



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

January 5, 2004

MEMORANDUM

TO: Montgomery County Planning Board

VIA: John A. Carter, Chief *JAC*  
Community-Based Planning Division

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Community-Based Planning Division *KA*

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SUBJECT: Olney Master Plan Public Hearing Draft Worksession No. 2:  
Southeast Quadrant Land Use and Zoning

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**RECOMMENDATION:** Approval of Option 4 for rezoning the 30 developable properties in the Southeast Quadrant as follows:

1. Properties of 10 acres or more in the proposed sewer envelope to be zoned RNC at a maximum density of 0.33 units per acre;
2. Properties of less than 10 acres in the proposed sewer envelope to be zoned RE-2 at a maximum density of 0.33 units per acre on sewer; and
3. Properties outside the sewer envelope to be zoned RE-2 at a maximum density of 0.5 units per acre on septic.

Option 4 is the staff's proposed modification of the Public Hearing Draft recommendations for the developable properties in the Southeast Quadrant, not including the Golden Bear Triangle Area.

## INTRODUCTION:

This is the second worksession for the proposed Olney Master Plan amendment. During the first worksession on November 6, 2003 on land use and zoning issues in the Southeast Quadrant (SEQ), the Planning Board asked for additional information regarding the low-density rural character of the area; imperviousness analysis for proposed densities; jobs and housing balance; the diversity of housing in Olney; and the definition of the Rural Open Space in the RNC Zone. This report provides the information requested by the Planning Board and includes staff response to the comments raised by the community and property owners since the publication of the Public Hearing Draft. It concludes by requesting the Planning Board's approval of Option 4 for proposed zoning of all developable properties in the SEQ. The report is organized into the following sections:

1. **OUTSTANDING ISSUES** is a brief summary of the outstanding issues in the Southeast Quadrant that are addressed in this worksession;
2. **EXISTING CONDITIONS** describes the current Master Plan and regulatory framework for the Southeast Quadrant;
3. **PROPOSED CONCEPT** lays out the basis for the land use and zoning recommendations in the Southeast Quadrant and how they fit in with the overall plan for Olney;
4. **ALTERNATIVE SCENARIOS** describes the four rezoning options for the developable properties in the SEQ;
5. **ANALYSES** evaluates the four density options in terms of their impacts on the environment, transportation, area's rural character, and the Master Plan's jobs/housing balance, including a more detailed assessment of the four major sewered properties;
6. **RURAL OPEN SPACE IN THE RNC ZONE** addresses the Planning Board's inquiry of the definition of the Rural Open Space in the RNC Zone in the context of these two properties;
7. **SUMMARY OF THE PUBLIC TESTIMONY** includes the issues raised by the community and the property owners during and after the public testimony and the staff's response to these comments; and
8. **OPTION 4** is the staff's preferred option based on the analyses contained in this report and staff is requesting that the Planning Board approve this option as a modification to the recommendations for developable properties in the SEQ contained in the Public Hearing Draft.

## SECTION 1: OUTSTANDING ISSUES

The primary outstanding issue in the Southeast Quadrant (SEQ) is the proposed density on the four major properties: Polinger, Hyde, Casey and Northwest Investment (NWI). The Community believes that the overall future growth in the Southeast Quadrant as recommended in the Public Hearing Draft is too high for this area and would negatively impact the traffic, the environment, the rural character of Batchellors Forest Road, and the local schools. The property owners and prospective developers, on the other hand, have indicated that the proposed densities should be higher than the 0.33 units per acre proposed in the Draft Plan.

Representatives of the Hyde property have presented to the staff a proposal for 41 units, which translates into 0.4 or 0.82 units per acre depending upon whether or not the Good Counsel site is included in the calculation. Representatives of the Polinger property have requested a density of 0.45 units per acre; representatives of NWI have requested a density higher than the Draft Plan without a specific number of units per acre. No testimony was submitted on behalf of the Casey property but staff has learned since the first worksession that property is under contract for residential development.

Staff has addressed the other major issue of unfair treatment of smaller than 10-acre properties in the SEQ by proposing to modify the Public Hearing Draft zoning recommendation for such properties, which would also address the issue of the requirement of Rural Open Space on the Gandel property if it is rezoned to RNC and developed for a private school.

