The Maryland-National Capital Park and Planning Commission
Prince George's County Planning Department
Development Review Division
301-952-3530

Note: *Staff reports can be accessed at www.mncppc.org/pgco/planning/plan.htm.*

COMPREHENSIVE DESIGN PLAN CDP-0505

Application	**General Data**	
Project Name: Willowbrook	Date Accepted:	1/25/2006
	Planning Board Action Limit:	N/A
	Plan Acreage:	427
Location: North side of Leeland Road, approximately 3,250 feet west of its intersection with US 301	Zone:	R-S
	Dwelling Units:	818
	Square Footage:	NA
Applicant/Address: Toll Brothers, Inc. 4101 Ritchie Marlboro Road Upper Marlboro, MD 20772	Planning Area:	74A
	Tier:	Developing
	Council District:	4
	Municipality:	NA
	200-Scale Base Map:	203SE13

Purpose of Application	**Notice Dates**	
Residential development consisting of 818 dwelling units, of which 602 are market rate (97 townhouse and 505 single-family detached units) and 216 units in a mixed retirement component (50 single-family detached, 56 townhomes and 110 multi-family units).	Adjoining Property Owners Previous Parties of Record Registered Associations: (CB-12-2003)	10/27/2006
	Sign(s) Posted on Site and Notice of Hearing Mailed:	11/07/2006

Staff Recommendation		**Staff Reviewer: Ruth Grover, A.I.C.P.**	
APPROVAL	**APPROVAL WITH CONDITIONS**	**DISAPPROVAL**	**DISCUSSION**
	X		

July 30, 2009

MEMORANDUM

TO: Prince George's County Planning Board

VIA: Steve Adams, Urban Design Supervisor

FROM: Ruth Grover, Urban Design Section, Development Review Division

SUBJECT: Comprehensive Design Plan CDP-0505 and Tree Conservation Plan TCPI/010/06 Willowbrook

PUBLIC HEARING

In accordance with the Comprehensive Design Plan provisions of Section 27-520 of the Prince George's County Code, a public hearing is scheduled before the Prince George's County Planning Board on December 7, 2006. The purpose of this hearing is to consider the Comprehensive Design Plan for Willowbrook, CDP-0505.

INTRODUCTION

The Development Review Division of the Prince George's County Planning Department has coordinated a review of the subject application with all offices having any planning activities that might be affected by the proposed development. This staff report documents that process and presents findings and a recommendation to be acted upon by the Prince George's County Planning Board.

RECOMMENDATION SUMMARY

The staff recommends APPROVAL of the comprehensive design plan, with the conditions listed in the recommendation section of this report.

COMPREHENSIVE DESIGN ZONES

The comprehensive design plan (CDP) phase of the three-phase comprehensive design zone (CDZ) process requires the submittal of a plan that establishes the general location, distribution, and sizes of buildings and roads. The plan includes several drawings and a text, which includes the schedule for development of all or portions of the proposal and standards for height, open space, public improvements and other design features. The regulations for any of the CDZs are at the same time more flexible and more rigid than are those of other zones in Prince George's County. The zones are more flexible in terms of permitted uses, residential densities, and building intensities. They are more rigid because some of the commitments made by a developer carry the force and effect of law upon approval by the Planning Board.

The principal difference between CDZs and conventional zones is that the CDZ includes a list of public benefit features and density or intensity increment factors. If a development proposes to include a public benefit feature in a development, the Planning Board, at this stage of the process, may grant an increment factor that increases the dwelling unit density or building intensity. The value of the public benefit feature or density-intensity increment proposal determines the size of the increase. A public benefit feature is an item that will improve the environment or lessen the public cost of a development. The intent is to create a development, through the granting of incremental density increases, that will result in a better quality residential, commercial and industrial environment.

EVALUATION CRITERIA

This CDP was reviewed and evaluated for compliance with the following criteria:

(a) Conformance with Basic Plan A-9968.

(b) The requirements of Section 27-521 of the Zoning Ordinance and the requirements of the Zoning Ordinance in the R-S Zone.

(c) The requirements of the *Woodland Conservation and Tree Preservation Ordinance.*

(d) Referral comments.

FINDINGS

Based upon the analysis of the subject application, the Urban Design Review Section recommends the following findings:

1. **Request:** The applicant is requesting approval of a comprehensive design plan that includes residential development consisting of 818 dwelling units, of which 602 are market rate (97 townhouse and 505 single-family detached units) and 216 units are in a mixed retirement component (50 single-family detached, 56 townhomes and 110 multi-family units).

2. **Location:** The subject property is in the R-S Zone, more particularly it is in Planning Area 74A, the Developing Tier and Council District 4, and is located on the north side of Leeland Road, approximately 3,250 feet west of its intersection with US 301.

3. **Surroundings:** The site is bounded by Oak Creek Club to the north, Collington Industrial Park to the east, the existing Beech Tree subdivision and vacant land to the south, and vacant land where the proposed Locust Hill development is to be located to the west.

4. **Design Features:** The proposed Willowbrook subdivision is designed around the environmental constraints of its site. Wetlands, wetland buffers, Patuxent Management Area, floodplain and an existing intermittent stream make the land environmentally and visually interesting, but create a challenge in its development. In response to this challenge, the design of the subdivision concentrates the lots centrally, leaving the more environmentally sensitive land surrounding this central core largely undeveloped.

   Proposed to be accessed from two locations along Leeland Road, the road network provides frontage to townhomes in the front central portion of the subdivision, single-family lots of varying sizes throughout and mixed retirement condominium units in the northwestern portion of

the subdivision. Most roads terminate in culs-de-sac in order to avoid impacts to the more environmentally sensitive areas of the site. Stormwater management is provided by six ponds along the lotted area's periphery.

Site amenities include three community buildings and a swimming pool. The first community building and the swimming pool are indicated proximate to the more eastern entrance to the subdivision. The second community building is located at the most westerly point of the subdivision proximate to the CSX railroad line. A third community building is located centrally to the lots adjacent to the proposed mixed retirement development envelope. In addition, a proposed hiker/biker trail is shown traversing the subdivision on its northwestern side.

Two large swaths of the subdivision are designated as being dedicated to M-NCPPC both north and south of the "second" community identified above. This land could provide additional amenities used at least in part by residents of the subdivision.

5. Recreational facilities for the subdivision include a community center with pool, tennis, playground, and indoor pool, three open play areas, a hiker-biker trail, and an active park and adult recreation center. Applicant has proposed the following schedule for the construction of private recreational facilities:

Recreational Facilities	**Percentage of Building Permits Issued when the Particular Facility is Complete**
Open Play Area-1	20 percent
Open Play Area-2	40 percent
Community Center including pool, tennis, playground, and indoor pool	60 percent

Please note that a basic plan consideration requires tot lots, preteen lots, tennis courts and passive recreational facilities that are not shown on the plans. Recommended Condition 33 below would require that such amenities be included in the plan and on the above schedule.

In addition, the applicant proposes to construct a neighborhood park on 8.5 acres on the northeast corner of the Locust Hill development along its Oak Grove Road frontage and next to the railroad right-of-way. The park would be available for public use and would include facilities such as ball fields, a playground, tennis or basketball courts, shelters, restroom facilities and a parking lot.

6. **Previous Approvals:** The property was zoned Residential-Suburban (R-S) by CR-90-2005, which also approved the basic plan for the property—A-9968, subject to conditions and with the following land use quantities identified:

Total area: 427 acres
Land in the 100-year floodplain: 89.7 acres
Adjusted Gross Area (427 less half the floodplain): approximately 382 acres
Land devoted to mixed retirement development: 28 acres
Adjusted Gross Area (382 less 28 acres): approximately 354 acres

Market Rate Development
354 acres @1.6 to 1.7 dwelling units per acre or 566 to 602 dwellings
Approximately 80 percent single-family detached and 20 percent single-family attached units

Mixed Retirement Development
28 acres @2.2 to 8.0 dwelling units per acre or 61 to 224 dwellings
Approximately 14 percent single-family detached, 25 percent single-family attached, and 61 percent multifamily units

Open Space
Public Active Open Space: Approximately 20 acres
Private Active Open Space: Approximately 10–12 acres
Passive Open Space: 220 acres

7. **Development Data—Willowbrook**

Zone	R-S
Gross Tract Area	427
Area within the 100-year floodplain	89.7
Net tract area	378.52
Area devoted to Mixed Retirement	42.14
Net Area Density for Market Rate Units	352.21 acres
Number of units proposed at Density of 1.82 d.v./ac	602
Density Range (1.6 to 2.6 dwelling units per acre)	529–861 dwelling units

8. Density Increment Factors for Market Rate Units

The base density in the R-S Zone is 1.6 dwelling units per acre. In this case the net acreage is 378.52. The land area devoted to mixed retirement, however (42.14 acres) must be subtracted out, yielding a net 331.19 acres that can be utilized for the market rate units. This figure (331.19 acres) multiplied by the base density in the R-S Zone (1.6) yields 529 units. The density increment factors itemized below yield an additional 132 units, which, when added to base density of 529, would equal 661 and exceed the proposed number of 602 units for this application. Multiplied out, the actual density proposed by the Willowbrook project is 1.82 dwelling units per acre, well below the maximum density allowable in the R-S Zone of 2.6 dwelling units per acre, based on public benefit increments. The proposed density increment is outlined below:

Public Benefit	Percentage increase allowable	Permitted density multiplied by acreage, then by percentage increase allowed	Additional units allowed on basis of public benefit provided
Open Space HOA-85 acres M-NCPPC-103.95 acres	25 %	1.6 x 331.19 net acres x 25%	132

Staff finds that in accordance with Section 27-513(b) (Regulations-Public Benefit Features and Density Increment Factors) of the Zoning Ordinance that the density increment is earned and appropriate. Please note that, though mandatory dedication of 100 acres of parkland to M-NCPPC cannot be and was not included in this evaluation, the HOA land dedication alone was sufficient to support a 25 percent (or a 132 unit) increase in dwelling units from the 529 units allowed as base density. Total units allowed, based solely on the HOA open space, would be 661 units, well in excess of the 602 market rate units requested in this application. Please note that open space, in order to be considered as a basis for a public benefit feature and density increment,

must be provided at a ratio of at least 3.5 acres per 100 dwelling units or, for the subject application, approximately 21 acres. The provision of 85 acres of HOA open space in the application meets and exceeds this requirement.

Relevant Findings Required by Section 27-521 of the Zoning Ordinance (Findings 9–19 below) for approving a comprehensive design plan

9. The comprehensive design plan is in conformance with the approved basic plan.

Comment: Basic Plan A-9968 was approved subject to 13 conditions. Conditions and considerations requiring discussion are listed below with staff's comment:

8. The applicant shall construct recreational facilities typical for a 20-acre community park, such as ball fields, a playground, tennis or basketball courts, shelters, and restroom facilities. The list of recreational facilities shall be determined at the preliminary plan of subdivision and specific design plan stage. The construction of park facilities shall be eligible for the award of density increments based upon the regulations of the RS Zone.

Comment: The Department of Parks and Recreation in their memorandum dated July 26, 2006, stated that the submitted comprehensive design plan was in conformance with the requirements of Basic Plan A-9968.

9. The submission package of the comprehensive design plan shall contain a signed natural resources inventory (NRI). The NRI shall be used by the designers to prepare a site layout that minimizes impacts to the regulated areas of the site.

Comment: The submission package of the comprehensive design plan contained a signed NRI that was used by the applicant to minimally impact the regulated areas of the site.

10. A geotechnical study that identifies the location and elevation of the Marlboro clay layer throughout the site shall be submitted as part of the CDP application package.

Comment: A geotechnical study that identified the location and elevation of the Marlboro clay layer throughout the site was submitted as part of the application package.

11. A protocol for surveying the locations of all rare, threatened, and endangered species within the subject property shall be obtained from the Maryland Department of Natural Resources, prior to acceptance of the CDP and this protocol shall be part of the submittal package. The completed surveys and required reports shall be submitted as part of any application for preliminary plans.

Comment: Such a protocol for surveying was received as part of the application package and transmitted to the Environmental Planning Section for review.

Staff has also reviewed the project with respect to the required considerations of Basic Plan A-9968 and offers the following comment. (Each consideration is listed below in bold type with staff's comments.)

1. The natural aesthetic qualities of the site should be accentuated by a design that is in part determined by the environmental constraints of the site. Streets should not be

uniformly double loaded. Single loaded streets and/or breaks between lots should be strategically placed to provide visual relief and afford views into open space.

