MCPB
Item No. 8
Date: 04-03-14

Platt Ridge Drive Extended Drive, Forest Conservation Plan, MR2014012

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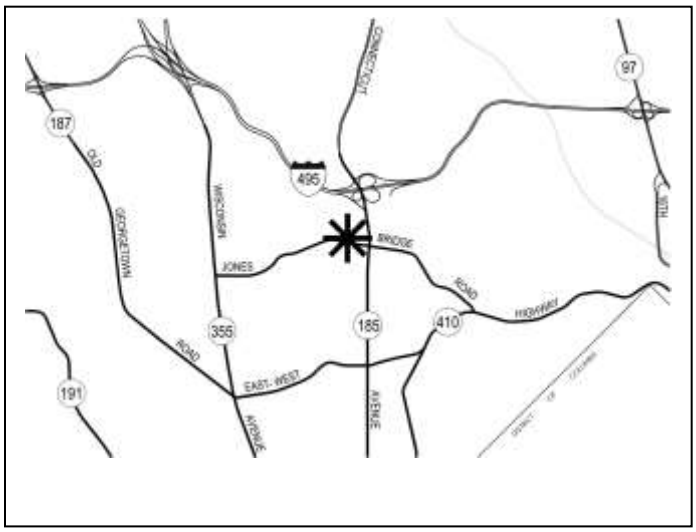
Completed: 03/24/14

Description

- Final Forest Conservation Plan and Tree Variance
- Platt Ridge Drive Extended: Jones Bridge to Montrose Driveway
- Approximately 1.79 acres
- Forest Clearing: 1.35 acres
- Zoned R-60
- Application submitted on September 19, 2013
- Applicant: Montgomery County Department of Transportation (MCDOT)



Summary

- Staff recommends **denial** of the Forest Conservation Plan.
- Staff recommends **denial** of the tree Variance.
- The project would construct a 20' x 490' long road through North Chevy Chase Local Park.
- The width of parkland impact ranges from 147-feet at its narrowest section to 220-feet at its widest.
- The project will convert 0.35 acres of forest to impervious cover.
- The road is ***not*** included in the Bethesda-Chevy Chase Master Plan.
- The Variance requests the removal of fourteen (14) specimen trees with impacts to the critical root zones of an additional nine (9) specimen trees.
- The Montgomery County Department of Environment Arborist has not provided a written recommendation to the Planning Board on the variance request.

A Forest Conservation Plan (FCP) and County tree Variance were submitted on September 19, 2013. Revisions to the FCP and Variance were submitted on March 10th, 2013, with further revisions to the FCP and variance received on March 19th, 2014. The tree variance was forwarded to the DEP Arborist on March 21, 2014.

The Board's actions on the Forest Conservation Plan are regulatory and binding.

RECOMMENDATIONS

Staff has reviewed the Forest Conservation Plan, and tree Variance for the an extension of the existing two-lane Platt Ridge Drive from its current terminus at Jones Bridge Road to the current terminus of Montrose Driveway just west of Spring Valley Road, a distance of approximately 490-feet long and 20-feet wide. Staff recommends **denial** of the Forest Conservation Plan as they do not comply with the following regulations:

1. (Sec. 22A-9. County Highway Projects
   (a) General.
   (2) The construction should minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.

   (b) If the forest to be cut or cleared for County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.

   (c) Reforestation for County highway projects must meet the standards in subsections 22A12(e).

2. Section 22A-12. Retention, afforestation, and reforestation requirements.
   Section 22A-12(b)(1) of the County code requires that a "forest conservation plan must retain certain vegetation and specific areas in an undisturbed condition unless the Planning Director finds that: (B) reasonable efforts have been made to protect the specific areas and vegetation listed in the plan; and (C) the development proposal cannot be reasonably altered."

   Section 22A-12(b)(2) identifies "areas protected under this subsection include: (A) floodplains, stream buffers, steep slopes and critical habitats: (B) contiguous forests; (F) areas designated as priority save areas in a master plan or functional plan." Staff has shown in the Mandatory Referral that an alternative exist that would retain all existing forest and all steep slopes.

   Sec. 22A-12(e)(1) (A)(1) of this subsection, the preferred sequence for afforestation and reforestation is, in general: enhancement of existing forest through on-site selective clearing, supplemental planting, or both; on-site afforestation or reforestation, including techniques which encourage natural regeneration where feasible; landscaping with an approved plan; and off-site afforestation or reforestation, including techniques which encourage natural regeneration where feasible.

3. Bethesda-Chevy Chase Master Plan.
   a. 5.1 Natural Features: The plan supports the preservation, wherever possible, of wetland and steeply sloped areas (25 percent and greater slopes) that may lie outside floodplains or stream buffers as defined by existing regulations and guidelines.
   b. The plan also supports the preservation of woodlands to retain the character of the Planning Area.

DISCUSSION

The purpose of this memorandum provides staff's review and recommendations on the Forest Conservation Plan (FCP). The Board will also be reviewing a concurrent Mandatory Referral for this project. Unlike the review of the Mandatory Referral, the Board's actions on the Forest Conservation Plan are regulatory and binding. The Planning Board must act on the Forest Conservation Plan before it can act on the Mandatory Referral.

The Applicant proposes to extend Platt Ridge Drive to Montrose Driveway from Jones Bridge Road through North Chevy Chase Local Park. The proposed road extension is approximately 490 linear feet long with 22-feet of paving including 2-foot curbs with gutters on both sides of the road, guardrails, retaining walls, and a stormwater management facility. The Forest Conservation Plan (FCP) has a net impact of 1.80 acres including 1.70 acres of parkland impacts (0.10 acres in ROW). The Applicant is proposing the removal, grading, and fill of 1.35 acres of a high quality stratified forest, and the relocation of an intermittent channel on MNCPPC Parkland. In addition to the clearing and permanent loss of the forest, the road will fragment the contiguous forest on parkland leaving an isolated forest of approximately 0.55 acres to the east of the road.