## **SECTION 2: EXISTING CONDITIONS**

The Southeast Quadrant (SEQ) is the area bounded by Georgia Avenue, Old Baltimore Road, MD 108, Dr. Bird/Norwood Road, Layhill Road and Norbeck Road. Batchellors Forest Road is the only through road in this quadrant connecting Dr. Bird Road with Georgia Avenue. Farquhar Middle School is located on Batchellors Forest Road near Dr. Bird Road. The entire quadrant covers approximately 2,508 acres and has a mix of RE-2, RC and LDRC zoning. It has approximately 795 acres of land in various size parcels that are considered vacant or redevelopable based on their current use and zoning. The Master Plan right-of-way of the ICC passes through the southern edge of this area near the intersection of Georgia Avenue and Norbeck Road.

The Southeast Quadrant contains two of the main tributaries forming the headwaters of the Northwest Branch (of the Anacostia River): Batchellors Forest and Batchellors Forest East Tributaries (see map of subwatersheds). These Use IV stream systems are in relatively good condition and relatively uninterrupted forested stream valley buffers support the Bachelors Forest Tributary. Both tributaries have forested areas in the headwaters of the first order streams.

There are relatively few wetlands (by acreage and proportion of watershed coverage) within this portion of Northwest Branch. In the headwaters of Northwest Branch, about half the wetlands are associated with man-made ponds. Only about one-third of the wetlands lie within public lands. There are no stream valley parks in the SEQ.

The Northwest Branch is part of a long-standing effort on the part of the U.S. Army Corp of Engineers, State and local agencies to improve conditions in this largely developed watershed. Several projects are underway and more are planned, mostly downstream of the Master Plan area.

### **1980 Plan Recommendations for SEQ**

The 1980 Master Plan envisioned the Southeast Quadrant of Olney as a "transitional agricultural area." It stated, "large farms still operate, but preliminary residential development plans have already been submitted for many of them. If this land is

developed into 2 acre lots, the opportunity for any type of farming will be lost and the agricultural and open space character of the area will disappear.” It recommended a rural cluster option with an overall density of one unit per five acres. The Plan believed that “development in accord with the rural cluster would: encourage a mix of farms and residential uses; encourage the leasing or rental of open space to area farmers; secure the rural character of the southeast area.” The Plan recommended that “public water and sewer be made available to implement the rural cluster concept in the southeast area.”

The 1980 Plan also envisioned the southeast area as a buffer between the Town Center and Sandy Spring/Ashton. It stated that “The need for a buffer between Olney Town and the rural communities of Sandy Spring and Ashton also supports low density residential uses east of Georgia Avenue. Rock Creek Park surrounds the western portion of Olney Town and provides a natural limit to urban development. No such barrier exists to the east. Thus, low-density uses are especially important as a transition from Olney Town east to Sandy Spring/Ashton...The satellite concept consists of an urbanized area surrounded by open space. Although existing and proposed residential development in the sewer envelope west of Georgia Avenue has weakened the buffer concept somewhat, the potential still exists for a strong transition from urban landscape to rural countryside east of Georgia Avenue. Low density development will create the needed visual and physical break.” It recommended large lot residential development east of Georgia Avenue for the Southeast Quadrant (Analysis Area 4 in the 1980 Plan) “to create a low density buffer around Olney Town Center.”

The 1980 Plan gave the property owners the option to develop on community water and septic in the RE-2 Zone, or rezone to five-acre densities (RC or LDRC) on community water and sewer. Some properties have utilized the sewer/cluster option and the area today is a mix of RE-2, RC and LDRC Zones. Over the past 20 years, it has become less agricultural and the few remaining large properties are being planned for residential development.