Comment: The applicant has accomplished these objectives in the design of the subject project. Please see Finding 4 for a more detailed discussion.

2. Recreational facilities should be dispersed throughout the subdivision so as to provide nearby recreational facilities for all residents. The type of recreational facilities shall be determined at the time of comprehensive design plan. They should accommodate all age residents and should include such elements as a pool, tot lots, preteen lots, tennis courts and trails, and passive recreational facilities.

Comment: A pool, trails, and several community buildings are included in the projects. A recommended condition below would add tot lots, tennis courts, preteen lots, and passive recreational facilities to the mix.

3. A 200-foot buffer shall be maintained between the residential lots and adjacent land other than parkland that is in the E-I-A Zone. The existing woodland may be augmented by additional plantings so that the project is sufficiently protected from the impacts of the adjacent development.

Comment: The submitted comprehensive design plan is showing a 200-foot buffer between residential lots and adjacent land other than parkland that is in the E-I-A Zone. A recommended condition below will ensure that existing woodland is augmented by additional plantings as necessary to provide protection against off-site impacts.

2. The proposed plan would result in a development with a better environment than could be achieved under other regulations;

Staff comment: The proposed design of the subdivision offers a better environment than could be achieved under other regulations by preserving natural features of the site, reinforcing neighborhood integrity by providing higher density near the two entrances from Leeland Road, placing larger lots on the outer boundary line, and clustering various housing types in distinct individual neighborhoods.

3. Approval is warranted by the way in which the comprehensive design plan includes design elements, facilities, and amenities, and satisfies the needs of the residents, employees, or guests of the project;

Staff comment: Approval is warranted because the submitted comprehensive design application includes a design based on the considerations mentioned in Finding 9(3) above together with two open play areas, a community center including a pool, tennis courts, playground (tot lots and preteen lots) and passive recreational facilities that should satisfy the needs of residents, employees or guests of the project.

4. The proposed development will be compatible with existing land use, zoning, and facilities in the immediate surroundings;

Staff comment: A buffer has been maintained with the adjacent industrially zoned land, and the design of the subdivision has placed the larger lots near the subdivision's property line, where large lot rural residential land use is immediately adjacent. Therefore, it may be said that the

proposed development will be compatible with existing land use, zoning, and facilities in the immediate surroundings.

5. Land uses and facilities covered by the comprehensive design plan will be compatible with each other in relation to:
(A) Amounts of building coverage and open space;
(B) Building setbacks from streets and abutting land uses; and
(C) Circulation access points;

Staff comment: Building coverage and open space is well distributed throughout the development so that environmental features are protected and resulting land use patterns are internally compatible. Building setbacks are established so that the land uses and facilities covered by the comprehensive design plan are compatible. The highest residential density is concentrated near the two circulation access points from Leeland Road, minimizing the amount of unnecessary travel through the subdivision and making the land uses and facilities identified on the comprehensive design plan more internally compatible.

6. Each staged unit of the development (as well as the total development) can exist as a unit capable of sustaining an environment of continuing quality and stability;

Staff comment: The staging plan proffered by the applicant divides the development into six stages to be completed more or less as a single unit. Therefore, it becomes unnecessary to make the above finding.

7. The staging of development will not be an unreasonable burden on available public facilities.

Staff comment: In a memorandum dated November 13, 2006, the Public Facilities Planning Section evaluates fire and rescue, police and school facilities in the vicinity of the subject site and concludes that the staging of the development will not pose an unreasonable burden on available public facilities.

9. The Plan incorporates the applicable design guidelines set forth in Section 27-274 of Part 3, Division 9, of this subtitle, and where townhouses are proposed in the plan, with the exception of the V-L and V-M Zones, the requirements set forth in Section 27-433(d); and

Staff comment: Staff has reviewed the subject project against the requirements of Section 27-274 (Design Guidelines) of the Zoning Ordinance and Section 27-433(d) regarding townhouses and found it to be substantially in compliance.

10. The Plan is in conformance with an approved tree conservation plan.

Staff comment: In a memorandum dated November 17, 2006, the Environmental Planning Section analyzed the plan and the submitted Type 1 Tree Conservation Plan TCPI/010/06 and recommended approval, subject to conditions. If the tree conservation and comprehensive design plan are approved as recommended in said memorandum, then it may be said that the subject plan is in conformance with an approved tree conservation plan.

10. **The Woodland Conservation Ordinance:** The property is subject to the requirements of the Woodland Conservation Ordinance because it is more than 40,000 square feet in size and

contains more than 10,000 square feet of existing woodland. The Environmental Planning Section has thoroughly reviewed plans for the project including the natural resources inventory and a Type I Tree Conservation Plan and recommended approval, with conditions. Therefore, it may be said that the subject application is in conformance with the requirements of the Prince George's County Woodland Conservation and Tree Preservation Ordinance.

11. **Referral Comments:** The subject application was referred to the concerned agencies and divisions. The referral comments are summarized as follows:

Historic Preservation—In an email dated Friday, June 23, 2006, the Historic Preservation and Public Facilities Planning Section state that the proposed project will have no effect on historic resources.

Archeology—In a revised memorandum dated March 30, 2006, the staff archeologist made the following findings:

a. Collington Branch and an unnamed branch of Collington run through portions of the subject property.

b. Six prehistoric and historic archeological sites are located just to the south of the subject property. These are: 18PR564 (19^{th}–20^{th}-century farmstead), 18PR565 prehistoric Late Archaic period), 18PR567 (18^{th}–20^{th}-century domestic site; prehistoric Late Archaic Period), 18PR568 (19^{th} century cemetery), and 18PR569 (18^{th}–20^{th} century domestic farmstead; prehistoric Late Archaic Period).

c. The residence of Daniel Clark (no longer standing) is shown on the 1861 Martenet map as appearing within the eastern part of the property.

d. In accordance with Subtitle 24-104, 121(a)(18), and 24-135.01, the subject property shall be the subject of a Phase I archeological investigation to identify any archeological sites that may be significant to the understanding of the history of human settlement in Prince George's County, including the possible existence of slave quarters and slave graves, as well as archeological evidence of the presence of Native American peoples.

In addition, the Staff Archeologist made the following recommendations:

a. Prior to approval of this comprehensive design plan, Phase I (Identification) archeological investigations are recommended on the above-referenced property because the Collington Branch and an unnamed branch of Collington run through portions of the subject property, and because numerous archeological sites are located near the property.

b. Phase I archeological investigations should be conducted according to Maryland Historical Trust (MHT) guidelines, *The Standards and Guidelines for Archeological Investigations in Maryland* (Schaffer and Cole 1994), and the Prince George's County Planning Board *Guidelines for Archeological Review* (May 2005). Report preparation should follow MHT guidelines and the *American Antiquity* or *Society of Historical Archaeology* style guide. Archeological excavations shall be spaced along a regular 15-meter or 50-foot grid and excavations should be clearly identified on a map to be submitted as part of the report.

c. Section 106 may also require archeological survey for state or federal agencies. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties, to include archeological sites. This review is required when federal monies, federal properties, or federal permits are required for a project. The Section 106 process would be coordinated with the Maryland Historic Trust should federal permits be required on the subject property.

Lastly, the staff archaeologist came to the following conclusions:

a. A Phase I archeological survey should be conducted on the subject property.

b. In accordance with the approved Planning Board *Guidelines for Archeological Review* (May 2005), a qualified archeologist must conduct all investigations and follow *The Standards and Guidelines for Archeological Investigations in Maryland* (Schaffer and Cole, 1994) and the Prince George's County Planning Board *Guidelines for Archeological Review* (May 2005). These investigations must be presented in a draft report following the same guidelines. Following approval of the draft report, four copies of the final report must be submitted to M-NCPPC Historic Preservation staff. Evidence of M-NCPPC concurrence with the final Phase I report and recommendations is required prior to signature approval.

c. The design of a Phase I archeological methodology should be appropriate to identify slave dwellings and burials. Documentary research should include an examination of known slave burials and dwellings in the surrounding area, their physical locations as related to known structures, as well as their cultural interrelationships. The field investigations should include a pedestrian survey to locate attributes such as surface depressions, fieldstones, and vegetation common in burial/cemetery environs.

d. Upon receipt of the report by the Planning Department, if it is determined that potentially significant archeological resources exist in the project area, prior to Planning Board approval of any detailed site plan or final plat, the applicant shall provide a plan for:

(1) Evaluating the resource at the Phase II level; or

(2) Avoiding and preserving the resource in place.

The staff archaeologist's recommendations are reflected in the recommended conditions below.

Community Planning—In a memorandum dated March 20, 2006, the Community Planning Division stated that the subject application is not inconsistent with the 2002 *Prince George's County Approved General Plan* Development Pattern policies for the Developing Tier and that it conforms to the 2006 Bowie and Vicinity Master Plan and SMA recommendations for suburban residential land use.

Research—On February 6, 2006, the Research Section stated that they had no comment on the subject project.

Transportation—In a memorandum dated October 30, 2006, the Transportation Planning Section offered the following:

On February 7, 2006, the District Council approved a basic plan under ZMA A-9968, with conditions and considerations, in Ordinance CR-11-2006. This enacted a rezoning of 1,194 acres of land from R-A to R-S (1.6 - 2.6). The approval of the basic plan by the District Council was predicated on twelve conditions and five considerations as outlined in Planning Board Resolution PGCPB 05-178. The conditions of approval included the following pertaining to transportation:

a. At the time of the submission of a Comprehensive Design Plan/Preliminary Plan of Subdivision, the applicant (or his heir, successors or assignees) shall provide a traffic study that analyzes the following intersections:

   (1) US 301/MD 725
   (2). US 301/Village Drive
   (3) US 301/Leeland Road
   (4) US 301/Trade Zone Avenue
   (5) Leeland Road/Safeway Access
   (6) Oak Grove Road/Church Road
   (7) Oak Grove Road/MD 193
   (8) MD 202/MD 193

b. `At the time of preliminary plan of subdivision, the applicant shall provide the dedication for one-half of the 100 feet of dedication required to build Leeland Road (MC-600) to its ultimate cross section per Department of Public Works and Transportation (DPW&T) standards.

TRAFFIC STUDY ANALYSIS

On May 12, 2006, staff received a traffic study in support of the comprehensive design plan phase of the subject property. Given the close proximity of the subject property to the Locust Hill property (comprehensive design plan and preliminary plan applications pending), and the fact that both properties share a common ownership, all of the analyses presented in the traffic impact studies (original and revised) are based on the traffic generated by both the subject application and the proposed Locust Hill applications (comprehensive design plan and preliminary plan). The transportation analyses and findings here presented are generally similar (with minor differences) for each site. The study identified the following link and intersections as the ones on which the proposed development would have the most impact:

EXISTING CONDITIONS		
Intersection/Link	(LOS/CLV) AM	(LOS/CLV) PM
Leeland Road (Church Road to US 301)	0.10-v/c ratio	0.08-v/c ratio
US 301/Trade Zone Avenue	D/1330	E/1533
US 301/Leeland Road	C/1216	D/1347
US 301/Village Drive	B/1096	D/1304
US 301/MD 725	D/1404	D/1357
MD 202/MD 193	D/1364	B/1077
MD 193/Oak Grove Road (Roundabout)	A/8.2 secs.	A/5.1 secs.
Oak Grove Road/Whistling Duck Drive **	C/15.2 secs.	B/12.2 secs.
Oak Grove Road/Church Road **	C/16.2 secs.	B/10.6 secs.
Leeland Road/Safeway Access **	B/12.3 secs.	B/11.3 secs.
******Unsignalized intersections are analyzed using the Highway Capacity Software. The results show the level-of-service and the intersection delay measured in seconds/vehicle. A level-of-service "E" which is deemed acceptable corresponds to a maximum delay of 45 seconds/car. For signalized intersections, a CLV of 1450 or less is deemed acceptable as per the Guidelines.		

The study cited 17 approved background developments that collectively, will impact the above intersections and link during the morning and evening peak hours. An analysis of the background developments was done based on a four-year (2010) buildout. Those analyses yielded the following results:

BACKGROUND CONDITIONS		
Intersection/Link	(LOS/CLV) AM	(LOS/CLV) PM
Leeland Road (Church Road to US 301)	0.30-v/c ratio	0.31-v/c ratio
US 301/Trade Zone Ave.	F/2196	F/2665
US 301/Leeland Road	F/2186	F/2359
US 301/Village Drive	F/1715	F/2057
US 301/MD 725	F/2214	F/2170
MD 202/MD 193	F/1753	E/1490
MD 193/Oak Grove Road (Roundabout)	E/72.4 secs.	A/7.9 secs.
Oak Grove Road/Whistling Duck Drive **	F/58.9 secs.	D/29.0 secs.
Oak Grove Road/Church Road **	F/149.3 secs.	F/156.6 secs.
Leeland Road/Safeway Access **	F/66.4 secs.	F/62.0 secs.
**Unsignalized intersections are analyzed using the Highway Capacity Software. The results show the level-of-service and the intersection delay measured in seconds/vehicle. A level-of-service "E" which is deemed acceptable corresponds to a maximum delay of 45 seconds/car. For signalized intersections, a CLV of 1450 or less is deemed acceptable as per the Guidelines.		