Section 22A-12(b)(2)(B) identifies contiguous forests to be identified and protected. The proposed road extension would fragment the forest degrading the integrity of whole ecosystems. Although this park is relatively small (31 acres), it still supports abundant urban wildlife that have adapted to living in smaller habitats. Should the road be approved, further fragmentation of the forest will squeeze wildlife, and create more edge habitat susceptible furthering the invasion by nonnative species. Most importantly, the proposed road will further sever wildlife from the single water source known within the park.

Outlined in the context of this report, the proposed construction for the Platt Ridge Road Extension indicates limited efforts have been taken to honor and preserve the existing forest assemblage including the individual trees, wildlife, biological communities, and landforms such as the steep slopes and valleys. The proposed clearing of the property is inconsistent with the environmental recommendations found in Chapter 22A: Forest Conservation Law and the Bethesda-Chevy Chase Master Plan.

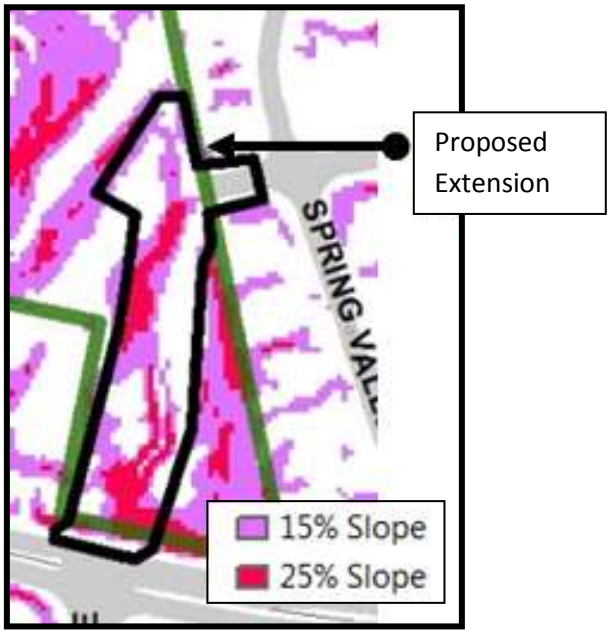
SITE DESCRIPTION

The existing site is presently owned by the Maryland National Capital Park and Planning Commission and named the North Chevy Chase Local Park. The 31 acre park includes both active and passive recreational opportunities such as three athletic fields, two tennis courts, a full basketball/multi-use court, and playground.

The proposed road runs along the south eastern corner ridge of the forest. The project would result in the loss of approximately 1.35 acres of a high priority forest and slopes greater than 25 percent. In addition, a 0.55 acre isolated forest will be disconnected from the larger contiguous forest. Although the isolated forest meets the legal definition of a forest (10,000 square feet or greater), it will no long be contiguous to the larger forest network.

The proposed road will require the relocation of an existing intermittent channel and outfall located just north of Jones Bridge Road. The intermittent channel flows through the park providing the only known source of water for the species living in the forest. The project proposes to move the channel to the eastern side of the road where wildlife living in the park will no longer be able to access the stream for drinking water.

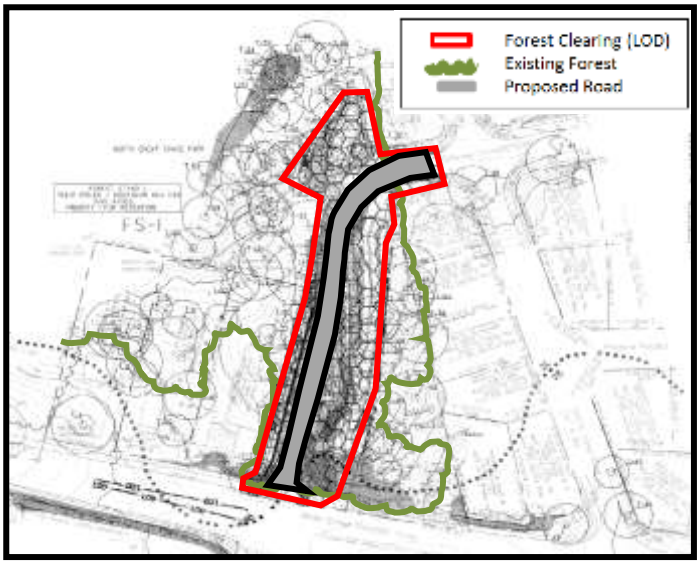
The topography is steep. Over 13 percent of the site has slopes greater than 25 percent. Another 39 percent of the site has slopes ranging from 15-25 percent. The lowest point onsite is where the road would connect to Montrose Drive and rises to in elevation to nearly 25-feet at the height of the road. If constructed, the road would have an overall grade of approximately 11-percent.



According to the Applicants (MCDOT) stormwater management report from May 2013 (Attachment C) the project will result in the conversion of 0.35 acres to impervious cover. The stormwater management facility will require approximately an additional 3/4-acre of land denuded of all forest and ground cover species, graded to a sloped landscape, filled with compacted soil, and vegetated with young shrubs and trees susceptible to the invasion of non-native species.

Environmental Guidelines

A Natural Resource Inventory/Forest Stand Delineation (NRI/FSD #420131680) was approved by staff on May 8, 2013. The entire study area for the NRI/FSD was 8.49 acres located within a greater parkland network. The site contains a stratified high priority deciduous forest with numerous specimen trees greater than 30 inches in diameter. The NRI/FSD shows environmentally sensitive stream buffers, wetlands and floodplains but none of these are located in the proposed construction areas. There are no rare, threatened or endangered species.