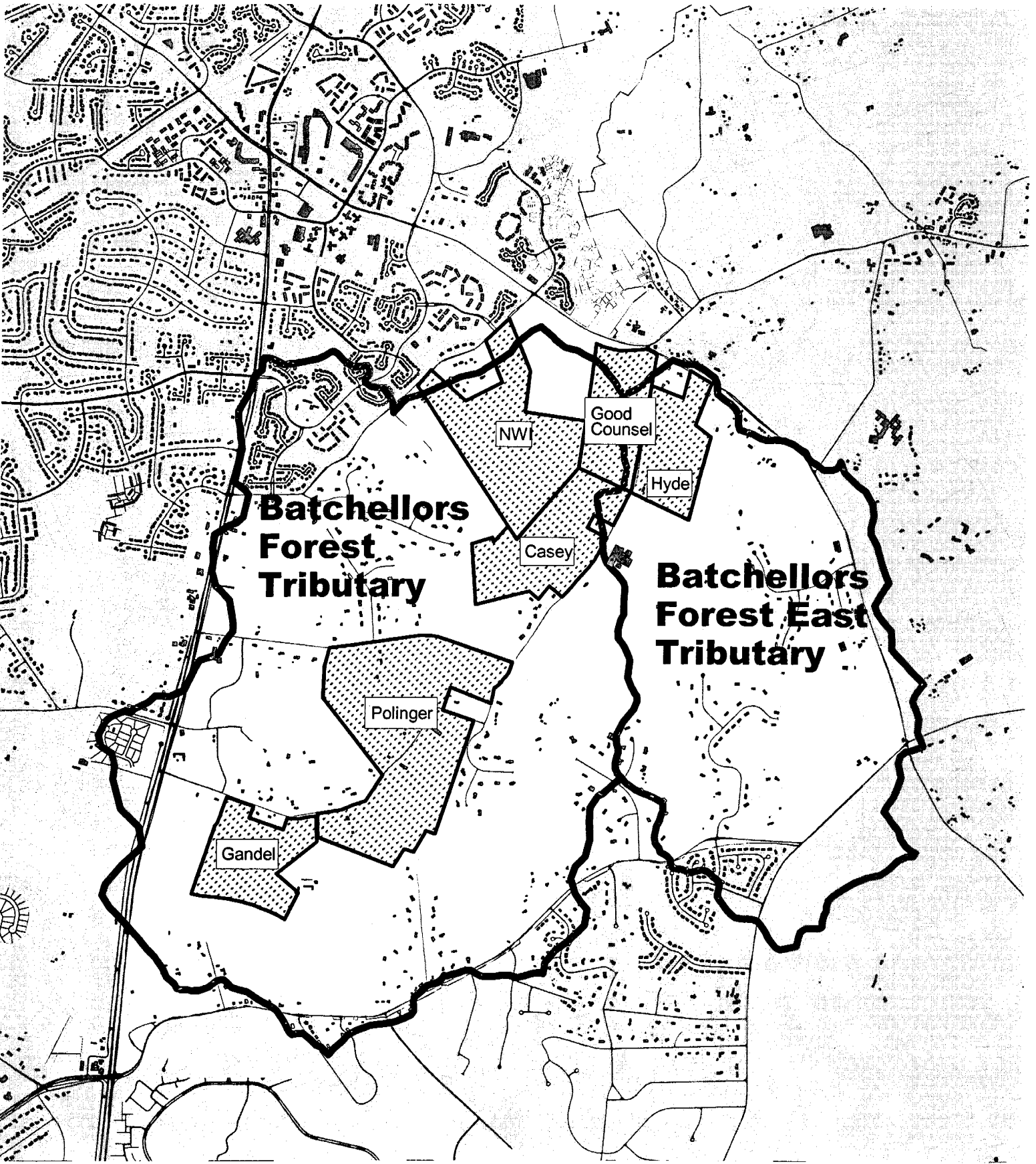
### **SECTION 3: PROPOSED CONCEPT FOR SOUTHEAST QUADRANT**

The proposed land use concept for the Southeast Quadrant is based on the following four elements:

- 1) Protection of open space and the sensitive environmental resources including the headwaters of the Northwest Branch;**
- 2) Protection of the low-density rural character of the area;**
- 3) Improve the jobs/housing balance in the planning area;**
- 4) Reinforce the current diversity of housing types in Olney.**

#### **1. Protection of Open Space and Environmental Resources**

The Southeast Quadrant contains significant environmental resources including the headwaters of the Northwest Branch. The area currently does not have any stream valley parkland and a very small portion of the stream valley is protected though



**Batchellors  
Forest  
Tributary**

**Batchellors  
Forest East  
Tributary**

NW

Good  
Counsel

Hyde

Casey

Polinger

Gandel

conservation easements. Larger areas are protected by homeowners associations and by the conversion of the Red Door Store property to parkland.

The proposed plan for the SEQ refines the planning concept contained in the 1980 Plan by continuing to protect the headwaters of the Northwest Branch. It prohibits new sewer mains in the stream valleys and recommends that existing sewer lines be used, where feasible through gravity, to cluster development and save large areas of forest along streams and headwaters. New sewer lines should not be extended along tributaries in the western portion of the Batchellors Forest tributary above the Intercounty Connector (ICC) right-of-way because environmental benefits would not outweigh the potential impacts to the streams. And it recommends densities that are considered appropriate to keep overall imperviousness in the watershed at acceptable levels.