Using the "Guidelines for the Analysis of the Traffic Impact of Development Proposals," the study has indicated that the proposed development (623 single family DUs and 227 town homes) will be adding 626 (125 in and 501 out) AM peak-hour trips and 743 (483 in, 260 out) PM peak-hour trips at the time of full buildout.

The traffic study also included projected traffic from the proposed Locust Hill Preliminary Plan. Five hundred and fifty (550) dwelling units are being proposed generating 413 (83 in, and 330 out) AM peak-hour trips and 495 (322 in, 173 out) PM peak-hour trips at the time of full buildout. As was the case for the background analyses, the study assumed full buildout up to the year 2010. Applying a growth rate of 3 percent per year for through traffic along US 301, and combining the site-generated traffic along with background developments, the following results were determined:

TOTAL CONDITIONS (Without Improvements)		
Intersection/Link	(LOS/CLV) AM	(LOS/CLV) PM
Leeland Road (Church Road to US 301)	0.43-v/c ratio	0.47-v/c ratio
US 301/Trade Zone Avenue	F/2316	F/2780
US 301/Leeland Road	F/2306	F/2663
US 301/Village Drive	F/1749	F/2190
US 301/MD 725	F/2333	F/2294
MD 202/MD 193	F/1853	E/1587
MD 193/Oak Grove Road (Roundabout)	E/132.6 secs.	B/19.8 secs.
Oak Grove Road/Whistling Duck Drive **	F/153.3 secs.	F/51.1 secs.
Oak Grove Road/Church Road **	F/419.1 secs.	F/482.1 secs.
Leeland Road/Site Access "A"	F/71.0 secs.	F/82.3 secs.
Leeland Road/Site Access "B"	F/93.3 secs.	F/108.0 secs.
Leeland Road/Safeway Access **	F/201.8 secs.	F/212.9 secs.

******In analyzing unsignalized intersections, average vehicle delay for various movements through the intersection is measured in seconds of vehicle delay. The numbers shown indicate the greatest average delay for any movement within the intersection. According to the guidelines, an average vehicle delay exceeding 50.0 seconds indicates inadequate traffic operations. Values shown as "+999" suggest that the parameters are outside of the normal range of the procedure and should be interpreted as a severe inadequacy

To provide adequate levels-of-service at the facilities mentioned above, the traffic study cited improvements along US 301 between MD 214 and MD 725 which are described in the current Prince George's County Capital Improvement Program (CIP) FY 2006–2011 (Project FD669161). Specifically, the CIP describes the improvements as "providing a third through lane north and south bound between MD 214 and MD 725 and further widening, as needed at Trade Zone Avenue, MD 214 and MD 725. Associated intersection improvements at Old Central Avenue, Trade Zone Avenue, Leeland Road and Village Drive West also will be undertaken."

The improvements that have been identified in the applicant's traffic impact study as needed to provide adequate levels of service for the 2010 build-out are as follows:

US 301/Trade Zone Avenue

a. Construct an additional northbound left turn lane along US 301.

b. Construct a third eastbound left turn lane along Trade Zone Avenue.

c. Construct three additional southbound through lanes along US 301.

d. Construct two additional northbound through lanes along US 301.

US 301/Leeland Road

a. Construct two additional northbound through lanes along US 301.

b. Construct an additional eastbound left turn lane along Leeland Road.

c. Construct two additional southbound through lanes along US 301.

US 301/Village Drive

a. Construct two additional northbound through lanes along US 301.

b. Construct two additional southbound through lanes along US 301.

US 301/MD 725

a. Construct an additional northbound through lane along US 301.

b. Construct two additional southbound through lanes along US 301.

c. Construct an additional eastbound left turn lane along MD 725.

d. Construct an additional westbound through lane along MD 725.

e. Construct an exclusive westbound right turn lane along MD 725.

Citing these improvements (along US 301), the traffic study projected the following levels of service:

TOTAL CONDITIONS – BOTH DEVELOPMENTS (With CIP Improvements)		
Intersections (All Signalized)	(LOS/CLV) AM	(LOS/CLV) PM
US 301/Trade Zone Ave.	C/1250	D/1370
US 301/Leeland Road	C/1290	D/1450
US 301/Village Drive	B/1077	D/1397
US 301/MD 725	D/1439	D/1422
MD 202/MD 193 (Not part of US 301 CIP)	D/1351	B/1053

Based on the results shown in the aforementioned table, all of the intersections along US 301 were shown to operate at adequate levels of service.

In addition to analyzing the projected levels of service for the intersections along US 301, the traffic study also identified the overall cost of the CIP improvements, the capacity created as a result of the improvements and the site's proportion of the capacity created by the improvements. According to the applicant's traffic study, the total cost of the CIP improvements as used in the analyses would be $31 million. The study also indicated that approximately 7 percent of the capacity created by the CIP improvements would be needed for the proposed developments (subject property and Locust Hill). The study concludes, therefore, that a reasonable fair-share contribution towards the CIP improvements would be $31,000,000.00 x 7 percent=$2,170,000.00. The study also suggested that in lieu of actual payment of cash, the pro-rata payment should be applied to construction of improvements along the US 301 corridor, within the limits of the CIP project.

Currently, there are no funded CIP or CTP improvements along the MD 202 or Leeland Road-Oak Grove Road corridor. However, there are several intersections along these corridors that are projected to operate beyond acceptable levels of service.

At the signalized intersection of MD 202 and MD 193, the applicant has proffered the following improvements:

- Provide a left turn, a shared left/through lane, and a right turn lane on the southbound approach;

- Provide a second left turn on the eastbound (towards Upper Marlboro) MD 202 approach.

The improvements proposed for the MD 202/MD 193 intersection would provide acceptable levels of service.

All of the unsignalized intersections along Leeland Road-Oak Grove Road are projected to operate with delays greater than 50 seconds. Since no specific improvements were proffered by the applicant for these unsignalized intersections, staff will request that a signal warrant study be done for all of the unsignalized intersections along this corridor with the exception of the roundabout at the intersection of MD 193 and

Oak Grove Road.

STAFF REVIEW AND COMMENTS

Upon review of the applicant's traffic study (including revisions) staff does not totally concur with its findings and conclusion. In addition to the planning staff, the May 12, 2006, study was reviewed by two other agencies, the State Highway Administration (SHA) and the Department of Public Works and Transportation (DPW&T). In a June 13, 2006, memorandum to staff (Issayans to Burton), all of the comments expressed by Mr. Issayans—the county's Chief Traffic Engineer—were confined to issues relating to Leeland Road-Oak Grove Road, a county-maintained facility. While most of those issues are operational and engineering related, DPW&T did indicate that the future access points of the property will operate with failing levels of service, and should therefore conduct the appropriate signal warrant studies. Staff supports this request.

In several correspondences from SHA, including an October 4, 2006 memorandum to staff (Foster to Winters), SHA has indicated that the financial contribution ($2.17 million) proposed by the applicant will not result in adequate levels of service along the US 301 corridor. The memorandum recommended that improvements should be constructed along US 301, between MD 214 and MD 725 (a similar recommendation was made during the Specific Design Plan (SDP) phase of the Beech Tree development).

Staff is in general support of SHA's position regarding the fact that the applicant's contribution represents only 7 percent of the total cost of the improvements required to provide an acceptable level of service. However, there is a provision in the CIP project that allows for developers to make contributions towards the total cost of the CIP project. Previous actions by the Planning Board have established precedents for the use of developer contributions in the case of Beechtree (PGCPB 98-50) and other nearby subdivisions along the US 301 CIP project. To date, the Beechtree, Buck Property, and Karington developments have all been conditioned to provide various improvements along US 301. The applicant provided staff with an exhibit that indicated how the various sets of improvements could be coordinated. Staff and SHA are fully supportive of this proposal.

TRANSPORTATION STAFF FINDINGS

a. The application is a CDP for a residential development consisting of 623 single-family dwelling units and 227 town homes. For the purpose of determining adequacy, and given the fact that the subject application shares a common ownership with the adjacent Locust Hill development, and the fact that both developments are in close proximity to each other, the projected traffic from both developments are being combined. Locust Hill is a residential development proposing 550 dwelling units. The combined developments (1,400 DU) would generate 1,039 AM (208 in, 831 out) and 1,238 PM (805 in, 433 out) peak hour vehicle trips as determined using *The Guidelines for the Analysis of the Traffic Impact of Development Proposals.*

b. The traffic generated by the proposed developments would impact the following intersections and links:

- Link—Leeland Road—Church Road to US 301;
- US 301/MD 725;
- US 301/Village Drive;
- US 301/Leeland Road;
- US 301/Trade Zone Avenue;

- MD 202/MD 193;
- MD 193/Oak Grove Road;
- Oak Grove Road/Whistling Duck Drive;
- Oak Grove Road/Church Road;
- Leeland Road/Safeway Access;

c. Four of the intersections (along US 301) identified in b. above are programmed for improvement with 100 percent construction funding within the next six years in the current (FY 2007–2012) Prince George's County Capital Improvement Program (CIP). While the CIP identifies this project as being fully funded, there is also a provision for developer contributions should funding from the State of Maryland be delayed. This applicant has proffered a contribution of $2,170,000.00 or $1,550/DU. To date the following developments have made financial commitments towards the aforementioned CIP improvements through Planning Board resolutions:

Collington (Safeway)	4-97044	PB97-214(C)	$456,000.00
Marlboro Square	4-96084	PB96-342	$30,880.00
Meadowbrook	4-89227	PB90-102	$106,948.31
Karington	4-04035	PB04-247(C)	$725,094.25
Beechtree	CDP-9706	PB98-50	$1,194,805.08
Buck Property (Balmoral)	4-03100	PB04-21	$172,252.64
	TOTAL		**$2,685,980.28**

d. The subject property is located within the Developing Tier as defined in the General Plan. As such, the subject property is evaluated according to the following standards: **Links and signalized intersections:** Level-of-service (LOS) D, with signalized intersections operating at a critical lane volume (CLV) of 1,450 or better; **Unsignalized intersections:** The Highway Capacity Manual procedure for unsignalized intersections is not a true test of adequacy but rather an indicator that further operational studies need to be conducted. Vehicle delay in any movement exceeding 50.0 seconds is deemed to be an unacceptable operating condition at unsignalized intersections. In response to such a finding, the Planning Board has generally recommended that the applicant provide a traffic signal warrant study and install the signal (or other less costly warranted traffic controls) if deemed warranted by the appropriate operating agency.

e. The following intersections identified in b. above, when analyzed with the programmed improvements in c. above and total future traffic as developed using the Guidelines, were *not* found to be operating at LOS D or better:

- MD 202/MD 193;
- MD 193/Oak Grove Road;
- Oak Grove Road/Whistling Duck Drive;
- Oak Grove Road/Church Road;
- Leeland Road/Safeway Access.

f. The applicant has agreed to provide the following improvements to the intersections, in consideration of the findings in e. above:

At the signalized intersection of MD 202 and MD 193:

- Provide a left turn, a shared left/through lane, and a right turn lane on the southbound MD 193 approach;

- Provide a second left turn on the eastbound (towards Upper Marlboro) approach.

At the unsignalized intersection of Oak Grove and MD 193 (roundabout):

- Provide an exclusive right turn lane at the westbound Oak Grove Road approach (towards MD 202).

g. The intersections identified in finding f. above will both operate acceptably as a result of the improvements proffered by the applicants. All of the remaining unsignalized intersections along Oak Grove Road-Leeland Road will operate with delays greater than 50 seconds in at least one movement. Consequently, those intersections will require signal warrant analyses.

TRANSPORTATION STAFF CONCLUSIONS

The Transportation Planning Section concludes that the staging of development will not be an unreasonable burden on available public facilities as required by Section 27-521 of the Prince George's County Code if the application is approved with the following conditions:

1. With the submission of each building permit, the applicant, his heirs, successors or assigns shall pay to Prince George's County a fee calculated as $1,550/DU x (FHWA Construction Cost Index at time of payment)/ (FHWA Construction Cost Index for second quarter, 1989) as its share of costs for improvements to US 301 between MD 725 and MD 214.