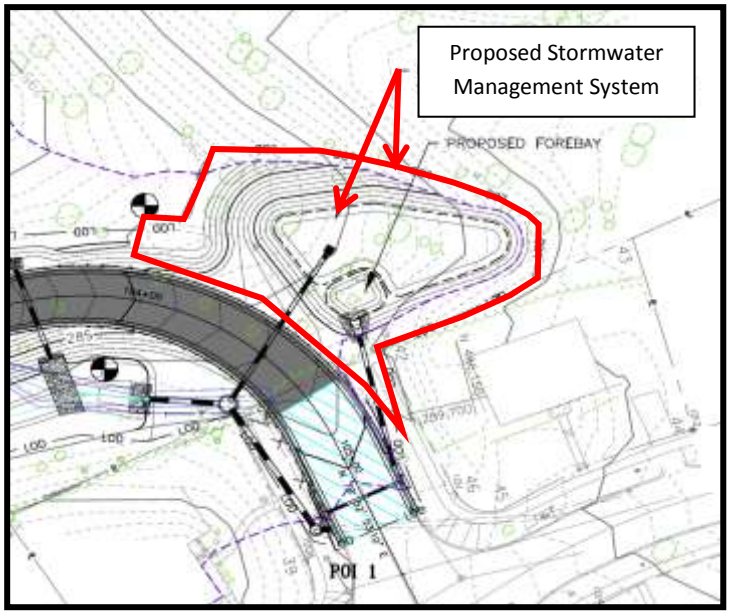
Forest Conservation

The Forest Conservation Plan (FCP) submitted on September 19, 2013, revised on March 10, 2014, with another revision on March 19, 2014 proposes the clearing and grading of the 1.79 acres of M-NCPPC owned parkland with steeply sloped, a high priority stratified forest for a 24-foot wide road extension to serve the Spring Valley Community with a second access point. The forest proposed for removal is 1.37 acres. This project is subject to Chapter 22A of the County Code (Forest Conservation law), Section 22A-9 pertaining to County Highway Projects as "part of a Capital Improvements Program project"; and "if the forest to be cut or cleared for a County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area area at the rate of one acre of reforestation for each acre of forest cleared". This modification in the requirement under Section 22A-9 negates the use of a Forest Conservation Worksheet and replaces it with a direct 1:1 replacement requirement.

Under Section 22A-9 of the code the Applicant is required to plant 1 arce of forest for each acres of forest removed. The Applicant is proposing to meet the forest planting requirements in an offsite forest mitigation bank.

STORMWATER MANAGEMENT

The Montgomery County Department of Permitting Services Stormwater Management Section conditionally approved the Stormwater Management *Concept* for the proposed roadway on November 26th, 2013. The stormwater management concept proposes to meet the required stormwater management via the use of one centralized micro-bioretention structure shown in the image to the right.



The bioretention system itself will be approximately 0.3 acres. The runoff will be collected from the roadway runoff and conveyed via a storm drain to the single retention system. The location requires the clearing and grading of additional parkland and the removal of additional specimen trees.

The proposed location of the stormwater facility is on a steep bank which with an intact forest. The construction will require grading and clearing to an approximate depth of nearly 17-feet.

Staff requested linear stormwater treatment along the alignment or moving the facility to the eastern side of the road to avert further impacts and removal of parkland.

ANALYSIS AND FINDINGS

The Plan is inconsistent with the recommendations in the Bethesda-Chevy Chase Master Plan ("BCC"); the Forest Conservation Law; Chapter 50-32 of the Montgomery County Code; and Montgomery County Environmental Guidelines. The plan does not comply with the intent of the laws, codes and guidelines for tree and forest protection. Outlined below are multiple citations where there are non-conformances with the intention of the regulations for the protection of steep slopes and contiguous high quality forests.

1. Forest Conservation Law

The FCP does not meet the intent of the Forest Conservation Law outlined in the following governances:

1. *Sec. 22A-9. County Highway Projects*
   (a) General.
   (2) The construction should minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.

   The design of the proposed road has not "minimized" forest clearing, nor have there been "reasonable effort" taken to minimize the cutting or clearing of trees and other woody plants. This reasoning is based on the first step of a proposed road which is justification of need and purpose. According to M-NCPPC Transportation Planning staff, the need for safe access to the Chevy Chase Valley neighborhood has been met by the installation of the 'interim' traffic signal which has resolved access and safety issues that generated the road proposal in the first place. Therefore the road seems unnecessary. If the "interim' traffic signal stays in place, the parkland could be preserved. This is the first course of action to minimize the clearing and loss of specimen trees and its associated forest.

   The loss of an parkland with the varying topography and mature forest can never be replaced in the suburban community of Chevy Chase.

2. *Section 22A-12. Retention, afforestation, and reforestation requirements.*
   (b) "Retention.
   (1) The primary objective of the Forest Conservation Plan should be to retain existing forest and trees and avoid reforestation in accordance with this Chapter. The Forest Conservation Plan must retain certain vegetation and specific areas in an undisturbed condition unless the Planning Director finds that:"

   (B) "reasonable efforts have been made to protect the specific areas and vegetation listed in the plan;"

   "Reasonable efforts" for removing the existing forest and trees requires a justification for the road extension itself. As noted above, the purpose of the extension has not been proven given the success of the installation of an 'interim' traffic signal. This signal was intended to provide a temporary solution to the 'anticipated' increase in traffic resulting from the BRAC move of Walter Reed Hospital to the National Military Medical Center in

Bethesda. The expected traffic increase from BRAC did not appear, nor has a safety problem occurred due to this 'interim' signal. In conclusion, it is the position of both Planning and Parks staffthat this 'interim' solution is sufficient and that the project, and the Forest Conservation Plan should not be approved.