The most important feature of any land use scenario in the Southeast Quadrant is the preservation of existing forest and wetlands, which, combined with the restoration of degraded wetlands, stream buffers and upland forest, will help preserve a continuous green infrastructure. Clustering development away from environmental resources and the maintenance of these resources in common ownership with conservation easements is essential to maintain a green infrastructure, regardless of density. Environmental restoration is particularly important on the Polinger and the Red Door Store properties. The latter was recently added to the park system, and restoration planning is underway.

## **2. Protection of Low-Density Rural Character of the Area**

The term low-density character in the SEQ refers to a visual quality and appearance that comes from a combination of low-densities, houses on generally large lots, rolling topography, large undeveloped properties that contain forested areas and farm fields, and a narrow two-lane road with constrained right-of-way, sharp turns, heavy tree cover in some areas, and views of open fields and forested edges. Despite the decrease in farming and agricultural uses in the recent past, the SEQ area still has some large tracts of land (Casey, Hyde) being used to raise crops, which gives a rural and pastoral feel to the area, especially as one travels along Batchellors Forest Road.

The rural or rustic character of the SEQ is especially evident along Batchellors Forest Road, which is the only through road in the area. In 1996, it was designated as an Interim Rustic Road by the Rustic Roads Functional Master Plan. Despite some gaps along its entire length, this road has attributes to qualify it as a Rustic Road. Extension of Emory Lane and connection to Barn Ridge Drive proposed in the 1980 Master Plan as an east-west connection through this area were never implemented and are no longer considered appropriate due the potential adverse environmental and community impacts.

The proposed concept for the SEQ is based partly on the objective of protecting and enhancing the rural character of the SEQ. The Plan recommends designating Batchellors Forest Road as a rustic road and clustering all new development on larger properties and careful placement of these clusters away from stream valleys, forested areas and open fields to protect scenic vistas and views of rural landscape critical to

preserving the rural character of the area, especially along Batchellors Forest Road. These factors, however, are more design oriented and are recommended as design guidelines in the Public Hearing Draft to influence the subdivision and site plan stage of the approval process.

In addition to preserving critical viewsheds through clustering and the placement of these clusters in appropriate areas on a site, compatibility of new subdivisions with the existing pattern of development is important in protecting the rural character of the SEQ. Two significant measures of compatibility are the average and minimum lot sizes. Although not stated directly in the Public Hearing Draft, the proposed concept is based on the assumption that a minimum lot size of approximately 15,000 square feet is appropriate for future developments along Batchellors Forest Road. Whereas estimating the minimum lot size, and the number of units near that threshold, is not possible without formal site plans by developers, the average lot size can be estimated and is used in the analysis of the four options included in this report.

### **3. Improve Jobs/Housing Balance in the Planning Area**

The proposed concept for the Southeast Quadrant is also guided by the need to improve the jobs/housing balance in the planning area. A balanced land use plan from a jobs/housing perspective implies that for every worker there is a housing unit available in the area. For the Washington Metropolitan region, a balanced job/housing ratio is considered to be 1.6, which means that there are 1.6 jobs for every household in the area.

Olney today has a jobs/housing ratio of 0.54. Achieving a significant improvement to this ratio would require a departure from the area's established land use pattern and the Master Plan's goal of continuing the concept of Olney as a satellite town in the residential wedge of the County. It would require creating a bigger and a different type of employment center in Olney than is implied in the satellite town concept; and it would require reducing the housing element in Olney. The Public Hearing Draft realizes that creating additional commercial land is not feasible since the area has an established, attractive land use pattern and doing so would severely disrupt this pattern. A major reduction in housing growth is also not feasible because there are few developable sites left in the planning area and there is a strong demand for housing in the County. The Draft Plan, therefore, relies on fine-tuning the existing land use pattern by increasing future job opportunities in the Town Center within the parameters of a satellite town concept, and not increasing the overall housing growth beyond the 1980 Master Plan level. Since the SEQ has more residential developable land than any other quadrant in Southern Olney, any increase in permitted densities from the 1980 Plan level would negatively impact the jobs/housing ratio in the planning area.