2. In lieu of the payment of fees required in Condition 1 above, and subject to approval by the Department of Public Works and Transportation (DPW&T) and the State Highway Administration (SHA), the applicant, his heirs, successors or assigns may be required to construct a third northbound through lane on US 301 from a point just north of Leeland Road to a point just north of Trade Zone Avenue. Additionally, the improvement may include a third eastbound left turn lane along Leeland Road at its intersection with US 301. The total cost of these improvements, or other variation determined by SHA shall not exceed an amount calculated as $2,170,000.00 x (FHWA Construction Cost Index at time of payment)/(FHWA Construction Cost Index for second quarter, 1989).

3. At the time of preliminary plan, the applicant shall be conditioned to dedicate all rights-of-way for MC-600 (Leeland Road) as identified by the Planning Department.

4. Prior to the issuance of any building permit, the following improvements shall be in place, under construction, bonded (or letter of credit given to the appropriate agency for construction), 100 percent funded in a CIP/CTP or otherwise provided by the applicant, his heirs, successors or assignees:

a. Leeland Road

- Construct Leeland Road-Oak Grove Road to provide a minimum of 2 lanes of the ultimate 4-lane master plan alignment between US 301 and MD 193, in accordance with DPW&T standards.

b. MD 193/Oak Grove Road Intersection (roundabout)

- The applicant shall provide an exclusive right turn lane at the westbound approach.

c. MD 202/MD 193 Intersection

- Provide a left turn, a shared left/through lane, and a right turn lane on the southbound MD 193 approach.

- Provide a second left turn on the eastbound MD 202 (towards Upper Marlboro) approach.

5. Prior to the issuance of any building permit, the applicant shall conduct signal warrant studies at the following intersections, and install said signal if deemed to be warranted, or provide an alternate improvement as deemed necessary by DPW&T:

- Leeland Road/Safeway Access;
- Leeland Road/ Site Access B;
- Leeland Road/ Site Access A;
- Oak Grove Road/ Church Road;
- Oak Grove Road/Whistling Duck Drive.

Trails—In a memorandum dated November 3, 2006, the Trails Planner stated that the subject site is within the area included in the Adopted and Approved Bowie and Vicinity Master Plan. Further, he stated that the master plan requires a proposed trail/bikeway along Leeland Road and a stream valley trail along the Collington Branch. More particularly with respect to those requirements, he noted that condition five of the approved relevant basic plan requires the construction of the stream valley trail with connector trails to each development pods. Additionally, he stated that several developments in the vicinity of the subject site have requirements relating to the construction of the Collington Branch Stream Valley Trail. More particularly, to the north, conditions 14 through 19 of the approved preliminary plan 4-04-35 pertain to the alignment and construction of the stream valley trail through the Karington development and stipulate that the exact alignment of the stream valley trail would be determined through discussions between the applicant, and the Department of Parks and Recreation (DPR), and approved by DPR in conformance with the master plan.

Immediately to the north of the subject site (between Willowbrook and Karington), the Collington Center has been required to dedicate land along Collington Branch to accommodate the future provision of the stream valley trail (Condition 8, 4-96051). No trail construction was required,

but it is envisioned that this portion of the trail will be completed by DPR in the future. To the south of Leeland Road and the subject site, Conditions 1a and 1b of approved Preliminary Plan 4-00010 require the construction of the stream valley trail through the Beech Tree development.

The provision of the stream valley trail should be coordinated with DPR. The amount of park dedication and the alignment of the trail should be to the satisfaction of DPR, and coordinated with the trail construction both to the north and south of the subject site. Staff also recognizes that significant environmental features are present within the stream valley and that rare, threatened and endangered (RTE) species have been recorded. Careful work and discussion between the applicant, DPR, the trails planner, and the Environmental Planning Section will have to be undertaken at the time of detailed site plan to ensure that the trail is located outside of environmental features and does not impact the RTEs. It may be necessary to determine the appropriate alignment by staking the trail in the field prior to construction.

Staff also supports the provision of the connector trails and the loop trail shown on the CDP. The loop trail in particular will have to be sited to avoid impacts to environmental features. Significant areas of bridging and/or boardwalk may be required along both the loop trail and the stream valley trail.

The master plan recommends a Class I trail along Oak Grove Road and Leeland Road. This master plan trail is recommended along the subject site's entire frontage of Leeland Road. It will ultimately connect into the trail proposed along Oak Grove Road in the adjacent Locust Hill development (CDP-0506) and the trail approved along the Oak Creek Club frontage (Condition 15b of approved Preliminary Plan 4-01032). The trail along Willowbrook's frontage of Leeland Road should be reflected on the CDP and preliminary plan. It should be noted that the 1991 *Approved Master Plan and Sectional Map Amendment (SMA) for Bowie-Collington-Mitchellville and Vicinity, Planning Areas 71A, 71B, 74A, and 74B* did not include a recommended trail along Leeland Road east of Collington Branch, but the current 2006 Approved Master Plan for Bowie and Vicinity and Sectional Map Amendment for Planning Areas 71A, 71B, 74A, 74B does recommend a trail along the entire length of Leeland Road, including the frontage of the subject site.

A more detailed analysis of the master plan trails and the internal trail network will be completed at the time of detailed site plan. As noted at the time of basic plan, connections between neighborhoods will be a priority, in addition to the connections to the master plan trails. The sidewalk network will be an integral part of the pedestrian network. The road cross-sections appear to indicate that sidewalks will be provided along both sides of all roads. However, the sidewalks are not labeled in some of the details. Staff recommends that sidewalks be provided along both sides of all internal roads, unless modified by DPW&T. All trails shall be located off private lots. The connector trail from Street V is shown on the SDP as going through Lot 8. This connector trail should be placed within an open space, M-NCPPC window between private lots.

The Trails Planner recommended, in conformance with the 1991 Approved Bowie-Collington-Mitchellville and Vicinity Master Plan and SMA and the 2006 Bowie and Vicinity Master Plan and SMA, that, in coordination with DPR, the applicant construct the master plan trail along the subject site's portion of Collington Branch, and a Class I Master Plan Trail along the site's entire frontage of Leeland Road. These recommendations have been included in the recommended conditions below.

Parks—In a memorandum dated July 26, 2006, the Department of Parks and Recreation (DPR) stated that they had reviewed the comprehensive design plan for conformance with the conditions of Basic Plan A-9968, the 2006 Bowie and Vicinity Master Plan and SMA, the requirements for the R-S Zone and the Subdivision Ordinance as they pertain to public parks and recreation facilities. As background, DPR noted that Council Resolution No. CR-90-2005 conditions the following:

3. The dedication of approximately 100 acres of parkland to M-NCPPC, including the Collington Branch stream valley and 20 acres of developable land for active recreation as shown on DPR Exhibit 1.

4. The land to be conveyed to M-NCPPC shall be subject to the conditions of Exhibit "B" attached to the June 21, 2005, memorandum from the Parks Department.

5. The applicant shall construct a 10-foot wide master plan hiker/biker trail in the Collington Branch stream valley and 6-foot wide feeder trails to the development pods.

7. The applicant shall provide adequate, private recreational facilities to meet the future subdivision requirements for the proposed development. The private recreational facilities shall be constructed in accordance with the standards outlined in the *Park and Recreation Facilities Guidelines.*

8. The applicant shall construct recreational facilities typical for a 20-acre community park, such as ball fields, a playground, tennis or basketball courts, shelters, and restroom facilities. The list of recreational facilities shall be determined at the preliminary plan of the subdivision and specific design plan stage. The construction of the park facilities shall be eligible for the award of density increments based upon the regulations of the R-S Zone.

In addition, DPR noted that the following consideration was included in Council Resolution CR-90-200:

2. Recreational facilities should be dispersed throughout the subdivision so as to provide nearby recreational facilities for all residents. The type of recreational facilities shall be determined at the time of comprehensive design plan. They should accommodate all age residents and should include such elements as a pool, tot lots, preteen lots, tennis courts and trails, and passive recreational facilities.

DPR made the following findings based on the applicable requirements listed above and the submitted comprehensive design plan:

- The applicant has submitted a comprehensive design plan including 100 acres of parkland dedication, a "recreation exhibit" demonstrating a possible layout for public recreational facilities on dedicated parkland and private recreational facilities on HOA land, including a community recreation center with a swimming pool, tennis courts, multi-use fields, playgrounds and trails.

- While the illustrative recreational exhibit provides a general idea about the constructability of the parkland, DPR staff noticed that one of the two playfields

is not directionally oriented in accordance with *Park and Recreation Facilities Guidelines*. They said they believed that the park layout should be revised and that the list of recreational facilities to be included therein should be finally determined during the consideration of the preliminary plan of the subdivision and specific design plan stage as required by Condition 8 of A-9968.

- Council Resolution No. CR-90-2005, Consideration 2, is applicable to the private recreational facilities on HOA land to be reviewed by the Urban Design Section staff in coordination with the comprehensive design plan for the entire site.

In closing, DPR concluded that the submitted comprehensive design plan is in general conformance with the conditions of approval for Basic Plan A-9968, as related to parks and recreation, Bowie and Vicinity Master Plan and SMA and current zoning and subdivision regulations as they pertain to public parks and recreation in the planned community.

Public Facilities—In a memorandum dated November 13, 2006, the Public Facilities Planning Section stated that the staging of the subject development will not be an unreasonable burden on available public facilities.

More particularly, with respect to fire and rescue facilities, the Public Facilities Planning Section stated that the subject project is within the required seven-minute response time for the first due fire station, Company 43 Pointer Ridge, using the Seven-Minute Travel Times and Fire Station Locations Map.. Further, they noted that the Fiscal Year 2007-2012 CIP includes a Project JK510423 Beechtree Fire/EMS Facility, estimated for completion in 2013, which would become the first due station for this location and which would also be within required response times.

Specifically, with respect to available police facilities, the Public Facilities Section, noting that the proposed development is in Police District II for Bowie, stated that the proposed project meets the requirements of the county-wide police facilities test.

Lastly, with respect to schools, the Public Facilities Section noted that while student population projections applied to the local high school did not exceed capacity, proposed percent of capacity for the local elementary and middle high school were noted at 118 percent and 102 percent respectively. They noted, however, that county legislation requires a per unit monetary contribution for each unit over stated capacity that would offset the development exceeding capacity.

Environmental Planning—In a memorandum dated November 17, 2006, the Environmental Planning Section offered the following:
The Environmental Planning Section previously reviewed three applications for the subject property. A-9829 filed in 1989 was a request to rezone the subject property from the R-R Zone to the E-I-A Zone. The application was withdrawn without prejudice in December 1991, and the E-I-A Zone was subsequently granted with the approval of the Sectional Map Amendment for Bowie-Collington Master Plan (CB-90-2005). The application for a Comprehensive Design Plan (CDP-0505) and Type I Tree Conservation Plan (TCPI/010/06) was originally stamped as received by the Countywide Planning Division on February 2, 2006. Since the submittal of this application, a Preliminary Plan 4-06066 was accepted for review on September 22, 2006.

A Type II Tree Conservation Plan TCPII/08/00 was submitted in January 2000 with the intent of logging the property, but it was not approved.

ZMA-9968, requesting a change of zone for 427 acres east of the railroad right-of-way from the E-I-A (Employment and Institutional Area) to Comprehensive Design Zone, R-S (Residential Suburban Development) was recommended for denial by the Planning Board on July 28, 2005, with a further recommendation of approval for the R-L Zone, subject to conditions listed in PGCPB No. 05-178. A separate application was submitted that requested that 15 acres on the southeast part of the site, between the existing floodplain and the adjacent E-I-A zoned property, be rezoned to I-1 (Light Industrial).

The rezoning of the 15-acre E-I-A zoned property to the I-1 Zone, and the rezoning of the larger E-I-A zoned property to the R-S Zone was subsequently approved by CR-11-2006 (Amendment 7) on February 7, 2006, in the resolution that approved the Master Plan and Sectional Map Amendment for Bowie and Vicinity. The Basic Plan is subject to limitations and conditions contained in CR-11-2006.

The original CDP application was for a 427.0-acre site in the R-S Zone, and proposed to develop a residential community consisting of 602 "market rate" units at a density of 1.82 units per acre, and 216 "mixed retirement" units at a density of 7.6 units per acre. The revised Illustrative Plan indicates that the current application is for a 425.85-acre site in the R-S Zone and proposes to develop a residential community consisting of 602 "market rate" units at a density of 1.7 units per acre, and 216 "mixed retirement" units at a density of 5.1 units per acre.

