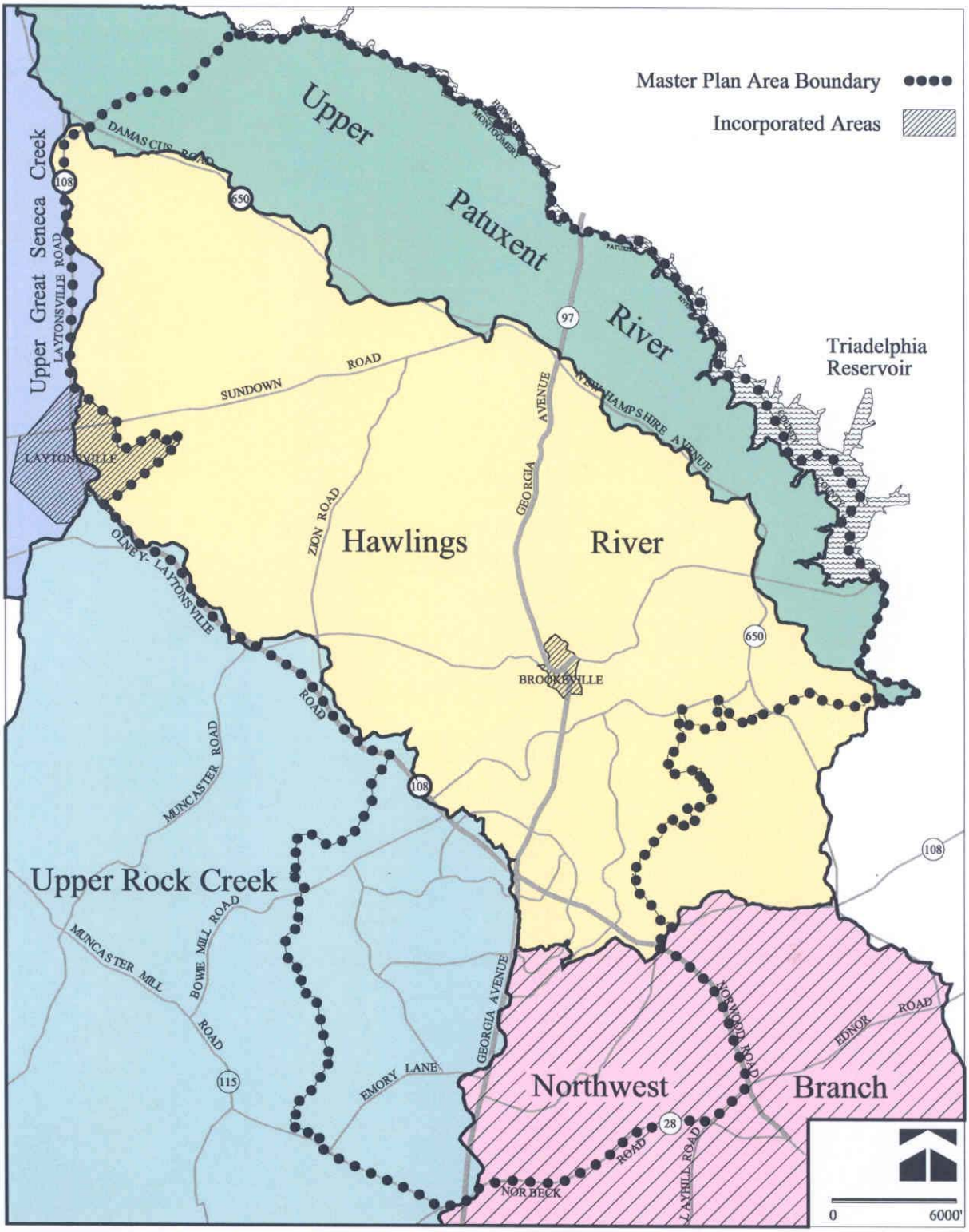
Two small streams that flow into the Batchellors Forest tributary from the west will be affected by any construction in the Intercounty Connector (ICC) right-of-way. At least three separate stream crossings will be required, depending on the roadway design. In addition, the right-of-way parallels two stream segments in the headwaters of these streams, potentially affecting large portions of the stream buffer. Forest loss and fragmentation will result from any construction, particularly in the westernmost tributary, further affecting the water quality.

The Batchellors Forest tributary is the westernmost tributary headwater watershed of the Northwest Branch and a Use IV stream. Stream conditions and projected imperviousness are similar to those in other parts of the Northwest Branch headwaters in Sandy Spring and of lower quality than those in Cloverly which were not designated SPA's in previous master plans. The Batchellors Forest tributary is listed as fair and good (although the good scores are low in the good range), and is not considered as "high quality or environmentally sensitive" as currently interpreted. In terms of the CSPS, its quality is similar to many subwatersheds in suburban and rural areas of the County. While the amount of change in imperviousness could be significant between now and build-out, the stream quality should easily stay within the fair range given the relatively low build-out imperviousness. Unfortunately, many of the increases in imperviousness are associated with major road projects as well as private institutions that have been approved or have applied for approvals under the existing Master Plan.

## Special Protection Area



## Watersheds


Master Plan Area Boundary
Incorporated Areas
Upper Patuxent River
Triadelphia Reservoir
Upper Great Seneca Creek
Hawlings River
Upper Rock Creek
Northwest Branch
LAYTONSVILLE ROAD
SUNDOWN ROAD
GEORGIA AVENUE
NEW HAMPSHIRE AVENUE
ZION ROAD
OLNEY-LAYTONSVILLE ROAD
MUNCASTER ROAD
BOWIE MILL ROAD
MUNCASTER MILL ROAD
EMORY LANE
NORBECK ROAD
LAYHILL ROAD
NORWOOD ROAD
EDNOR ROAD
BROOKEVILLE
LAYTONSVILLE
0
6000'