### **4. Reinforce the Diversity of Housing Types in Olney**

Continuing the policy of creating a diverse mix of housing types and locations is a critical component of the proposed plan. Olney today (Census 2000) has approximately 12,000 housing units with another 1,500 in the pipeline (approved but not built). The remaining developable land, under existing zoning and the 1980 Master Plan, has the

potential to add another 900 units for a total buildout of approximately 14,400 units. The current development pattern has a diverse mix of housing types: as of June 2002, the single-family detached house is the predominant unit type at 72 percent of the entire housing stock, followed by townhouses at 23 percent and multi-family units at 5 percent. Most of this housing stock is located in Southern Olney and was developed over a long period of time in various zoning districts (RE-1, RE-2, RC, R-200, R-60, R-90, R-20, R-30, PD-7, PD-9, RT-8, RT-12.5) resulting in a variety of housing styles, lot sizes and site layouts.

The proposed concept for the SEQ assumes that in the central part of the quadrant along Batchellors Forest Road, the protection of environmental resources and the rural character of the area is a primary objective while the Golden Bear Triangle area of the quadrant is more suited to achieving the housing goals of the Master Plan. Only the few larger properties of more than 50 acres in the sewer envelope have the potential to generate any significant number of housing units if allowed higher densities. However, some of these properties are also the ones that have large rural vistas and environmental resources that need protection in any future development scenarios. On balance, the few additional housing units achieved from higher densities on these properties would not be worth the adverse environmental impacts caused by increased imperviousness, traffic and loss of visual quality of the area.

The Public Hearing Draft plan proposes to increase the permitted densities in the Golden Bear Triangle area of the SEQ. That area will be discussed in more detail during the housing worksession in the near future.

## **SECTION 4: ALTERNATIVE SCENARIOS**

Staff has analyzed four different options for the SEQ for impacts of various densities relating to environment, traffic, character/compatibility, and jobs/housing balance. The three rezoning options assume the Golden Bear Triangle area to be RE-2/TDR-2 (R-200) as proposed in the Public Hearing Draft. All four options assume Good Counsel High School on the western portion of the Hyde property (Hyde west), master plan alignment of the ICC through the master plan area, parts of Georgia Avenue Busway, and the proposed MD 28 widening. All sewer options also assume transfer of 9 units from the Good Counsel site under the current RC Zone to Hyde East. The options are:

1. Existing zoning/1980 Master Plan option
2. Public Hearing Draft option
3. Property owners' requested densities option
4. Modified staff recommendation option

### **1. Existing Zoning/1980 Master Plan Option**

This option is based on the current zoning of RE-2 and RC/LDRC zoning under the 1980 Master Plan. It is further divided into three scenarios since the properties in the SEQ have the option to either develop under RE-2 on septic or apply for LDRC at 0.2 units per acre on sewer. The first two scenarios, 1A and 1B, can be viewed as low- and



high-yield scenarios since it is not clear how many properties will develop on septic and how many will apply for sewer. Scenario 1C modifies the high-yield option (1B) to replace 19 units with Washington Christian Academy (WCA) on the Gandel property. In all scenarios of Option 1, NWI and Kimble properties are assumed to be at 0.2 units per acre since they are already zoned RC and LDRC, respectively.

Maximum housing yields are 157 units for 1A (RC at 0.2 per acre), 230 units for 1B (RE-2 at 0.33) and 211 units for 1C (RE-2 at 0.33 with WCA on Gandel). This means that if no zoning changes are recommended for the SEQ, the full build out of the area under current zoning will yield somewhere between 157 and 230 additional units on all vacant and redevelopable properties in the SEQ outside the Golden Bear Triangle area.

## **2. Public Hearing Draft Option**

This option is based on the recommendations in the Public Hearing Draft for rezoning all vacant and redevelopable properties to RNC with a maximum density of 0.33 units per acre under the Optional Method of Development applicable to all properties of more than 10 acres, and 0.2 units per acre for others under the Standard Method of Development.

Option 2 assumes that 5 units from the 17.2-acre Casey I on the east side of Batchellors Forest Road will be transferred to the 75.4 acre Casey II on the west side of the road and that Casey I will be dedicated as parkland for active recreation. It assumes that 9 units will be transferred from the Good Counsel High School site under its current RC zoning to Hyde East (only Hyde East will be rezoned to RNC). It also assumes that the Gandel property will have up to 12 units on septic (no WCA assumed for this option).