Site Description

The subject application is a for a 425.85-acre, R-S zoned portion of a 440.85-acre site, and is located on the north side of Leeland Road, east of the railroad tracks, and west of Crain Highway (US 301). There are streams, wetlands and 100-year floodplains and associated areas of steep slopes with highly erodible soils and areas of severe slopes on the property. The Pope's Creek Branch railroad, used by CSX, which is adjacent to the westernmost portion of the property, may be a source of noise and vibration. The proposed development is not a noise generator. According to the "Prince George's County Soil Survey" the principal soils on the site are in the Adelphia, Bibb, Collington, Colemantown Elkton, Howel, Marr, Monmouth, Sandy Land, Shrewsbury, and Westphalia series. Adelphi, Collington and Marr soils are in hydrologic class B and are not highly erodible. Bibb and Shrewsbury soils are in hydrologic class D, and pose various difficulties for development due to high water table, impeded drainage and flood hazard. Colemantown and Elkton soils are in hydrologic class D and are have a K factor of 0.43 making them highly erodible. Howell and Westphalia soils are in hydrologic class B and are highly erodible. Monmouth soils are in hydrologic class C and have a K factor of 0.43, making them highly erodible. Sandy land soils are in hydrologic class A and pose few difficulties to development. Marlboro clay is found to occur extensively in the vicinity of and on this property. According to information obtained from the Maryland Department of Natural Resources Natural Heritage Program, a Sensitive Species Project Review Area as delineated on the SSPRA GIS layer is found to occur in the vicinity of this property. Further information received from the Wildlife and Heritage staff indicated known records related to three rare, threatened or endangered (RTE) aquatic species in Collington Branch, and the possible presence of several RTE plants. No designated scenic or historic roads are affected by this development. This property is located in the Collington Branch watershed in the Patuxent River basin and contains the mainstem of Collington Branch along the western side of the property. The site is in the

Developing Tier according to the adopted General Plan. The site contains Regulated Areas, Evaluation Areas, and Network Gaps as designated on the Countywide Green Infrastructure Plan.

MASTER PLAN CONFORMANCE

In the Approved Master Plan and Sectional Map Amendment for Bowie and Vicinity (February 2006), the Environmental Infrastructure section contains goals, policies and strategies. The following policies have been determined to be applicable to the current project.

Policy 1. Protect, preserve and enhance the identified green infrastructure network within the master plan area.

Collington Branch is designated in the Bowie and Vicinity Master Plan as a Primary Corridor, meaning that development within this watershed should seek to protect, enhance or restore the resource. District Branch is designated as a Secondary Corridor. The Countywide Green Infrastructure Plan shows this site as containing significant amounts of regulated areas and almost the entire site is an evaluation area. Because of this site's prominent location in the network, and because it provides a unique opportunity to connect to the Patuxent River to the east, every effort must be made to protect the high quality environmental resources on-site and provide for potential connectivity to the east to the greatest extent possible. The TCPI shows the location of the primary and secondary corridors.

Comment: In the comments below, this policy is addressed in detail.

Policy 2: Restore and enhance water quality in areas that have been degraded and preserve water quality in areas not degraded.

The Western Branch Watershed Restoration Action Strategy (WRAS) has identified several sites in need of restoration on and adjacent to the subject property. The problems identified on-site are related to erosion and trash dumping. These sites should be investigated for opportunities for restoration. In addition, it is noted that the WRAS shows a slightly different configuration of streams than that shown on the plans. The stream configuration of the WRAS was compared to the Jurisdicational Determination signed by the U.S. Army Corps of Engineers on May 11, 2006. There are three stream segments on the WRAS that were not shown on the signed NRI it is possible that these stream segments are not regulated; however, because this new information has come to light it needs to be investigated further.

These three stream segments have not been identified on the JD; and the JD has identified additional intermittent stream segments that were not delineated on the NRI.

Recommended Condition: The preliminary plan submittal package shall include a wetlands report regarding the three stream segments shown on Watershed Restoration Action Strategy (WRAS) that were not shown on the signed Natural Resources Inventory (NRI), providing an assessment of their characteristics and appropriate classification. The NRI and all associated plans shall be revised, if necessary, to reflect the results of that assessment.

Recommended Condition: The preliminary plan submittal package shall include a report regarding the twelve (12) WRAS sites identified on the Willowbrook Stream Corridor Assessment based on the Stream Corridor Assessment prepared by the Maryland Department of Natural Resources. The report shall identify the existing conditions and make specific recommendations regarding stream restoration and/or mitigation methods. Any restoration

proposals that require impacts to the Patuxent River Primary Management Area (PMA) shall be included in the Letter of Justification for impacts associated with the proposed development.

Recommended Condition: At time of submission of the first Specific Design Plan, a Watershed Restoration Plan shall be submitted which addresses the implementation of the WRAS sites report submitted at time of preliminary plan. The scope of the Water Restoration Plan may be expanded to address additional sites or concerns identified during preliminary plan review.

Policy 3: Protect and enhance tree cover within the master plan area.

The TCPI shows that approximately 50.1 percent of the woodland conservation requirement for this site is being met on-site. There are areas where the Primary Management Area (the regulated areas adjacent to streams) is proposed to be planted where vegetation does not currently exist.

Policy 4: Reduce overall energy consumption and implement more environmentally sensitive building techniques.

The development is conceptual at the present time. In future applications, the use of these building techniques should be addressed.

Recommended Condition: At time of Specific Design Plan submission, each SDP shall include a statement regarding how the proposal uses green building techniques and alternative energy sources.

Policy 5: Reduce light pollution and intrusion into residential, rural and environmentally sensitive areas.

The site is adjacent to an environmentally sensitive area (Collington Branch and its tributaries). All street lights in the new subdivision should use full cut-off optics to ensure that light intrusion is minimized.

Recommended Condition: The following note shall be placed on the preliminary plan and all future Tree Conservation Plans: all community lighting shall use full cut-off optics and be directed downward to reduce glare and light spill-over.

Policy 6: Reduce adverse noise impacts to meet State of Maryland noise standards.

The CDP shows the placement of structures a considerable distance from the main noise generator: the CSX Railroad tracks to the east. The state noise standards have been met using this design.

Policy 7: Protect wellhead areas of public wells.

The site is not in a wellhead protection area and does not propose any public wells.

CONFORMANCE WITH CR-11-2006

CR-11-2006, a resolution approving the Master Plan and Section Map Amendment for Bowie and Vicinity was approved by the District Council on February 7, 2006, and contains a list of limitations and conditions on the approved rezoning of the property, and conditions to be applied at various review points in the process.

The following are staff's analysis of the environmental conditions, limitations and considerations from the Council Resolution. Two letters were submitted and stamped as received on June 23, 2006, that discuss how the application meets the provisions of CR-11. The text from CR-11 has been shown in **BOLD** typeface, while the evaluation has been shown in standard typeface.

Limitations and Conditions of CR-11-2006

(2) A ten foot-wide master plan hiker/biker trail shall be located in the Collington Branch Stream Valley and the six-foot feeder trails shall be located near the development pods.

A "proposed hiker/biker trail" has been listed in the legend of all plans. On CDP plan and the large scale Illustrative Plan only the main stem alignment of the trail has been shown. No smaller feeder trails have been identified in the legends or on the plans.

The proposed location of the trail proposed in the Collington Branch Stream Valley as shown would require extensive permanent and temporary impacts to PMA for construction. The alignment of the trail must be designed to minimize impacts to the PMA and will be reviewed at time of preliminary plan.

Recommended Condition: Prior to certificate approval of the CDP, the alignment of the hiker/biker trail shown in the Collington Branch stream valley shall be removed from all plans and substituted with the following note: "The placement of the hiker-biker trail will be evaluated at time of preliminary plan review and shall limit permanent and temporary impacts to the PMA to only those necessary for construction. The majority of the trail shall be located outside the PMA or in locations where impacts already exist." All proposed impacts to the PMA for trails shall be shown on the TCPI associated with the preliminary plan and shall be part of the Letter of Justification.

(3) A buffer area shall be located between Leeland Road and any townhouse or multifamily development, sufficient to fully screen these units from view from the roadway, and to retain the current wooded character of the frontage.

Although no townhouse or multifamily development is proposed directly along Leeland Road, the TCPI shows areas of substantial clearing along the road frontage, specifically in the area proposed for the community building, pool and a stormwater management pond, which does not retain the current wooded character of the frontage.

The revised TCPI does not show any tree preservation or afforestation in this area that would retain the "current woodland character" of Leeland Road.

Recommended Condition: Prior to certificate approval of the CDP, the TCPI shall be revised to show the provision of a wooded scenic buffer along Leeland Road through preservation, reforestation or afforestation with a minimum width of 40 feet outside of the public utility easement.

Recommended Condition: At time of preliminary plan, a scenic easement shall be established along the north side of Leeland Road with a minimum width of 40 feet outside of the public utility easement. The purpose of this scenic easement shall be to retain the wooded character of the Leeland Road frontage.

Recommended Condition: At time of TCPII, the wooded scenic buffer along the north side of Leland Road shall be given special consideration in order to maintain the wooded character of the frontage. This shall include: the planting of native species, the planting of larger planting materials in order to establish the scenic buffer more quickly, and management techniques for enhancing preserved woodlands such as removing invasive vines and non-natives, trimming, and/or understory planting.

Conditions of CR-11-2006

(5) The applicant shall construct a ten-foot-wide master plan hiker/biker trail in the Collington Branch stream valley, and a 6-foot wide feeder trails to the development pods.

See comments associated with item #2 above.

(9) The submission package of the comprehensive design plan shall contain a signed natural resources inventory (NRI). The NRI shall be used by the designers to prepare a site layout that minimizes impacts to the regulated areas of the site.

The subject property has a signed Natural Resources Inventory (NRI/098/05) dated December 13, 2006, that was included with the CDP application package. There is additional information required that has not been provided on the NRI regarding the presence of rare, threatened and endangered (RTE) species. . The previously approved NRI has been declared null in accordance with Note 7 on Sheet 1 of 9 that states, "NRIs will be required to be revised and reapproved if the base information changes significantly."

A revision to the NRI was submitted to the Environmental Planning Section on June 9, 2006. The transmittal accompanying the application stated that the revision was necessary due to new topography and associated edits. The submittal did not address the presence of RTEs on the site in the report or on the plan. In addition, the Wildlife and Heritage Office of Maryland DNR has recommended special buffering for the aquatic system, in order preserve habitat for three aquatic RTE species found in Collington Branch.

A later revision to the NRI was submitted to the Environmental Planning Section on October 2, 2006, and comments were provided regarding required revisions or clarifications.

The plan labeled "Existing Conditions and Environmental Plan" was not reviewed as part of the package because it does not contain the most current information. See the additional comments below regarding RTEs.

Recommended Condition: At least 60 days prior to any hearing on the preliminary plan application, the NRI shall be revised to reflect all relevant information regarding the rare, threatened and endangered species, field-run topography and the location and classification of all existing streams.

(10) A geotechnical study that identifies the location and elevation of the Marlboro clay layer throughout the site shall be submitted as part of the CDP application package.

This property is located in an area with extensive amounts of Marlboro clay that is known as an unstable, problematic geologic formation when associated with steep and severe slopes. The presence of this formation raises concerns about slope stability and the potential for the placement of structures on unsafe land. Based on information available, the Environmental Planning

Section projects that the top elevation of the Marlboro clay varies from an elevation of approximately 110 feet to approximately 120. A geotechnical report is required for the subject property. This report must be in conformance with the guidelines established by the Department of Environmental Resources.

The original CDP application package included a Report of Preliminary Geotechnical Exploration prepared by Geotechnology Associates, Inc. and dated September 2005. The preliminary geotechnical study was determine inadequate, because it was based on an insufficient amount of borings and failure to address the requirements contained in "Criteria for Soil Investigations and Reports on the Presence and Affect of Marlboro Clay upon Proposed Developments." The extent of impacts on the proposed design could not be determined without a Detailed Geotechnical Report, establishment of a 1.5 safety factor line based on existing conditions, identification of problem areas, and the establishment of a 1.5 safety factor line based on conceptual grading.

A memorandum from Ben Dinsmore, Geotechnology Associates, Inc. to Nand Gupta, Toll Brothers, dated June 20, 2006, and an Exploration Location/Slope Stability Evaluation Plan, dated June 20, 2006, were submitted and stamped received on June 22, 2006. The memorandum summarized 114 additional borings that have occurred on the site, refers to an Addendum Letter Marlboro Clay Study, dated December 9, 2005, which has not been submitted for review. No supplemental information was submitted. The Exploration Location/Slope Stability Evaluation Plan shows the location of the additional boreholes.

