





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

June 18, 2007

MEMORANDUM

TO: Richard Weaver, Planner Coordinator, Development Review Division
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VIA: Stephen D. Federline, Supervisor 
Environmental Planning,
Countywide Planning Division

FROM:  Candy Bunnag, Planner Coordinator, Environmental Planning, Countywide
Planning Division

SUBJECT: Revised Plans for Ashton Meeting Place, Preliminary Plan No. 120050060
and Site Plan No. 820060230

This memorandum applies to the revised preliminary plan, site plan, and final forest conservation plan (dated 5/25/07) that have recently been submitted by the applicant. The memorandum also responds to questions and issues on environmental topics raised by the Planning Board, the applicant's presentation, and public testimony at the April 12, 2007 public hearing for Ashton Meeting Place preliminary and site plans.

Since the April 12, 2007 Planning Board hearing, the applicant has revised the preliminary, site, and forest conservation plans. The plans have been revised to show preservation and protection of the entirety of the environmental buffers. There are no longer proposed encroachments into the environmental buffers, including wetlands, on the site. In addition, the State Highway Administration has revised its stormwater management (SWM) plan on the adjacent Matthews Property to show a proposed SWM facility that is no longer encroaching in the environmental buffer. This SWM facility will be shared with the proposed Ashton Meeting Place development. These plans meet the requirements of physically protecting environmentally sensitive areas, as defined in Section 50-32(c) of the Subdivision Regulations, the Planning Board's Environmental Guidelines, and the County Forest Conservation Law.

However, avoidance of environmentally-sensitive areas is just one element in protecting the aquatic resources of the Patuxent River watershed. The current plans continue to propose

parking for commercial uses within the R-60-zoned areas of the site. As has been stated by Development Review Division staff, parking in the R-60 zone for commercial uses does not conform to the zoning ordinance. It also, in effect, expands impervious surfaces associated with the proposed commercial use. Expansion of impervious surfaces is inconsistent with the intent of the Patuxent River Primary Management Area guidelines in the Planning Board's Environmental Guidelines to minimize adverse environmental impacts for land uses on properties zoned for higher densities than RE-2. Impervious surfaces reduce the land area that is available for infiltration and recharging of groundwater sources. Impervious surfaces also heat up stormwater runoff during the warmer months of the year and results in warm water discharges to receiving streams. *Therefore, Environmental Planning staff supports Development Review Division staff's recommendation against commercial parking in the R-60 zone.*

As noted in the March 26, 2007 staff memorandum, the site lies within the Patuxent River Primary Management Area (PMA). The part of the property that lies outside the environmental buffer is considered to be the transition area of the PMA. The Planning Board's Environmental Guidelines recommend an impervious limit of 10 percent for transition areas that are zoned RE-2 or less dense. Since the subject site is zoned C-1 and R-60, which are of greater density than RE-2, the imperviousness guideline limit does not apply. However, the Environmental Guidelines recommend the use of best management practices to minimize the environmental impacts of higher density zones. Minimization of impervious surface would be a best management practice that is applicable to this site. One way this could be accomplished would be to limit impervious surfaces for commercial uses to the C-1 zoned portion of the site.

Forest Conservation Plan

If the Planning Board approves the preliminary and site plan, staff recommends approval of the final forest conservation plan with the following conditions:

1. The applicant must comply with the conditions of approval of the final forest conservation plan. Conditions include, but are not limited to, the following:
 - a. Final forest conservation plan shall be revised to include the following elements:
 - i. Provide an evaluation and recommendations by a certified arborist for protection of the 48-inch ash, 40-inch silver maple, and 20 to 24-inch maple on the site and the 38-inch silver maple and 30-inch silver maple on the adjacent SHA property. If the arborist's recommendations identify that some or all of these trees cannot be protected, four-inch or larger native trees must be planted on site or on the adjacent SHA site outside the environmental buffer at a minimum rate of 1:1 of the total diameters of trees removed. The exact locations of mitigation trees to be planted must be reviewed and approved by M-NCPPC staff.
 - ii. Revise the forest conservation plan worksheets to include land dedication for roads in the net tract areas.
 - iii. Add deer protection measures for reforestation areas.

- iv. Add specific notes for M-NCPPC inspections of forest planting materials and planting area.
2. The applicant must place Category I conservation easements over the environmental buffer, forest retention areas, and forest planting areas. Conservation easements must be shown on record plats for the subject site. Conservation easements on unrecorded parcels (offsite) must be recorded in the land records.