This option yields a maximum of 213 units on all vacant and redevelopable properties in the SEQ outside the Golden Bear Triangle area.

## **3. Property Owners' Requested Densities Option**

This option is based on the property owners' request to rezone the four large properties of more than 50 acres at 0.45 units per acre. The four properties are: Polinger, 176 acres; Hyde, 49.7 acres; Casey, 92.6 acres; and NWI, 104.6 acres. Although the developer of the Hyde property has requested 41 lots (0.82 units per acre), including the three existing homesteads on the property, staff has analyzed that property at 0.45 units per acre similar to other properties. The developer's proposal for the Hyde property is discussed in more detail in SECTION 6: RURAL OPEN SPACE IN THE RNC ZONE, of this report.

Option 3 assumes that if the larger properties are allowed 0.45 units per acre, the smaller properties in the sewer envelope would be given similar densities to be consistent across all sewered properties; they are assumed at 0.4 units per acre under RE-2C. Properties outside the sewer envelope are assumed to perc at a maximum of 0.33 units per acre.

This option assumes that 7 units will be transferred for Casey I to Casey II and that Casey I will be dedicated to parkland for recreation purposes; 9 units will be transferred from Good Counsel High School to Hyde East and that the Gandel property will be developed with WCA.

This option yields a maximum of 291 units on all vacant and redevelopable properties in the SEQ outside the Golden Bear Triangle area.

#### **4. Modified Staff Recommendation Option**

This option addresses the concerns raised by owners of properties smaller than 10 acres in the SEQ that the Public Hearing Draft zoning recommendations treat their properties unfairly by not allowing them the option to achieve the higher density of 0.33 per acre since, unlike the larger properties, they would be limited to maximum of 0.2 units per acre under the RNC Zone's Standard Method of Development.

Staff proposes to address the equity issue by recommending that all properties outside the sewer envelope, and properties of less than 10 acres within the sewer envelope, remain in the RE-2 Zone. Properties outside the sewer envelope would depend upon the perc tests to determine the density achievable up to 0.5 units per acre. RE-2 properties in the sewer envelope would be given the option to connect to sewer if they choose to do so, and allowed a maximum density of 0.33 units per acre pursuant to design guidelines and open space requirements contained in the Master Plan. This option would allow consistent densities for all properties in the SEQ regardless of their size and whether they are within the sewer envelope.

Similar to the Public Hearing Draft option, this option assumes that 5 units from Casey I will be transferred to Casey II and that Casey I will be dedicated as parkland for active recreation. It assumes 9 units transferred from the Good Counsel High School site to Hyde East and that only Hyde East will be rezoned to RNC. However, unlike the Public Hearing Draft Option, this option assumes that the Gandel property will be rezoned to RC on septic and that the WCA will replace the maximum 12 units allowed under RC on this property as discussed in Section 6 of this report.

This option yields a maximum of 236 units on all vacant and redevelopable properties in the SEQ outside the Golden Bear Triangle area.

The following table is a summary of these four options:

**Table 1: Summary of Development Options**

Source	Option	Zoning for Redevelopable Properties	Estimated Maximum Yield	Gandel Property as:
Current zoning based on 1980 Master Plan	Option 1A	RC	157 units	12 units
	Option 1B	RE-2/RC	230 units	19 units
	Option 1C	RE-2/RC	211 units	WCA
Public Hearing Draft Plan Recommendations	Option 2	RNC	213 units	12 units
Property Owners' Requested Densities	Option 3	RNC	291 units	WCA
Modified Staff Recommendations	Option 4	RNC/RE-2/RC	236 units	WCA

## SECTION 5: ANALYSES

### Environmental Analysis

The goal of the Public Hearing Draft Plan is to keep the imperviousness in the Batchellors Forest Tributary below 11% and the Batchellors Forest East subwatershed below 8%. The Northwest Branch is a Use IV stream, and the Countywide Stream Protection Strategy Update (CSPS Update, 2003) indicates that these tributaries are currently in good to fair condition. The CSPS update indicates that, on average, streams degrade from good to fair at around 8%. While it would be ideal to keep both tributaries below 8%, Park and Planning models indicate that 11% hard surface imperviousness in the Batchellors Forest Tributary would likely keep the stream from degrading severely. Allowing imperviousness of 12% or higher would almost certainly result in decline from good to fair conditions.