A further memorandum from Ben Dinsmore, Geotechnology Associates, Inc. to Nand Gupta, Toll Brothers, dated September 12, 2006, and an Exploration Location/Slope Stability Evaluation Plan, dated September 12, 2006, was submitted and stamped as received on September 29, 2006, as part of the NRI revision. The boring logs for 137 test borings performed on the site were also submitted. In summary, the memorandum states that Marlboro clay is present over a large portion of the site at elevations generally on the order of 80 to 120 feet. A mitigated 1.5 safety factor line was proposed based on a grading plan provided on August 16, 2006. The stability of the Marlboro clay will need to be re-evaluated as revisions to the design and grading are proposed. In addition, the plans indicate that retaining walls are planned in several portions of the site. Retaining walls can have a significant affect on the stability of slopes, and a more thorough evaluation of slopes that include retaining walls should be performed once the design becomes firmer.

Recommended Condition: At least 60 days prior to Planning Board hearing for the preliminary plan, a detailed geotechnical report based on the existing conditions of the site, including the most current topographical information (or as shown on the NRI) shall be submitted. It shall also address the existing outcrop pattern of Marlboro clays and areas of slope stability concerns with respect to the existing conditions. The study shall provide the appropriate plans and/or exhibits, showing the location of all slope stability cross-sections, and identify the unmitigated 1.5 safety factor lines. The unmitigated 1.5 safety factor lines based on that report shall then be placed on the TCPI and the preliminary plan.

Recommended Condition: At least 60 days prior to any Planning Board hearing on the preliminary plan application, the existing conditions and proposed 1.5 safety factor line shall be shown on the preliminary plan and Type I Tree Conservation Plan. No structures, septic fields, or lots less than 40,000 square feet in area shall be placed within the mitigated 1.5 safety factor line. All subsequent plans shall also show this information. If proposed engineering of the site will change the location of the existing 1.5 safety factor line, the proposed 1.5 safety factor line must also be shown on all plans.

(11) A protocol for surveying the locations of all rare, threatened and endangered species within the subject property shall be obtained from the Maryland Department of Natural Resources prior to acceptance of the CDP and this protocol shall be part of the submittal package. The completed surveys and required reports shall be submitted as part of any application for preliminary plans.

Information sheets indicating required documents to survey rare plants were included in the CDP application, but did not constitute a protocol. A protocol includes a listing of what species, plant and animal, will be surveyed for on the subject property, what the habitat requirements are for each species, what survey methods are appropriate for the indicated species, and what time(s) of year are best for the survey work. Both aquatic and plant species should be investigated on this site.

No protocol or survey work was required for the rare, threatened or endangered (RTE) **aquatic** species of this site, because there are known records, so their presence was assumed. Protection of the sensitive species habitat, which includes appropriate buffers as determined by the Wildlife and Heritage Service, is strongly recommended for the site.

With regard to the sensitive plant species, at a meeting on March 16, 2006, the Willowbrook project applicant met with staff of the Wildlife and Heritage Service, Maryland Department of Natural Resources (DNR), at which time DNR staff encouraged the applicant to conduct a plant survey of the site for RTE species known to occur in the general vicinity. Following the meeting with DNR, an RTE plant survey was commissioned from Mr. Brent Steury, who is recognized by DNR as qualified to conduct such surveys. The completed survey work has been reviewed by DNR staff, and has been found to accurately identify the RTEs present on the site, their location, and population size; therefore, no protocol is necessary. More information regarding the plant species found is provided in the official file of the case.

Specific mapping showing the locations of the populations relative to the proposed development activity is essential to develop adequate protection measures. Mapping submitted to the Planning Department to date shows the locations of rare species on poor reproductions of USGS topographic maps at a scale of 1"=2000'. The rare species' populations should be mapped on the Natural Resources Inventory and the TCPI so that the proximity of populations to proposed development activities can be assessed and additional, more specific measures can be identified to maintain the hydrology and water quality of the rare species' wetland habitat.

Protection of the upland habitats of the state-listed plant species will require delineation of the habitats that support these species on-site. The delineation should be surveyed and placed on the tree conservation plans so that the buffers can be adequately depicted. The limit of disturbance should be set back from the crest of the slope above the plant species a minimum of 100 ft in order to reduce the potential for erosion on the slopes that support these species, to maintain forest structure and to minimize edge effects, including the encroachment of non-native, invasive plant species into the rare species' habitat subsequent to clearing. The undisturbed buffer should be marked on-site with safety fence and identified as a sensitive area in order to reduce the potential for unintentional disturbance.

The Wildlife and Heritage Service at DNR has offered to assist in the development of a Habitat Protection and Management Program for long-term protection of and monitoring of these rare species and their habitat.

It should be noted that the Western Branch watershed is ranked eighth out of 84 watersheds in Maryland with respect to aquatic biological diversity and priority for conservation. Zekiah

Swamp, which is partially located within Prince George's County, is ranked first. Preservation and protection of the biological integrity of Western Branch is critical to the continued sustainability of this diverse and sensitive community of fish and plant species.

In order to protect and preserve the on-site habitat of the rare, threatened, and endangered species, DNR has provided several guidelines that should be addressed on the subject site before, during, and after the development of the site. These guidelines include the use of the following practices:

- Reduction of impervious surfaces
- Stormwater conveyance to streams via sheet flow and naturally vegetated channels
- Maximum retention of forest
- Disconnection of rooftop and non-rooftop runoff
- Improved sediment and erosion control
- 100 foot-wide buffer for all streams and non-tidal wetlands on the site
- Avoidance of in-stream work where possible

Although there will be significant limitations in reducing the proposed impervious areas based on the planned densities, the TCPI proposes large contiguous tracts of woodland conservation and pervious open space that are adequate enough to allow conveyance of stormwater to the streams via sheet flow. The stormwater management regulations require that the pre and post-development run-offs be similar and the project proposes several stormwater management ponds to address the requirements. Based on the proposed design, most of the impervious areas will be located approximately 90 feet or more from the sensitive habitat areas, except where necessary road crossings are proposed.

Forest retention is discussed in detail in the woodland conservation section of this memo. The plan proposes to clear approximately 62 percent of the on-site woodland and the plan proposes to meet 51 percent of the 140.32-acre woodland conservation requirement on-site. The majority of the proposed woodland conservation is focused on areas adjacent to the preserved sensitive habitat areas. These numbers will be adjusted up when the plans are revised to address other recommended conditions in this memorandum.

The TCPI does not address sediment and erosion control measures or the disconnection of rooftop and non-rooftop runoff. The plans submitted with this application do not reflect the final layout of the site. As part of the Specific Design Plan submittal, a plan and text shall be submitted that addresses a sediment and erosion control protocol that is more stringent than the minimum required. It shall include phasing of the site in such a way that the sediment basins stay in place until the last lot is built in the phase. The plan shall incorporate additional control measures and inspections to ensure maximum filtration of runoff and complete implementation of the plan. The package will be reviewed by the Environmental Planning Section staff in coordination with the staff of the Soil Conservation District.

Rooftop and non-rooftop disconnection will allow a significant amount of runoff to be filtered and infiltrate over natural and pervious areas before reaching the stream valley. All proposed structures adjacent to open areas must be designed with rooftop and non-rooftop disconnection and should be addressed prior to any Planning Board hearing for the preliminary plan. Because the stormwater concept plan approval is associated with the preliminary plan review, this is the appropriate mechanism to address these techniques.

Most of the impacts to the stream have been limited to necessary road crossings and infrastructure. In addition, the plan shows some impacts that are avoidable. All impacts will be addressed at the time of

preliminary plan; however, it should be noted that impacts that are non-essential for development must be avoided. Impacts are discussed further in the following section of this memo.

The current TCPI does not show the 100 foot-wide habitat protection buffer as recommended by DNR, nor do the plans address its preservation. The definition of the Patuxent River Primary Management Area (PMA) includes the following text after it describes all other sensitive features that are regulated: "Specific areas of rare or sensitive wildlife habitat, as determined by the Planning Board." Staff is recommending that when the TCPI is submitted with the preliminary plan, that the PMA include the 100 foot-wide buffer. Based on a review of the plans submitted, it appears as though the design has attempted to respect this buffer. Some buffers from the streams and wetlands are 200 feet. Some of the areas where the entire buffer is not preserved are due to lot grading and construction of stormwater management ponds. These impacts are not considered essential to the development of the site because the design can be changed to reduce or eliminate these impacts. To date, the plans have been revised multiple times to reduce the overall impacts to the 100 foot-wide buffer. The remaining impacts should be evaluated further during the review of the preliminary plan.

During development of the specific design plans, stormwater management plans, and the sediment and erosion control plan, protection of sensitive species habitat from sedimentation, pollutants and changes of hydrologic regimen must be considered. A Habitat Protection and Management Program for the rare, threatened and endangered species identified on the site should be developed by the applicant and the Environmental Planning Section, in consultation with the staff of the Maryland Department of Natural Resources Natural Heritage Program. The program should address baseline monitoring of the site prior to the commencement of construction, monitoring of hydrology, sediment, and protective mechanisms during construction, and long-term monitoring of the sensitive species habitat after construction in order to assess the success of the mechanism proposed. Prior to the signature approval of the preliminary plan, a conceptual Habitat Protection and Management Program shall be approved by the Environmental Planning Section. The Program shall include, but not be limited to:

Hydrologic monitoring for a minimum of a year prior to the issuance of the first grading permit to establish a baseline of data, during construction, and post construction for the following elements:

- Water quality
- Benthic macroinvertebrate
- Hydrologic flow
- Sedimentation

Monitoring during construction for the following:

- Sediment and Erosion Control measures
- Stormwater Management controls
- Special Protection Measures for RTE habitat
- Monitoring of the RTE Species during and post-construction.

The details of the programs will be determined in future meetings with the applicant and in consultation with the Department of Natural Resources Natural Heritage Program, who will continue to provide guidance and expertise with regard to the preservation and protection of RTE habitat, in coordination with stream and wetlands permits required for the development. The detailed Habitat Protection and Management Plan shall be approved by the Environmental Planning Section prior to the acceptance of the first Specific Design Plan.

Recommended Condition: At least 60 days prior to any Planning Board hearing for the preliminary plan, the associated TCPI shall be revised to show a 100-foot protection buffer for rare, threatened and endangered species with respect to all streams and wetlands on the site. The PMA shall be revised to include that 100-foot buffer. Impacts shown to the 100-foot buffer and PMA on the TCPI associated with the CDP shall be re-evaluated and reduced or eliminated during the review of the preliminary plan. Impacts should be limited to those that are essential for the development of the site.

Recommended Condition: Prior to signature approval of the preliminary plan, a copy of the stormwater management concept plan shall be submitted. The plan shall include the use of sheet flow buffers, vegetated channels, and rooftop and non-rooftop disconnection to the fullest extent possible in addition to other stormwater management techniques.

Recommended Condition: Prior to the signature approval of the preliminary plan, a conceptual Habitat Protection and Management Program shall be approved by the Environmental Planning Section. The Program shall include, but not be limited to:

a. Hydrologic monitoring for a minimum of a year prior to the issuance of the first grading permit to establish a baseline of data, during construction, and post construction for the following elements: water quality, benthic macroinvertebrate, hydrologic flow, sedimentation.

b. Monitoring during construction for the following: sediment and erosion control measures, stormwater management controls, special protection measures for RTE habitat.

c. Monitoring of the RTE Species during and post-construction.

Recommended Condition: Prior to submittal of the first SDP, a detailed Habitat Protection and Management Plan shall be approved by the Environmental Planning Section that addresses specific implementation methodologies for the long-term protection and assessment of the RTE habitat location on this site.

Recommended Condition: Prior to issuance of the first grading permit, a minimum of one year of hydrologic monitoring data, as determined by the program, shall be submitted, to establish a baseline for evaluation impacts to the RTE habitat resulting for construction activities, and post development.

Recommended Condition: As part of the submission package for the first SDP, a plan and text shall be submitted that addresses a sediment and erosion control protocol that is more stringent than the minimum required. It shall include phasing of the site in such a way that the sediment basins stay in place until the last lot is built in the phase. The plan shall incorporate additional control measures and inspections to ensure maximum filtration of runoff and complete implementation of the plan. The package will be reviewed by the Environmental Planning Section staff in coordination with the staff of the Soil Conservation District.