STAFF RESPONSES TO QUESTIONS AND ISSUES ON ENVIRONMENTAL TOPICS RAISED AT THE APRIL 12, 2007 PUBLIC HEARING

1. What is past staff practice and Planning Board actions regarding the application of avoidance, minimization, and mitigation review of proposed impacts on environmentally-sensitive areas for private development versus public projects? Specifically, what are the environmental review criteria for the proposed project at Indian Spring Country Club site and the Intercounty Connector?

Staff practice, consistent with the Environmental Guidelines and other environmental regulatory efforts at the state and federal levels, requires avoidance of impacts to environmentally-sensitive areas as the first choice of action. Minimization of impact to environmentally-sensitive areas are allowed if it is determined that the disturbance proposed to the sensitive area is necessary and unavoidable.

Staff's criteria for identifying necessary and unavoidable impacts to environmentally-sensitive areas are tied to elements of a proposed project that are created for the public good or for a necessary infrastructure for the project that can only be constructed with impacts to sensitive areas. Such elements may include water and sewer lines, storm drain outfalls, or road crossings for which no alternatives exist that avoid impacts to sensitive areas.

Staff's practice/policy also allows existing uses to continue within an environmentally-sensitive area if the land use and features do not change. If new construction or reconstruction is proposed for the use, or if the use changes, staff typically recommends that the use be relocated outside the environmental buffer.

Staff's practices and policies stated above are applied to both private development and public projects. For example, the combined golf course and residential subdivision proposed on the Indian Spring Country Club site is a recent private development project where the proposed use and site layout were recommended by staff for denial and were not approved by the Planning Board because of proposed encroachments into the environmental buffer. Staff considered the application to be new development and the proposed encroachments into the environmentally-sensitive areas due to the applicant's project layout and a golf

course use were avoidable and not necessary. Staff concluded that the majority of the environmental buffer encroachments could be avoided if the subdivision was substantially altered, without changing the current zoning on the property. Staff also recognized that such changes could have resulted in the loss of the golf course and/or changes in the proposed mix or numbers of residential units.

In addition, the fact that much of the vegetative cover in the environmental buffer on the Indian Spring Country Club site has been greatly altered from natural conditions because of the golf course use did not lower the value or function of the environmental buffer area as a potential natural area that should be protected and restored.

With respect to a public project, staff reviews a proposed project with the same hierarchy of avoidance, minimization, and mitigation of adverse impacts to environmentally-sensitive areas. For example, with the Intercounty Connector, the public need for the road had been determined to outweigh the significant environmental impacts. A decision to locate the road within the master plan alignment was also made based on a variety of factors in which environmental impact was only one of many. Therefore, at this point of the ICC project, staff’s focus in the review of this road project is to minimize and mitigate environmental impacts with the set alignment of the road ROW.

In keeping with staff’s practices and policies for applying Section 50-32 (Montgomery County Subdivision Regulations), Chapter 22A (the County Forest Conservation Law), and the Planning Board’s Environmental Guidelines, staff finds that the proposed encroachments in environmentally-sensitive areas on the Ashton Meeting Place site are avoidable and unnecessary. The proposed encroachments are due to the applicant’s proposed location and configuration of the grocery store and the free-standing bank building on the site, which “push” part of the store’s service area, a corner of the store building, and the internal driveway into the environmental buffer. None of these proposed features are required to be located or configured to cause the encroachments into environmentally-sensitive areas.

2. What are the amounts of proposed encroachments into environmentally-sensitive areas compared to the total amount of sensitive areas on the subject site?

Environmental Buffer Area	Total Area on Site ¹	Proposed Encroachment into Environmental Buffer Area on <u>Original</u> Plan Submission
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¹ The site includes the properties that are the subject of the preliminary and site plan applications and the Matthews Property, which is the proposed location for the SHA stormwater management facility that will also provide stormwater management controls for the proposed Ashton Meeting Place project. The Matthews Property is adjacent to, but not part of, the properties that are the subject of the preliminary and site plans. The sizes of the environmental features in the table were measured by the use of a planimeter on a plan. The sizes may be slightly different than those measured by the applicant due to differences in measurement methods.