### Major Findings

- A goal of hard surface imperviousness<sup>1</sup> below 11% in the Batchellors Forest Tributary is highly desirable. Given that the Good Counsel High School is already approved, road improvements such as the ICC and the Georgia Avenue Busway are planned, and a greater intensity of development is proposed for the Golden Bear Triangle area, there is very little allowance for more imperviousness in the Southeast Quadrant, especially in the Batchellors Forest Tributary. The subwatershed imperviousness resulting from existing and committed development (including Good Counsel High School) in the Batchellors Forest Tributary is

<sup>1</sup> All estimates of imperviousness include only hard surface imperviousness including buildings, driveways, roads, sidewalks and parking lots. See the Environmental Analysis section for the rationale for this goal.

already almost 8%. Adding the road improvements proposed by the Master Plan (including the ICC), results in about 9% imperviousness. Upzoning the Golden Bear area from RE-2 to R-200 increases it to about 9.5% imperviousness. This leaves very little room for growth in imperviousness elsewhere in the quadrant if a goal of below 11% imperviousness for the subwatershed is to be met.

- With exception of the lowest projection for development under the Master Plan (Option 1A), Option 2 results in the lowest imperviousness. It brings the level in the Batchellors Forest Tributary to approximately 10.8%, with the modified staff recommendation (Option 4) projected to result in 11.4%. However, it is unlikely that 11.4% imperviousness will be reached in Option 4 because some property owners may retain their large lots or soil conditions may not allow the full estimated density of 0.33 units per acre on septic systems used in this analysis. Thus, Option 4 is considered reasonable by staff.
- Committed imperviousness in the Batchellors Forest East subwatershed is less than 6% due to the very low density of the existing development. Adding the proposed road improvements would bring the imperviousness to 6.5%. None of the options would increase the imperviousness to higher than 8%. However, the significant gaps in the forest within the stream buffer on existing developed properties could contribute to somewhat lower stream quality than might be expected at 8% imperviousness. Maintenance of the forest and wetlands on the Hyde property is critical to maintaining this stream. Reforestation of stream buffer on the Hyde and Red Door Store properties will further stabilize the stream in the future.
- The Gandel property is not recommended for sewer connection. The degree of clearing needed and the potential location of septic systems for residential development are unknown because perc tests are not available. The Washington Christian Academy proposal could retain a larger block of forest on the east and south sides of the site than a residential development on septic, which has a higher potential to cause forest fragmentation. On the other hand, a residential development under RC zoning would likely result in lower imperviousness, especially if the area suitable for septic systems occurs outside this forest block.

### **Imperviousness Analysis of Alternative Scenarios**

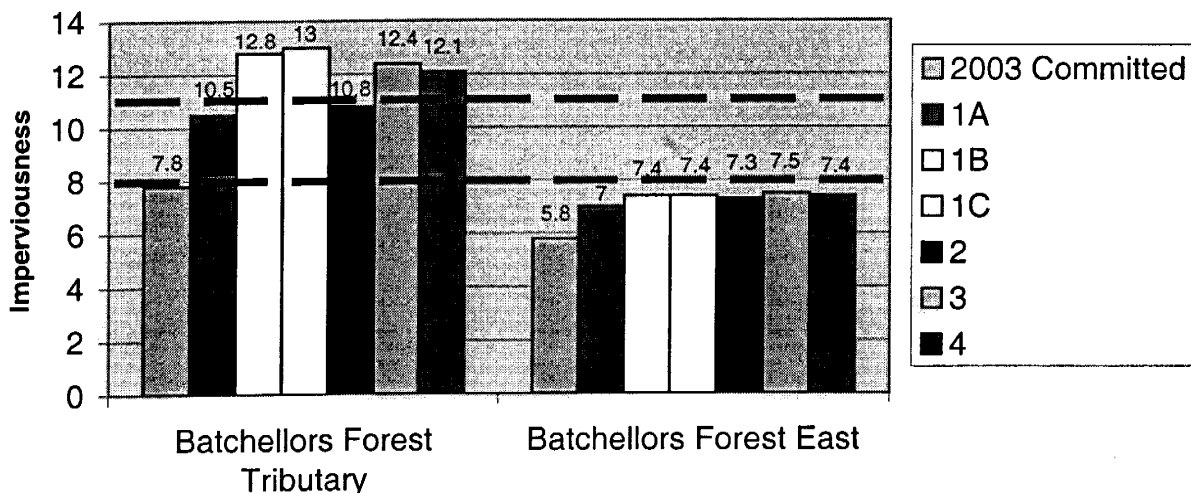
Table 1 and Exhibit 1 show the estimated imperviousness in the two subwatersheds for the four options discussed in this report. These estimates are based on hard surface imperviousness only, a departure from the methodology used in Upper Rock Creek and Potomac. The Countywide Stream Protection Strategy (1998), its 2003 update, and much of the literature uses hard surface imperviousness. To avoid confusion, staff has used this method.