Recommended Condition: Prior to the issuance of any permits which impact wetlands, wetland buffers, streams or Waters of the U.S., copies of all federal and state wetland permits, evidence that approval conditions have been complied with, and associated mitigation plans shall be submitted to the Planning Department.

COMPREHENSIVE DESIGN PLAN CONSIDERATIONS (CR-11-2006)

(3) A 200-foot buffer shall be maintained between the residential lots and adjacent land other than parkland that is in the E-I-A Zone. The existing woodland may be augmented by additional plantings so that the project is sufficiently protected from the impacts of the adjacent development.

The TCPI and CDP shows a 200-foot buffer in all areas where residentially zoned abuts E-I-A zones property. The property labeled as being zoned I-1 is separated from the remained of the subject application by a regulated environmental feature. The closest proposed lot is approximately 150 feet from the property line. Because the regulated area extends onto the I-1 portion of the property, the buffer provided is over 200 feet.

Comment: No additional information is needed with regard to this provision of CR-11.

ENVIRONMENTAL REVIEW

As revisions are made to the plans submitted the revision boxes on each plan sheet shall be used to describe what revisions were made, when, and by whom.

1. The property is subject to the requirements of the Prince George**'**s County Woodland Conservation Ordinance because it is more than 40,000 square feet in size and contains more 10,000 square feet of existing woodland. A Forest Stand Delineation was reviewed as part of the NRI review, but did not include a review of FIDS habitat on-site, or any information about RTEs. Eight forest stands have been identified on the site, along with two-hundred and nineteen (219) specimen trees located within or near the property boundaries.

   The characteristics of the identified forest stands are included in the following table:

Stand No.	Forest Type	Dominant Size Class	Area	Forest Structure Value
1	Pioneer Tulip Tree	2-5.9 inches DBH	20.98 acres	Low
2	Early Deciduous	10.0–29.9 inches DBH	54.98 acres	High
3	Mid-successional oak-hickory	12–19.9 inches DBH	4.19 acres	Moderate
4	Early – Mid-successional Tulip Tree- American Beech	12–19.9 inches DBH	53.91 acres	Moderate/High
5	Mid-successional Tulip Tree-Oak Forest	20–29.9 inches DBH	88.78 acres	Moderate/High
6	Mid-successional Tulip Tree	20–29.9 inches DBH	139.01 acres	Moderate/High
7	Mid-late successional Tulip Tree	20–29.9 inches DBH	38.18 acres	Moderate/High
8	Late successional American beech/Tulip Tree	20–29.9 inches DBH	34.66 acres	High
TOTAL			422.66 acres	

A Type I Tree Conservation Plan is required as part of any application for a Comprehensive Design Plan. The woodland conservation threshold for R-S zoned land is 20 percent of the net tract, the woodland conservation threshold for I-1 zoned property is 15 percent. The woodland conservation threshold for this site, based on the 440.85-acre area, is 68.59 acres. Based upon the proposed clearing of 264.27 acres, as well clearing in the floodplain and off-site clearing, the woodland conservation requirement is 140.32 acres. The TCPI proposes to meet the requirement by providing 62.26 acres of on-site preservation, 9.28 acres of on-site planting, and 68.78 acres of off-site mitigation for a total of 140.32 acres. According to the current design, the threshold requirement is being met on-site and 51 percent of the requirement is being met on-site.

Because of this site's prominent location on a designated Primary and Secondary Corridor of the green infrastructure network, the use of Collington Branch as a significant flyway linking the Belt Woods, located to the north, to the Patuxent River and the high quality of woodland present on the site, additional effort should be made to provide for an additional portion of the woodland conservation requirements on-site, particularly along the Collington Branch stream valley.

Overall, the plan addresses the spirit of the Woodland Conservation Ordinance and the Green Infrastructure Plan by providing for the conservation of large contiguous woodlands along the stream valleys and in priority conservation areas. In addition, woodland conservation is proposed on lands to be dedicated to the Department of Parks and Recreation. Prior to approval of the TCPI, written permission from the Department of Parks and Recreation, to place woodland conservation on park property, will be required.

The legend and plans include a "50 foot stream buffer" and a "100 foot stream buffer." The TCPI with the CDP is only required to show the PMA; however, the 100 foot-wide buffer for protection of the rare, threatened and endangered species on-site is being recommended for inclusion on the TCPI associated with the preliminary plan application.

The location of the RTE habitat sites for the plants has not been shown. The location of the RTE must be shown on the TCPI so the protection of the sensitive species habitat can be evaluated during the development process.

The TCPI shows an extensive system of retaining walls along the edges of the PMA. The retaining walls show no work zone below the wall to allow for construction, maintenance, or future reconstruction. All woodland conservation areas must be set back a minimum of 10 feet from the bottom of any retaining wall in order to provide for construction and maintenance. Woodland conservation and the limits of clearing must also be set back 10 feet from any townhouse lot line.

Recommended Condition: Prior to certificate approval of the CDP, the Type I Tree Conservation Plan shall be revised as follows:

a. Revise the plans to label all graphic elements fully, and include all graphic elements in the legend;

b. Show no 1.5 safety factor line, PMA or woodland conservation on any lot and show calculate all woodland retained on any lot as cleared;

c. Show conceptual clearing of the I-1 property in order to account for the development of this parcel on the TCPI;

d. Revise the limits of disturbance on the parcel to the dedicated to the Department of Parks and Recreation to show how the 100 foot-wide RTE buffer can conceptually be preserved;

e. Add the following note: "The limits of disturbance shown on this plan are conceptual and do not depict approval of any impacts to regulated features."

f. Remove the "50 foot stream buffer" and the "100 foot stream buffer" from the plan sheets and legends; only the PMA should be shown;

g. Show the PMA in conformance with the revised NRI;

h. Show the location of the plant populations of rare threatened and endangered species so the protection of the sensitive species habitat;

i. Show woodland conservation and the limits of disturbance set back a minimum of 10 feet from the bottom of any retaining wall in order to provide for construction and maintenance;

j. Show woodland conservation and the limits of disturbance set back a minimum of 10 feet from any townhouse lot line.

k. Provide woodland conservation on-site to the fullest extent possible contiguous to the primary and secondary corridors identified on the site, especially in areas of high quality woodland;

l. Revise the worksheet as needed to reflect the above revisions;

m. Have the revised plan signed and dated by the qualified professional who prepared the plan.

Recommended Condition: At least 30 days prior to any Planning Board hearing for the preliminary plan, submit written authorization from the Department of Parks and Recreation for any woodland conservation provided on land to be dedicated.

Recommended Condition: At the time of Specific Design Plan, the SDP and TCPII shall have the same sheet sections, sheet key, and sheet order. The sheet key shall be placed on all sheets.

Recommended Condition: Prior to the issuance of the building permits for lots adjacent to planting areas, all afforestation and associated fencing shall be installed. A certification prepared by a qualified professional may be used to provide verification that the afforestation and fence installation have been completed. It must include, at a minimum, photos of the afforestation areas and the associated fencing for each lot, with labels on the photos identifying the locations and a plan showing the locations where the photos were taken.

2. According to the "Prince George's County Soil Survey" the principal soils on the site are in the Adelphia, Bibb, Coleman, Collington, Marr, Monmouth, Sandy Land, Shrewsbury and Westphalia soils series.

Adelphia, Collington, Marr, and Sandy Land soils pose few difficulties to development. Bibb, Coleman, and Shrewsbury soils may limit development due to high water tables, flooding hazards

and poor drainage. Monmouth and Westphalia soils may pose development difficulties due to high erodibility and slopes.

The site is generally suitable for the proposed development. Specific mitigation measures will be further analyzed during the development process by the Washington Suburban Sanitary Commission for installation of water and sewer lines, by the Department of Public Works and Transportation for the installation of streets and by the Department of Environmental Resources for the installation of stormwater management facilities, general site grading and foundations.

Discussion: This information is provided for the applicant's benefit. No further action is needed as it relates to this Comprehensive Design Plan review. The Washington Suburban Sanitary Commission, the Department of Public Works and Transportation and the Prince George's County Department of Environmental Resources may require additional soils reports during the permit process review.

The Environmental Planning Section recommended conditions as a result of the above analyses and those conditions have been included in the recommendation section of this report.

Zoning—In a memorandum dated November 16, 2006, the Zoning Section stated the submitted comprehensive design plan is generally consistent with the approved basic plan.

Department of Environmental Resources—In comments dated February 21, 2006, the Department of Environmental Resources stated that the stormwater concept for the subject project had not yet been reviewed by their office.

The Department of Public Works and Transportation (DPW&T)—In a memorandum dated March 6, 2006, DPW&T stated that: *Because Leeland Road adjacent to the site is classified as a future proposed major urban collector, right-of-way dedication and frontage improvements in accordance with DPW&T's urban primary residential roadway standards would be required for roads designated as having a 60-foot wide right-of-way. In addition, they stated that right-of-way dedication and frontage improvements in accordance with DPW&T's urban secondary road standards are required for roads designated as having a 50-foot right-of-way.

*Leeland Road bridge, just west of MD 301 is to be upgraded to meet the master planned major urban collector roadway standards.

*Full-width 2-inch mill and overlay for Leeland Road along the site's entire frontage is required.
*All improvements within the public right-of-way as dedicated to the county are to be in accordance with the County Road Ordinance, DPW&T's Specifications and Standards and the Americans with Disabilities Act.

*Conformance with DPW&T street tree and street lighting standards would be required for Leeland Road and all internal subdivision streets.

*Sidewalks are required along all proposed roadways within the property limits in accordance with Sections 23-105 and 23-135 of the County Road Ordinance.

*All storm drainage systems and facilities are to be designed in accordance with DPW&T's and the Department of Environmental Resources' requirements.

*Proposed cul-de-sacs are required to allow, as a minimum, turning movement for a standard WB-40 vehicle and a standard length fire truck. When considering turning movement, it is assumed that parking is provided on the outside edge or radius of the cul-de-sac.

*A soils investigation report that includes subsurface exploration and geotechnical engineering evaluation for public streets would be required.

Please note that DPW&T's requirements are enforced through their separate permitting process.

The Washington Suburban Sanitary Commission (WSSC)—In a memorandum dated February 22, 2006, WSSC stated that, while existing WSSC facilities are located on the site, a water and sewer extension will be required. Additionally, they noted that Project DA3833Z04 is an approved project within the limits of the proposed site. Lastly, they stated that their original approval for the site was to serve 372 single-family dwelling units with water and some areas with extra depth sewer not to exceed 20 feet. They said an "Amendment Revision" review package would be required to reflect the proposed development of 818 single-family dwelling units, townhouses, mixed use and water and sewer alignments shown on the comprehensive design plan. Further, they stated that the amendment should reference any applicant/ownership changes and the right-of-way easements for outfall sewers should be delineated on the tree conservation plan. In addition, WSSC provided a memorandum dated March 2, 2006, from their planning group stating that the existing WSSC water system is adequate to provide water service to the subject property, though they may need some portion of the Oak Grove/Leeland Road Water Main (W-123.20). Additionally, they stated that the subject property has sufficient access to the existing WSSC sewer system.

The City of Bowie—In an email dated May 23, 2006, the City of Bowie stated that though the city would not be providing comment on the proposed comprehensive design plan, they will continue to monitor the traffic improvement proposal and any future conditions of approval in the event there are any traffic issues the city might wish to comment upon, since many residents of the City of Bowie use Oak Grove and Leeland Roads.

RECOMMENDATION

Based upon the preceding evaluation, the Urban Design Review Section recommends that the Planning Board adopt the findings of this report and APPROVE Comprehensive Design Plan CDP-0505, and Type I Tree Conservation Plan TCPI/010/06 for Willowbrook subject to the following conditions:

1. Prior to certificate approval of the subject plans, applicant shall complete the following actions, revise the plans as follows and/or provide the required documentation:

    a. Applicant shall have a qualified archeologist do Phase I (Identification) archeological investigations for the subject site in accordance with the Maryland Historical Trust (MHT) guidelines, *The Standards and Guidelines for Archeological Investigations in Maryland* (Schaffer and Cole, 1994), and the Prince George's County Planning Board's *Guidelines for Archeological Review (*May 2005) The archeologist shall present the results of the Phase I in draft form in accordance with the guidance of the MHT guidelines and the *American Antiquity* or *Society of Historical Archaeology* style guide for review and approval. Following such approval, four copies of the final report shall be submitted to M-NCPPC Historic Preservation staff. Applicant shall present proof of such approval to the Urban Design Section prior to certification of the plans.

b. If, as a result of the findings of the Phase I study required by condition 1(a) above, it is determined by the Staff Archeologist that potentially significant archeological resources exist in the project area, prior to Planning Board approval of any specific design plan or final plat, the applicant shall provide a plan for evaluating the resource at the Phase II level or avoiding and preserving the resource in place.