		Area of Encroachment	Percent of Environmentally Sensitive Area	Reason for Encroachment
Environmental buffer (total):	66,860 s.f.	14,750 s.f.	22%	10,800 s.f. due to grocery store and driveway; 3950 s.f. due to SHA SWM facility.
Wetland:	14,765 s.f.	2,000 s.f.	14%	Wetland encroachment due to grocery store and driveway.
Non-wetland:	52,095 s.f.	12,750 s.f.	25%	

The most current plan submission shows no encroachment into the environmental buffer, including the wetland. In addition, the applicant, in coordination with SHA, has reconfigured the SWM facility to lie outside the environmental buffer (on the Matthews Property).

3. What are the environmental consequences, if any, of allowing 5:1 mitigation through wetland creation and protection of additional environmental buffers to compensate for natural wetlands and buffers that are proposed to be filled and destroyed?

As stated above, staff practice, in conformance to the Environmental Guidelines, requires avoidance of impacts to environmentally-sensitive areas as the first choice of action.

The applicant's presentations and information regarding the environmentally-sensitive area on the site have focused on the wetland that occur within the sensitive area. However, it should be reiterated that the wetland and its buffer on the site are integral features of a larger natural, interconnected system of a headwater stream that continues offsite and eventually flows into the mainstem of the Patuxent River, upstream of the Rocky Gorge Reservoir. The wetland on the site is a major source of the headwater stream system. Protection of natural systems of streams, wetlands, seeps, springs, and their buffers, especially those natural systems which are connected and interrelated is a major goal of the Planning Board's Environmental Guidelines.

The wetland on the site is supported by groundwater, surface hydrology, and a spring. Headwaters are important because they are the origins of fresh water to a stream and may have unique ecological characteristics and functions that may not exist in larger, downstream waterbodies. Headwaters can support varied communities of plants, animals, and may be sources of terrestrial invertebrates found in the hydric soils. Although headwater streams and wetlands may be individually small, they collectively exert a large influence on the overall

ecological integrity of a watershed in mediating runoff and sediment, assimilating pollutants, and providing for downstream areas (Rheihardt et. al., 1999). From a hydrological perspective, loss of headwater streams and wetlands may result in dramatic alteration of downstream hydrology (Poff et.al., 1997). From a water quality perspective, headwater streams and wetlands play a critical role in solute and sediment retention (Dieterich and Anderson, 1998).

The applicant has indicated that the wetland on the Ashton Meeting Place site is in grass cover and does not have much biological diversity. However, it should be noted that the grass cover and absence of trees and biological diversity over part of the wetland and its buffer is most likely due, at least in part, to the mowing that has taken place over the years. There are inspection entries in the forest conservation plan file for the part of the site that is subject to an old forest conservation plan (preliminary plan 1-95053, Derrick's Addition to Ashton) that indicates repeated mowing by an adjacent property owner occurred within the environmental buffer.

Earlier, the applicant had proposed to create 9450 square feet of wetland and protect 21,780 square feet of offsite environmental buffer. The applicant had proposed to locate the created wetlands within the buffer on the site. *However, staff believes the success of the created wetland is questionable.* The created wetland would not have any buffer area to provide a natural area for infiltrating water into the ground to help maintain groundwater flows to this created wetland area. The lack of a buffer from the developed part of the site would increase the likelihood of trash (e.g., plastic bags, paper, etc.) entering the wetland. The existing natural wetland is small (about 14,361 s.f.) because of the limited groundwater flows to the wetland today. It is questionable whether a proposed development that will significantly increase impervious cover (from roughly 15 percent to 68 percent) around the wetland and buffer and decrease the site's natural infiltration capacity, will have enough groundwater to be able to support wetlands (natural and created) that are larger than the existing natural wetlands. In addition, the proposed project will rely on engineering methods to provide water to the wetland area. Whether these proposed engineered structures (infiltration trench and porous pavement) will mimic natural infiltration and groundwater recharge functions of vegetated land is also questionable. DPS recognizes that the proposed infiltration trench and porous pavement areas may fail and requires a formal plan revision if these structures become dysfunctional. The SWM concept approval letter for the project, dated December 22, 2006, states:

“If the proposed bottom grades of the infiltration trench and porous pavement areas are compromised during construction, underground sand filter may possibly substitute as water quality devices, with a formal plan revision.”

It should be noted that infiltration trenches and porous pavement are designed to provide water quality controls and help recharge groundwater through infiltration, but sand filters provide water quality benefits without the infiltration or

groundwater recharge functions.