**Table 1: Estimated Imperviousness of Land Use Options\***

	2003	Option 1			Option 2	Option 3	Option 4
		1A	1B	1C			
<b>Batchellors Forest Tributary</b>	7.8	10.5	12.8	13	10.8	12.4	11.4
<b>Batchellors Forest East</b>	5.8	7.0	7.4	7.4	7.3	7.5	7.4

\*The 2003 column includes the Good Counsel High School. Estimates for each option include the road improvements recommended by the draft master plan, including the 6-lane ICC in the master plan alignment.

**Figure 1. Hard Surface Imperviousness in the Batchellors Forest Subwatersheds**



Option 3 (Property Owners' Option) increases the hard surface imperviousness in the Batchellors Forest Tributary subwatershed to over 12%. This has the potential to degrade water quality beyond what is desirable in the headwaters of a Use IV stream.

Although 1B and 1C also show higher than 12% imperviousness, they are the high-yield options with and without WCA. Option 1 should be viewed as somewhere between 10.5 (1A) and 12.8 (1B) since not all developable properties would achieve the higher maximum yield under current zoning.

For Option 4 (Modified Staff Recommendation), the increased imperviousness on the smaller properties without sewer would result in about 47 new acres of imperviousness if fully built out at projected densities resulting in subwatershed imperviousness of about 11.4%. However, this is considered a theoretical maximum because some properties of less than 10 acres may retain their large lots or soil conditions may not allow the full estimated density of 0.33 units per acre on septic systems assumed in this analysis.

The imperviousness of any of these options could be increased by proposals for private institutional facilities, special exceptions and, to a lesser degree, by expansion of existing homes. This possibility is another reason not to increase density beyond the Master Plan or the Modified Staff Recommendation (Option 4).

Staff also analyzed the effects of an imperviousness cap on the new development in the Batchellors Forest Tributary (BFT). To remain below 11%, less than 40 acres of additional imperviousness could be added in the subwatershed. A 10% hard surface cap on the 728 acres of developable property (in the BFT) would result in almost 73 additional acres of imperviousness resulting in about 13% in the BFT, while an 8% cap would give a little over 58 acres resulting in over 12% imperviousness in the subwatershed. The Public Hearing Draft recommendations, which do not involve an imperviousness cap, would result in about 35 acres of imperviousness resulting in less than 11% imperviousness in the BFT.

Staff does not recommend an imperviousness cap for developable properties in the SEQ since properties vary in their imperviousness for each option as demonstrated by Table 2 below. A single imperviousness cap would either result in higher than acceptable imperviousness for the subwatersheds or, if set too low, would severely impact the development potential of some of the properties.

**Table 2: Imperviousness Calculations for Major Properties in SEQ**

Property	Option #	Number of Units	Zoning	Imperviousness	
				Acres	%
<b>Polinger</b> 176 acres	1A	35	RC	7.2	4.1%
	1B & 1C	58	RE-2	17.6	10.0%
	2 & 4	58	RNC	9.3	5.3%
	3	79	RNC	12.6	7.2%
<b>Hyde</b> 49.7 acres	1A	18	RC	2.0	4.1%
	1B & 1C	16	RE-2	5.0	10.0%
	2 & 4	25	RNC	4.0	8.0%
	3	31	RNC	5.0	10.0%
<b>Casey</b> 75.4 acres	1A	18	RC	3.1	4.1%
	1B & 1C	30	RE-2	7.5	10.0%
	2 & 4	30	RNC	4.8	6.4%
	3	41	RNC	6.6	8.7%
<b>NW Investments</b> 104.6 acres	1A, 1B, 1C	20	RC	4.3	4.1%
	2 & 4	34	RNC	5.4	5.2%
	3	47	RNC	7.5	7.2%
<b>Gandel</b> 60 acres	1A	12	RC	2.5	4.1%
	1B	19	RE-2	6.0	10.0%
	1C, 2,3,4	0	RNC	9.0	15.0%