The loss of any forest and parkland, particularly in a built suburban community is a permanent and significant destruction of resources. Staff recognizes the importance of achieving safe and adequate solutions to traffic congestion when there is solid evidence of purpose and need. Therefore, staff does not believe *reasonable efforts have been made to protect the specific areas and vegetation on parkland.*

The Applicant has also made insufficient efforts to minimize the limits of disturbance and forest clearing by *not* using linear Environmental Site Design (ESD) stormwater management throughout the road alignment. Rather one large bioretention system is proposed requiring the need for additional parkland and forest removal. Thus, efforts to protect and minimize vegetation impacts have not been reasonably made.

(C) "The development proposal cannot be reasonably altered".

The Applicant has not provided justifications as to why the proposal to build the road "cannot be reasonably altered", and in this case, needs to be built at all. The 'interim' traffic signal has not caused the expected safety problems. In addition, justification for removing the forest and its associated specimen trees for the extension as stated in the Variance application on March 17, 2014 is "proposed as a relief to expected traffic increases in the area associated with local Base Realignment and Closing Program (BRAC) improvements." MCDOT has not substantiated an increase in traffic resulting from the BRAC move that was completed in 2011 and that would require construction of a 20-foot wide road through an existing park, forest, habitat, and steeply sloped parcel.

(e) Standards for reforestation and afforestation.
(1) (A) Preferred sequence. Except as provided in the technical manual or otherwise in paragraph (1) of this subsection, the preferred sequence for afforestation and reforestation is, in general: enhancement of existing forest through on-site selective clearing, supplemental planting, or both; on-site afforestation or reforestation, including techniques which encourage natural regeneration where feasible; landscaping with an approved plan.

The Applicant will be providing invasive plant removal on the remaining parkland as required in 22A-12(e)-"*techniques which encourage natural regeneration where feasible;"* Additionally, the Applicant will meet their reforestation requirements as stated in Chapter 22A-9 (b) "If the forest to be cut or cleared for County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for

each acre of forest cleared". The Applicant proposes to must their reforestation requirement through offsite mitigation of 1.35 acres.

,

(2) "In general, areas protected under this subsection include:"

(A) floodplains, stream buffers, steep slopes, and critical habitats;"

The Applicant will be grading and clearing approximately 0.71 acres of forest with slopes between 15-25 percent. Another 0.23 acres of slopes greater than 25 percent slopes will be removed. Altogether, 52 percent of the site with steep slopes above 15 percent will be removed.

(B) "contiguous forests;"

The Applicant will be removing irreplaceable contiguous forest inside the Beltway.

2. Bethesda-Chevy Chase Master Plan, 1990

1. *Bethesda-Chevy Chase Master Plan.*
   a. *5.1 Natural Features: The plan supports the preservation, wherever possible, of wetland and steeply sloped areas (25 percent and greater slopes) that may lie outside floodplains or stream buffers as defined by existing regulations and guidelines.* (pg 137)

      The Applicant proposes to permanently remove 0.23 acres of steep slopes greater than 25-percent along with removing the associated forest and wildlife habitat.

   b. *The plan also supports the preservation of woodlands to retain the character of the Planning Area.*

      The Applicant proposes to remove one of the few remaining intact forests within the north and eastern portion of the B-CC Plan. This will change the character of the neighborhood, the Chevy Chase Valley community and the experience of the existing and future community members.

The 1990 Bethesda-Chevy Chase Master Plan (B-CC Plan) makes no mention of the extension of Platt Ridge Drive. The B-CC Plan also notes that the park acreage per person in the planning area is low compared to other planning areas and that these parks provide "relief from concrete and asphalt". The Plan also notes that the sense of openness and beauty of the area is enhanced by the presence of "wooded vacant developable land" in parks. Preservation of woodlands is also noted as an environmental objective of the plan. The construction of the proposed road would require the removal of 1.24 acres of forested parkland that would be inconsistent with the B-CC Plan.

5. Montgomery County Environmental Guidelines

Montgomery County Environmental Guidelines, 2000, set forth description and protection mechanisms for natural resource protection. It is intend to bring uniformity and consistency to protecting water and air quality through the protection of resources including forests and steep slopes. The Guidelines outline multiple strategies and criteria for development to protect the county's ecosystems.

V. Guidelines for Development.

(2) Recommended Guidelines for Steep Slopes Outside the Stream Buffer (Hydraulically Remote)

(b) To the extent possible, hydraulically remote steep slope areas should be incorporated into the site's open space and/or remain undisturbed…"

The Applicant has not provided just reasons for this 20-foot narrow access to the Chevy Chase Valley community that warrants the loss of the County's valuable forest and parkland on significantly steep slopes.

6. FOREST CONSERVATION VARIANCE

Section 22A-12(b) (3) of Montgomery County Forest Conservation Law provides criteria that identify certain individual trees as high priority for retention and protection. Any impact to these trees, including removal of the subject tree or disturbance within the tree's critical root zone (CRZ), requires a variance. An Applicant for a variance must provide certain written information in support of the required findings in accordance with Section 22A-21 of the County Forest Conservation Law. The law requires no impact to trees that:

a. measure 30 inches DBH or greater diameter at breast height (DBH);
b. are part of a historic site or designated with a historic structure; or
c. are designated as national, state, or county champion trees; are at least 75 percent of the diameter of the current State champion tree of that species; or to trees, shrubs, or plants that are designated as Federal or State rare, threatened, or endangered species.

The Applicant submitted a Variance request on September 19, 2013 a revision was requested and obtained on March 10, 2014. Another revision was requested and obtained on March 19, 2014 and transferred to the County Arborist at the Department of the Environment on March 20, 2014. The Applicant proposes to remove 14 specimen trees, with critical impacts, but not removal of another 9 specimen trees. Under Section 22A-12 (b) (3) (C) of the County Forest Conservation Law the trees proposed for removal are considered *priority for retention and protection* since they measure 30-inches or more as measured at 4.5-feet above ground.