2. Applicant and the applicant's heirs, successors, and/or assignees shall construct the master plan trail along the subject site's portion of Collington Branch. Park dedication and alignment of the trail shall be coordinated with the Department of Parks and Recreation.

3. Applicant and the applicant's heirs, successors, and/or assignees shall construct a Class I Master Plan Trail along the subject site's entire frontage of Leeland Road.

4. Standard sidewalks shall be provided along both sides of all internal roads, unless modified by DPW&T.

5. A detailed analysis of the master plan trails, internal trail network, and neighborhood connector trails shall be completed at the time of specific design plan. Connector trails to the master plan trails, to other park or recreational facilities, and between neighborhoods shall be provided.

6. All trails shall be located off private lots, and located on M-NCPPC or HOA land, or within a public road right-of-way.

7. Prior to issuance of building permit:

   a. Applicant shall pay $7,412 per dwelling if the building is included within a basic plan or conceptual site plan that abuts on existing or planned mass transit rail station sites operated by the Washington Metropolitan Area Transit Authority and $12,706 per dwelling for all other buildings. If the amount is adjusted by council bill upwards, applicant shall pay the increased amount. Such school surcharge is to be used for the construction of additional or expanded school facilities and/or the renovation of existing school buildings or other systemic changes.

   b. With the submission of each building permit, the applicant, his heirs, successors or assigns shall pay to Prince George's County a fee calculated as $1,550/DU x (FHWA Construction Cost Index at time of payment)/ (FHWA Construction Cost Index for second quarter, 1989) as its share of costs for improvements to US 301 between MD 725 and MD 214.

   c. In lieu of the payment of fees required in Condition 7(b) above, and subject to approval by the Department of Public Works & Transportation (DPW&T) and the State Highway Administration (SHA), the applicant, his heirs, successors or assigns may be required to construct a third northbound through lane on US 301 from a point just north of Leeland Road to a point just north of Trade Zone Avenue. Additionally, the improvement may include a third eastbound left turn lane along Leeland Road at its intersection with US 301. The total cost of these improvements, or other variation determined by SHA shall not exceed an amount calculated as $2,170,000.00 x (FHWA Construction Cost Index at time of payment)/(FHWA Construction Cost Index for 2nd quarter, 1989).

8. At the time of preliminary plan, the applicant shall be conditioned to dedicate all rights-of-way for MC-600 (Leeland Road) as identified by the Planning Department.

9. Prior to the issuance of any building permit:

   a. The following improvements shall be in place, under construction, bonded (or letter of credit given to the appropriate agency for construction), 100 percent funded in a CIP/CTP or otherwise provided by the applicant, his heirs, successors or assigns:

   b. Leeland Road-Construct Leeland Road-Oak Grove Road to provide a minimum of 2 lanes of the ultimate 4-lane master plan alignment between US 301 and MD 193, in accordance with DPW&T standards;

   c. MD 193/Oak Grove Road Intersection (roundabout)—The applicant shall provide an exclusive right turn lane at the westbound approach;

   d. MD 202/MD 193 Intersection—Provide a left turn, a shared left/through lane, and a right turn lane on the southbound MD 193 approach;

   e. Provide a second left turn on the eastbound MD 202 (towards Upper Marlboro) approach;

   f. The applicant shall conduct signal warrant studies at the following intersections, and install said signal if deemed to be warranted, or provide an alternate improvement as deemed necessary by DPW&T;

      - Leeland Road/Safeway Access.
      - Leeland Road/ Site Access B.
      - Leeland Road/ Site Access A.
      - Oak Grove Road/ Church Road.
      - Oak Grove Road/Whistling Duck Drive.

10. The preliminary plan submittal package shall include a wetlands report regarding the three stream segments shown on Watershed Restoration Action Strategy (WRAS) that were not shown on the signed Natural Resources Inventory (NRI), providing an assessment of their characteristics and appropriate classification. The NRI and all associated plans shall be revised, if necessary, to reflect the results of that assessment.

11. The preliminary plan submittal package shall include a report regarding the twelve (12) WRAS sites identified on the Willowbrook Stream Corridor Assessment based on the Stream Corridor Assessment prepared by the Maryland Department of Natural Resources. The report shall identify the existing conditions and make specific recommendations regarding stream restoration and/or mitigation methods. Any restoration proposals that require impacts to the Patuxent River Primary Management Area (PMA) shall be included in the Letter of Justification for impacts associated with the proposed development.

12. At time of submission of the first Specific Design Plan, a Watershed Restoration Plan shall be submitted which addresses the implementation of the WRAS sites report submitted at time of preliminary plan. The scope of the Watershed Restoration Plan may be expanded to address additional sites or concerns identified during preliminary plan review.

13. At time of Specific Design Plan submission, each SDP shall include a statement regarding how the proposal uses green building techniques and alternative energy sources.

14. The following note shall be placed on the preliminary plan and all future Tree Conservation Plans: "All community lighting shall use full cut-off optics and be directed downward to reduce glare and light spill-over."

15. Prior to certificate approval of the CDP, the alignment of the hiker/biker trail shown in the Collington Branch stream valley shall be removed from all plans and substituted with the following note: "The placement of the hiker-biker trail will be evaluated at time of preliminary plan review and shall limit permanent and temporary impacts to the PMA to only those necessary for construction. The majority of the trail shall be located outside the PMA or in locations where impacts already exist." All proposed impacts to the PMA for trails shall be shown on the TCPI associated with the preliminary plan and shall be part of the Letter of Justification.

16. Prior to certificate approval of the CDP, the TCPI shall be revised to show the provision of a wooded scenic buffer along Leeland Road through preservation, reforestation or afforestation with a minimum width of 40 feet outside of the public utility easement.

17. At time of preliminary plan, a scenic easement shall be established along the north side of Leeland Road with a minimum width of 40 feet outside of the public utility easement. The purpose of this scenic easement shall be to retain the wooded character of the Leeland Road frontage.

18. At time of TCPII, the wooded scenic buffer along the north side of Leland Road shall be given special consideration in order to maintain the wooded character of the frontage. This shall include: the planting of native species, the planting of larger planting materials in order to establish the scenic buffer more quickly, and management techniques for enhancing preserved woodlands such as removing invasive vines and non-natives, trimming, and/or understory planting.

19. At least 60 days prior to any hearing on the preliminary plan application, the NRI shall be revised to reflect all relevant information regarding the rare, threatened and endangered species, field-run topography and the location and classification of all existing streams.

20. At least 60 days prior to Planning Board hearing for the preliminary plan, a detailed geotechnical report based on the existing conditions of the site, including the most current topographical information (or as shown on the NRI) shall be submitted. It shall also address the existing outcrop pattern of Marlboro clays and areas of slope stability concerns with respect to the existing conditions. The study shall provide the appropriate plans and/or exhibits, showing the location of all slope stability cross-sections, and identify the unmitigated 1.5 safety factor lines. The unmitigated 1.5 safety factor lines based on that report shall then be placed on the TCPI and the preliminary plan.

21. At least 60 days prior to any Planning Board hearing on the preliminary plan application, the existing conditions and proposed 1.5 safety factor line shall be shown on the preliminary plan and Type I Tree Conservation Plan. No structures, septic fields, or lots less than 40,000 square feet in area shall be placed within the mitigated 1.5 safety factor line. All subsequent plans shall also show this information. If proposed engineering of the site will change the location of the existing 1.5 safety factor line, the proposed 1.5 safety factor line must also be shown on all plans.

22. At least 60 days prior to any Planning Board hearing for the preliminary plan, the associated TCPI shall be revised to show a 100-foot protection buffer for rare, threatened and endangered species with respect to all streams and wetlands on the site. The PMA shall be revised to include that 100-foot

buffer. Impacts shown to the 100-foot buffer and PMA on the TCPI associated with the CDP shall be re-evaluated and reduced or eliminated during the review of the preliminary plan. Impacts should be limited to those that are essential for the development of the site.

23. Prior to signature approval of the preliminary plan, a copy of the stormwater management concept plan shall be submitted. The plan shall include the use of sheet flow buffers, vegetated channels, and rooftop and non-rooftop disconnection to the fullest extent possible in addition to other stormwater management techniques.

24. Prior to the signature approval of the preliminary plan, a conceptual Habitat Protection and Management Program shall be approved by the Environmental Planning Section. The Program shall include, but not be limited to:

    a. Hydrologic monitoring for a minimum of a year prior to the issuance of the first grading permit to establish a baseline of data, during construction, and post construction for the following elements: water quality, benthic macroinvertebrate, hydrologic flow, sedimentation.

    b. Monitoring during construction for the following: sediment and erosion control measures, stormwater management controls, special protection measures for RTE habitat.

    c. Monitoring of the RTE Species during and post-construction.

25. Prior to submittal of the first SDP, a detailed Habitat Protection and Management Plan shall be approved by the Environmental Planning Section which addresses specific implementation methodologies for the long-term protection and assessment of the RTE habitat location on this site.

26. Prior to issuance of the first grading permit, a minimum of one year of hydrologic monitoring data, as determined by the program, shall be submitted, to establish a baseline for evaluation impacts to the RTE habitat resulting for construction activities, and post development.

27. As part of the submission package for the first SDP, a plan and text shall be submitted that addresses a sediment and erosion control protocol that is more stringent than the minimum required. It shall include phasing of the site in such a way that the sediment basins stay in place until the last lot is built in the phase. The plan shall incorporate additional control measures and inspections to ensure maximum filtration of runoff and complete implementation of the plan. The package shall be reviewed by the Environmental Planning Section staff in coordination with the staff of the Soil Conservation District.

28. Prior to the issuance of any permits which impact wetlands, wetland buffers, streams or Waters of the U.S., copies of all federal and state wetland permits, evidence that approval conditions have been complied with, and associated mitigation plans shall be submitted to the Planning Department.

29. Prior to certificate approval of the CDP, the Type I Tree Conservation Plan shall be revised as follows:
    a. Revise the plans to label all graphic elements fully, and include all graphic elements in the legend;
    b. Show no 1.5 safety factor line, PMA or woodland conservation on any lot and show calculate all woodland retained on any lot as cleared;
    c. Show conceptual clearing of the I-1 property in order to account for the development of this parcel on the TCPI;

d. Revise the limits of disturbance on the parcel to the dedicated to the Department of Parks and Recreation to show how the 100 foot-wide RTE buffer can conceptually be preserved;
e. Add the following note: "The limits of disturbance shown on this plan are conceptual and do not depict approval of any impacts to regulated features."
f. Remove the "50 foot stream buffer" and the "100 foot stream buffer" from the plan sheets and legends; only the PMA should be shown;
g. Show the PMA in conformance with the revised NRI;
h. Show the location of the plant populations of rare threatened and endangered species so the protection of the sensitive species habitat;
i. Show woodland conservation and the limits of disturbance set back a minimum of 10 feet from the bottom of any retaining wall in order to provide for construction and maintenance;
j. Show woodland conservation and the limits of disturbance set back a minimum of 10 feet from any townhouse lot line.
k. Provide woodland conservation on-site to the fullest extent possible contiguous to the primary and secondary corridors identified on the site, especially in areas of high quality woodland;
l. Revise the worksheet as needed to reflect the above revisions;
m. Have the revised plan signed and dated by the qualified professional who prepared the plan.

30. At least 30 days prior to any Planning Board hearing for the preliminary plan, written authorization from the Department of Parks and Recreation shall be submitted for any woodland conservation provided on land to be dedicated.

31. At the time of Specific Design Plan, the SDP and TCPII shall have the same sheet sections, sheet key, and sheet order. The sheet key shall be placed on all sheets.

32. Prior to the issuance of the building permits for lots adjacent to planting areas, all afforestation and associated fencing shall be installed. A certification prepared by a qualified professional may be used to provide verification that the afforestation and fence installation have been completed. It must include, at a minimum, photos of the afforestation areas and the associated fencing for each lot, with labels on the photos identifying the locations and a plan showing the locations where the photos were taken.

33. Prior to signature approval, the Planning Board or its designee shall approve a revised recreational plan for the project that shall include tot lots, preteen lots, tennis courts and passive recreational areas and concomitant completion schedule.

34. At the time of specific design plan consideration, existing woodland will be augmented by additional plantings, as necessary to provide protection against off-site impacts.