Recent studies of wetland creation projects indicate that there is high variability in the success of such projects. The field of wetlands creation is not an exact science. The success of a wetland creation project is dependent on many variables, including but not limited to, the size or type of the created wetland, the location of the wetland site, and the adequacy of hydrological conditions to support the created wetland. A study of wetland mitigation banks in the U.S. (Spieles, 2005) indicate that 23 of the 45 (51%) created wetlands that were evaluated were determined to have failed, based on an analysis of vegetation that grew in these wetlands. Based on other criteria, other studies of created wetland projects have found the following: 57% of 75 California mitigation wetlands did not meet all criteria for success (Allen and Fedema, 1996); 38% of 13 mitigation sites were determined to be failures (Cole and Shafer, 2002); 96% of 50 mitigation projects in Tennessee did not meet all permit requirements (Morgan and Roberts, 2003); 36% of wetland mitigation sites studied in Indiana were reported to be unsuccessful (Robb, 2002); and 35% of 114 sites in Massachusetts were found to be in non-compliance (Brown and Veneman, 2001).

The National Academy of Sciences (2001) concludes that on-site wetland mitigation is usually “constrained by hydrological conditions that are likely to have been or are being modified by the developments requiring mitigation. Hydrological conditions, including variability in water levels and water flow rates, are the primary driving force influencing wetland development, structure, functioning, and persistence.”

Another study (Garrett, 1995) evaluated 17 wetland creation projects in 14 states to meet federal wetlands mitigation requirements as compensatory mitigation for impacts to wetlands caused by highway construction. The study found that a consistent problem is the availability of a suitable site for wetland creation or establishment. “If a site has a high potential for wetland development, it is most likely already a wetland, or has been wetland and has been drained or converted to some other land use type or cover type.”

A recent, local example of the difficulties in achieving successful wetland mitigation is the State Highway Administration (SHA) wetland creation project adjacent to Northwest Branch on M-NCPPC parkland. It is a mitigation project that SHA constructed as part of the Intercounty Connector project. M-NCPPC staff has been observing the project since construction began in October 2006. Staff has concerns that the hydrologic conditions do not meet the mitigation goals despite the fact that the site is within the relatively large floodplain of the mainstem of Northwest Branch. The created wetland area is disconnected from adjacent, natural wetlands by an earth berm created by error during construction. Groundwater levels in some locations within the created wetland are significantly deeper (by about 2 to 3 feet) than proposed on the final design plan. Additionally, heavy clay soils between the groundwater table and the surface of the wetland may

impede the flow of groundwater to the created wetland. Although SHA is monitoring the site and would re-work the site if required, the project highlights some of the numerous complications and variables that can occur in constructing wetlands. If a government agency, which has the expertise, experience, and funding to create wetland mitigation areas, has problems in creating such a mitigation site, then it is questionable whether a developer with much more limited funding devoted to wetland mitigation can create a successful wetland area. This concern is particularly relevant for a site where hydrologic conditions are anticipated to change drastically, given the proposed change in land use and land cover (i.e., increase of impervious surfaces from roughly 15 percent to 68 percent).

Staff believes the likelihood of the proposed created wetland succeeding on the Ashton Meeting Place project is low. The consequence of a failed wetland on the subject site would be a net loss of wetlands as part of the headwater stream system of the tributary to the Patuxent River.

In an earlier version of the plan, which showed encroachment into the environmental buffer, the applicant had proposed to create about 21,780 square feet of environmental buffer through the establishment of a conservation easement on an offsite property adjacent to the subject site. The offsite conservation easement would protect existing forest and would be planted with additional forest. Although protecting additional buffer areas around streams and wetlands benefits the overall stream system, staff does not believe that the proposed offsite buffer would mitigate the loss of buffer on the subject site. The additional buffer protection on the adjacent property would be *downstream* of the natural wetland whose buffer will be partially lost. This offsite buffer protection would not offset the loss of buffer adjacent to the wetland.

4. How does staff change the element of environmental protection related to the location of an environmentally-sensitive area on the site?

If a proposed development shows encroachment into an environmentally-sensitive area, and the encroachment is due to a required infrastructure for the development (e.g., sewer line, public road, stormwater management outfall), staff must determine if the proposed location of the infrastructure is set or can be moved to avoid the environmentally-sensitive area. If staff concludes that the required infrastructure must be located within an environmentally-sensitive area and cannot be moved, then staff's recommendations focus on minimizing the encroachment and measures to compensate for the encroached area. If staff concludes that either the proposed encroachment is not necessary (i.e., not due to a required infrastructure) or can be avoided by moving the structure to an alternative location outside the environmentally-sensitive area, then staff would recommend changes to the proposal to avoid the encroachment into the environmentally-sensitive area.

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