14 SPECIMEN TREES TO BE REMOVED							
Tree ID	**Scientific Name**	**Common Name**	**Tree Condition**	**Disposition**	**DBH (in)**	**CRZ % Impact**	**Justification**
2	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	100%	The proposed roadway alignment will require the tree's removal.

3	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	48"	81%	The proposed roadway alignment will require the tree's removal.
4	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	38"	94%	The proposed roadway alignment will require the tree's removal.
5	*Acer rubrum*	Red maple	Fair	Remove	33"	100%	The proposed roadway alignment will require the tree's removal.
25	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	32"	62%	The proposed roadway alignment will require the tree's removal.
26	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	30"	100%	The proposed roadway alignment will require the tree's removal.
32	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	100%	The proposed roadway alignment will require the tree's removal.
35	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	100%	The proposed roadway alignment will require the tree's removal.
36	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	34"	100%	The proposed roadway alignment will require the tree's removal.
37	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	100%	The proposed roadway alignment will require the tree's removal.
39	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	58%	The proposed roadway alignment and grading will require the tree's removal.
69	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	39"	73%	The proposed roadway alignment will require the tree's removal.
79	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	94%	The proposed roadway alignment will require the tree's removal.
82	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	41"	99%	The proposed roadway alignment will require the tree's removal.

9 SPECIMEN TREES WITH IMPACTS TO THEIR CRITICAL ROOT ZONES but PROTECTED							
Tree ID	**Scientific Name**	**Common Name**	**Tree Condition**	**Disposition**	**DBH (in)**	**CRZ % Impact**	**Justification**
14	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	48"	27%	Impacting 27% is required to construct the roadway and new drainage swale. This tree is to be saved via tree protection fence.
24	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	31"	3%	Impacting 3% is required to construct a new stormwater management pond. This tree is to be saved via tree protection fence.
30	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	36"	33%	Impacting greater than 30% is required to construct the roadway and new stormwater management pond. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
31	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	26%	The proposed roadway alignment will require the tree's removal. This tree is to be saved via tree protection fence.
33	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	45"	37%	Impacting greater than 30% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
34	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	41"	6%	Impacting 6% is required to construct the roadway. This tree is to be saved via tree protection fence.
41	*Acer rubrum*	Red maple	Good / fair	Impacted / Save	32"	8%	Impacting 8% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
43	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	32"	13%	Impacting 13% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
44	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	29%	Impacting 29% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.

Unwarranted Hardship

The Maryland Court of Appeals has defined "unwarranted hardship" in the context of variances for development of environmentally sensitive areas as "equivalent to the denial of *reasonable* and *significant* use of the property". In this case, the property is not owned by the Applicant but owned by the M-NCPPC for the purposes of providing public benefits, public health, public wellbeing, as well serving the community with a plethora of subtle but profound services such as air purification, habitat biodiversity, aesthetic community enrichment, increased property value, neighborhood beautification, water filtration and groundwater recharge. Thus, any proposal to transfer ownership from the public to the Department of Transportation must be justifiable, reasonable, and warranted.

The factual predicate for finding "unwarranted hardship" for the removal of 14 specimen trees, impacts to the critical root zones of another 9 specimen trees, and the loss of contiguous forest land and habitat subject to protection under the State and County Forest Conservation Laws has not been presented. The justification presented in a letter by the Applicant on September 5th, 2013, with a resubmittal on March 7th, 2014 stated "the study determined that the extension of Plat Ridge Drive to Montrose Drive would improve the congestion and blockage for vehicles and pedestrian and improves access for the residents of Spring Valley Community due to the expansion of the Naval Support Activity of Bethesda." However, the transportation staff at MNCPPC in a memo to the Planning Board dated April 3rd, 2014 concluded that the interim solution of a traffic signal is sufficient and "therefore the construction of this non-master plan project, with its associated parkland and forest impacts, is not needed". This finding follows the rationale that the proposed removal of specimen trees would, like the road itself, be not needed and therefore a reasonable and significant alternative use of the property is unwarranted.

Similarly, there is no evidence by the Applicant that the stormwater management facility proposed could not have been modified and redesigned in a way to avert the removal of additional specimen trees and loss of additional County owed high quality forested parkland on steeply sloped land. No efforts or alternative designs were provided which justify the approval of the Variance for the placement of the proposed stormwater management facility.

Staff believes the granting of this variance should be denied for the reasons outlined above.

Section 22A-21 of the County Forest Conservation Law sets forth the findings that must be made by the Planning Board or Planning Director, as appropriate, in order for a variance to be granted. Staff has made the following determinations in the review of the variance request and the proposed forest conservation plan:

Variance Findings – Based on the review of the variance request and the proposed preliminary forest conservation plan, staff makes the following findings:

1. ***Will not confer on the Applicant a special privilege that would be denied to other applicants.***

   The granting of this variance would grant a special privilege to the Applicant for the following reasons:

a. The proposed road is not identified in the B-CC Master Plan and has not been approved and granted by the public, County Council, or Planning Commission.
b. The justifications for need have not been provided given the success of the interim solution of a traffic signal at Jones Mill Road.
c. The removal of specimen trees protected under the Forest Conservation Act has not been proven to be justifiable, reasonable or a significant use of property.

2. ***Is not based on conditions or circumstances which are the result of the actions by the applicant.***

   The variance associated with the road extension should be based on the purpose and need of the road rendering the circumstantial tree loss justifiable. Since the proposed road has not been proven essential and the 'interim' measures are successfully addressing the traffic and access concerns as indicated by Planning staff, the "conditions" resulting in the loss of specimen trees is the 'result of the actions by the applicant' as justifiable need has not been presented.

3. ***Is not based on a condition relating to land or building use, either permitted or non-conforming, on a neighboring property.***

   The variance is not related to land or building use, either permitted or no-conforming on a neighboring property.

4. ***Will not violate State water quality standards or cause measurable degradation in water quality.***

   The removal and replacement of a stable steeply sloped intact forest with a steeply graded road will not improve water quality. Although a large retention system is being designed to meet the standards of "woods in good condition", it will never replicate the benefits of an intact forest. Ongoing stream assessments in Clarksburg, Maryland where stormwater management features were implemented to protect the high quality watershed have resulted in degraded water quality. Benthic macroinvertebrate species have declined in the headwaters where stormwater management facilities were constructed to prevent such degradation. Although not in violation of State water quality standards, the removal of the forest cover with a replacement of stormwater management will "cause measurable degradation in water quality".

County Arborist's Recommendation on the Variance - In accordance with Montgomery County Code Section 22A-21(c), the Planning Department is required to refer a copy of the Variance request to the County Arborist in the Montgomery County Department of Environmental Protection for a recommendation prior to acting on the request. Staff forwarded the variance to the County Arborist on March 20th, 2014. The County Arborist has not recommended approval as of the date of this report. (Attachment A)

CONCLUSION

Staff recommends **denial** of the forest conservation plan and tree variance.

ATTACHMENTS:

Attachment A: Variance request, March 19, 2014

Attachment B: Forest Conservation Plan (FCP)

Attachment C: Stormwater Management Report from Applicant

Attachment D: DPS Stormwater Concept Approval Letter

Attachment E: Variance request, September 5, 2013

Attachment F: Variance request, March 5th, 2014

Attachment G: Variance request, March 17, 2014

March 19, 2014

Mrs. Tina Schneider
Senior Planner
Montgomery County Planning Department
8787 Georgia Avenue
Silver Springs, MD 20910

Re: Platt Ridge Drive Extended
FCP# 420131680

Mrs Tina Schnieder:

On behalf of the Montgomery County Department of Transportation (MCDOT), Division of Transportation Engineering (MCDOT-DTE) and pursuant to Section 22A-21 *Variance provisions* of the Montgomery County Forest Conservation Ordinance and recent revisions to the State Forest Conservation Law enacted by S.B. 666, we are writing to request a variance(s) to allow impacts to or the removal of the following trees identified on the approved Natural Resource Inventory/Forest Stand Delineation for the above-named County construction project:

Project Description:

This project will construction a northerly extension of existing Platt Ridge Drive from its terminus at Jones Bridge Road approximately 600-feet through North Chevy Chase Local Park to connect with Montrose Driveway. The roadway will consist of two lanes (20-feet width) with curb, guardrails, a retaining wall, and stormwater management improvements. This work is proposed as a relief to expected traffic increases in the area associated with local Base Realignment and Closing Program (BRAC) improvements. The MCDOT parcel is 1.66 acres, contains 1.35 acres of forest and is comprised of one parcel. The site currently is forested consisting of one forest stand (FS-1) and was part of the North Chevy Chase Park. The site is surrounded by residential properties and roadways.

Requirements for Justification of Variance:

Section 22A-21(b) *Application requirements* states that the applicant must:

(1) Describe the special conditions peculiar to the property which would cause the unwarranted hardship;
(2) Describe how enforcement of these rules will deprive the landowner of rights commonly enjoyed by others in similar areas;
(3) Verify that State water quality standards will not be violated or that a measurable degradation in water quality will not occur as a result of the granting of the variance; and
(4) Provide any other information appropriate to support the request.

Justification of Variance:

(1) Describe the special conditions peculiar to the property which would cause the unwarranted hardship;

Response: As part of the roadway design project, the new road is designed to provide safe traffic patterns for the Spring Valley Community residents due to the expansion of the Naval Support Activity of Bethesda. A recent intersection study conducted by the Montgomery County Department of Transportation was conducted on Jones Bridge Road at the intersections of MD 185 (Connecticut Avenue) and Jones Bridge Road, Jones Bridge Road and Spring Valley Road and at the proposed intersection of Jones Bridge Road and Platt Ridge Drive. The data collection and analyses contained in this study indicate that the intersections of Jones Bridge Road at Spring Valley Road and Platt Ridge Road are affected by the traffic operations at the intersection of MD 185 at Jones Bridge Road, particularly eastbound queuing during the PM peak hour. The study determined that the extension of Platt Ridge Drive to Montrose Drive would improve the congestion and blockage for vehicles and pedestrians and improve access for the residents of the Spring Valley Community due to the expansion of the Naval Support Activity of Bethesda.

This work will require disturbing the root zones of a total of thirty four (34) specimen trees. Nineteen (19) of the thirty four (34) impacted trees will be required to be removed. If we are not allowed to impact or remove these trees, there would not be adequate room for the roadway.

If MCDOT is not allowed to impact the trees, the roadway will not be constructed due to the number of specimen trees within the site. As such, this would cause an *unwarranted hardship* to the Spring Valley Community that it will serve.

(2) Describe how enforcement of these rules will deprive the landowner of rights commonly enjoyed by others in similar areas;

Response: If the Montgomery County Department of Transportation were required to keep the roadway outside of the root zones of the specimen trees, the entire site would be unsuitable for construction due to the close proximity of several specimen trees.

(3) Verify that State water quality standards will not be violated or that a measurable degradation in water quality will not occur as a result of the granting of the variance;

Response: Tree removals have been minimized by careful design ensuring the preservation of as many specimen trees as possible. In addition, this property will be developed in accordance with the latest Maryland Department of the Environment criteria for stormwater management. This includes Environmental Site Design to provide for protecting the natural resources to the maximum extent practicable. A Concept Stormwater Management Plan has been reviewed and approved by the Montgomery County Department of Permitting

Services ensuring that this criteria is enforced. Therefore, the proposed activity will not degrade the water quality of the downstream areas and will not result in *measurable degradation in water quality*.

(4) Provide any other information appropriate to support the request.

Response: NA

As further basis for its variance request, the applicant can demonstrate that it meets the Section 22A-21(d) *Minimum criteria*, which states that a variance must not be granted if granting the request:

(1) Will confer on the applicant a special privilege that would be denied to other applicants;

Response: NA

(2) Is based on conditions or circumstances which are the result of the actions by the applicant**;**

Response: Montgomery County Department of Transportation has taken no *actions leading to the conditions or circumstance*s that are the subject of this variance request.

(3) Arises from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property; or

Response: The recent traffic study on Jones Bridge Road at the intersections of Connecticut Avenue and Jones Bridge Road, Jones Bridge Road and Spring Valley Road and at the proposed intersection of Jones Bridge Road and Platt Ridge Drive determined this project would alleviate traffic congestion for the Spring Valley Community due to the expansion of the Naval Support Activity of Bethesda.

(4) Will violate State water quality standards or cause measurable degradation in water quality.

Response: Granting this variance request will not violate State water quality standards or cause measurable degradation in water quality.

Table 1. Significant Tree / Specimen Trees Within Or Adjacent To The Platt Ridge Drive Extended Limits of Disturbance.

Tree ID	Scientific Name	Common Name	Tree Condition	Disposition	DBH (in)	CRZ Area (sf)	CRZ Impacted (sf)	CRZ % Impact	Justification
2	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
3	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	48"	4072	3307	81%	The proposed roadway alignment will require the tree's removal.
4	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	38"	2552	2395	94%	The proposed roadway alignment will require the tree's removal.
5	*Acer rubrum*	Red maple	Fair	Remove	33"	1924	1924	100%	The proposed roadway alignment will require the tree's removal.
14	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	48"	4072	1112	27%	Impacting 27% is required to construct the roadway and new drainage swale. This tree is to be saved via tree protection fence.
24	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	31"	1698	55	3%	Impacting 3% is required to construct a new stormwater management pond. This tree is to be saved via tree protection fence.
25	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	32"	1810	1127	62%	The proposed roadway alignment will require the tree's removal.
26	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	30"	1590	1590	100%	The proposed roadway alignment will require the tree's removal.
30	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	36"	2290	752	33%	Impacting greater than 30% is required to construct the roadway and new stormwater management pond. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
31	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	1590	408	26%	The proposed roadway alignment will require the tree's removal. This tree is to be saved via tree protection fence.
32	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
33	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	45"	3578	1322	37%	Impacting greater than 30% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
34	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	41"	2971	171	6%	Impacting 6% is required to construct the roadway. This tree is to be saved via tree protection fence.
35	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.

Tree ID	Scientific Name	Common Name	Tree Condition	Disposition	DBH (in)	CRZ Area (sf)	CRZ Impacted (sf)	CRZ % Impact	Justification
36	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	34"	2042	2042	100%	The proposed roadway alignment will require the tree's removal.
37	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
39	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	2290	1338	58%	The proposed roadway alignment and grading will require the tree's removal.
41	*Acer rubrum*	Red maple	Good / fair	Impacted / Save	32"	1810	139	8%	Impacting 8% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
43	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	32"	1848	242	13%	Impacting 13% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
44	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	1590	462	29%	Impacting 29% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
69	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	39"	2688	1960	73%	The proposed roadway alignment will require the tree's removal.
73	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	25"	1104	546	49%	This tree is to be removed due to greater than 30% CRZ impacted.
79	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	2290	2148	94%	The proposed roadway alignment will require the tree's removal.
82	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	41"	2970	2937	99%	The proposed roadway alignment will require the tree's removal.

The following specimen trees will be impacted by construction and require specific treatment to enhance survivability based on conditions noted during an updated site visit on July 6th, 2012.

Tree #14 (48" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just west of the proposed roadway alignment. Work performed in the CRZ (27% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #24 (31" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just west of the proposed roadway alignment. Work performed in the CRZ (3% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #30 (36" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just north of the proposed roadway alignment. Work performed in the CRZ (33% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage but is considered removed due to CRZ impacts over 30%.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #31 (30" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just northwest of the proposed roadway alignment. Work performed in the CRZ (26% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #33 (45" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just northwest of the proposed roadway alignment. Work performed in the CRZ (37% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage but is considered removed due to CRZ impacts over 30%.

- Roots are to be properly pruned at the point of construction damage.
- Mychorrizae treatment is to be applied to the damaged roots.
- Deadwood is to be pruned.

* The tree is to be monitored during construction and immediately after final construction. If the tree begins to show signs of decline or hazardous conditions, it may be removed.

Tree #34 (41" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just northeast of the proposed roadway alignment. Work performed in the CRZ (6% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #41 (32" Red maple, *Acer rubrum*): This tree is located off-site just east of the proposed roadway alignment. Work performed in the CRZ (8% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #43 (32" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just southeast of the proposed roadway alignment. Work performed in the CRZ (13% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #44 (30" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just southeast of the proposed roadway alignment. Work performed in the CRZ (29% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Conclusion:

For the above reasons, the applicant respectfully requests that the Planning Board APPROVE its request for a variance from the provisions of Section 22A of the Montgomery County Forest Conservation Ordinance, and thereby, GRANTS permission to impact/remove the specimen trees in order to allow the construction of this project.

We have taken all precautions to minimize impacts to all trees and critical root zones. We believe that with Mycorrhizal treatment of effected critical roots will promote good tree health. MCDOT will also be providing invasive species removal for all remaining forested portions of the North Chevy Chase Park (roughly acres) and the deed transferred portion to MCDOT (roughly acres) will be treated for invasive species. Invasive Species of Concern in Maryland (DNR) was used to determine all invasive species located within the Plat Ridge Drive Extended study area. Invasive species (comprising roughly 26% of the herbaceous layer) identified within the study area included; Japanese honeysuckle (*Lonicera japonica*), wild garlic (*Allium vineale*) and English ivy (*Hedera helix*).

The recommendations in this report are based on tree conditions noted at the time the NRI/FSD field work was conducted. Tree condition can be influenced by many environmental factors, such as wind, ice and heavy snow, drought conditions, heavy rainfall, rapid or prolonged freezing temperatures, and insect/disease infestation. Therefore, tree conditions are subject to change without notice.

Very truly yours,

Whitman, Requardt & Associates, LLP

James Ashby
Environmental Scientist

Enclosures
cc: Bob Gonzales –MCDOT
Mark Roberts, Jim Guinther - WRA

FOREST STAND NARRATIVE:
FOREST STAND 1 (FS-1) IS A MID-SUCCESSIONAL STAGE MIXED POPLAR-OAK FOREST DOMINATED BY TULIP POPLAR. DOMINANT CANOPY SPECIES WAS OVER 30" WITH MOST TREES IN THE 20-29.9" D.B.H. SIZE CLASS. COMMON UNDERSTORY SPECIES INCLUDED TULIP POPLAR, BLACK GUM, NORTHERN RED OAK, NORTHERN SPICEBUSH AND BOXELDER. COMMON HERBACEOUS SPECIES INCLUDED GARLIC MUSTARD, JAPANESE HONEYSUCKLE AND ENGLISH IVY. INVASIVE SPECIES ACCOUNT FOR APPROXIMATELY 26% OF THE STUDY AREA HERBACEOUS LAYER.

SOILS TABLE

SOIL MAP UNIT	SOIL NAME	K-FACTOR (WHOLE SOIL)	HYDRIC RATING	ERODIBLE SOILS*	DRAINAGE CLASS
2B	GLENELG SILT LOAM, 3 TO 8 PERCENT SLOPES	0.32	NOT HYDRIC	NO	WELL DRAINED
2C	GLENELG SILT LOAM, 8 TO 15 PERCENT SLOPES	0.32	NOT HYDRIC	NO	WELL DRAINED

* ERODIBLE SOILS ARE CLASSIFIED AS HAVING A SEVER HAZARD HAZARD OF EROSION BY NRCS AND ARE LISTED IN APPENDIX C OF THE GUIDELINES FOR ENVIRONMENTAL MANAGEMENT OF DEVELOPEMENT IN MONTGOMERY COUNTY (JANUARY, 2000).

Forest Conservation Data Table

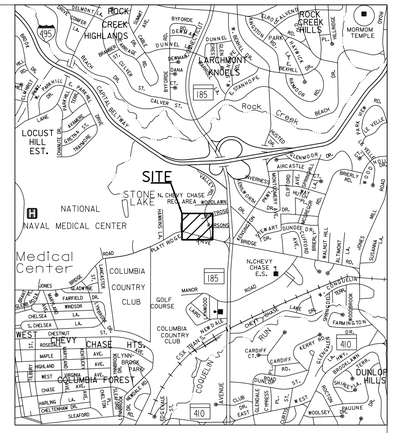
	Number of Acres
Net Tract Area	1.66
Remaining in Agricultural Use	-
Road & Utility ROWs[1]	-
Total Existing Forest	1.35
Forest Retention	-
Forest Cleared	0.96

Land Use & Thresholds[2]		
Land Use Category	IDA	ARA, MDR, IDA, HDR, MDP, or OA.
Conservation Threshold	20%	percent
Afforestation Threshold	15%	percent

	Total Channel Length (ft.)	Average Buffer Width (ft.)[3]
Stream(s)	NET -	-

Acres of Forest in	Retained	Cleared	Planted
Wetlands	-	-	-
100-Year Floodplain	-	-	-
Stream Buffers	-	-	-
Priority Areas	0.39	0.96	-

[1] Only Road or Utility ROWs not to be improved as part of development application.
[2] Information from PC Land Use Categories & Thresholds document.
[3] Measured from stream edge to buffer edge.



VICINITY MAP
1"=2,000'

SITE SUMMARY:
1. THE PLATT RIDGE DRIVE EXTENSION NET TRACT AREA IS 1.66 ACRES.
2. TOTAL FOREST WITHIN NET TRACT AREA IS 1.35 ACRES.
3. THE TOTAL LOD IS 1.80 ACRES, HOWEVER 0.10 ACRES LIE WITHIN ROW'S FOR MONTROSE DRIVE AND JONES BRIDGE ROAD.
4. THE NET TRACT AREA IS ZONED INSTITUTIONAL.
5. CURRENTLY THE PARCEL IS OWNED BY M-NCPPC BUT BUT IS PROPOSED TO BE CONVEYED TO MCDOT.
6. THE NET TRACT AREA IS LOCATED WITHIN THE ROCK CREEK WATERSHED (MDE 8-DIGIT HYDROLOGIC UNIT CODE 02140206) WITHIN THE MIDDLE POTOMAC BASIN.
7. THE WSSC GRID NO. FOR THIS LOCATION IS 21NW04.
8. THE FIELD INVESTIGATION WAS CONDUCTED BY JAMES ASHBY AND LAURA CALLENS ON JULY 6, 2012.
9. NO WETLANDS OR JURISDICTIONAL WATERS OF THE U.S. WERE IDENTIFIED WITHIN THE NET TRACT AREA.
10. THE PROJECT IS NOT LOCATED WITHIN A SPECIAL PROTECTION AREA (SPA) OR PRIMARY MANAGEMENT AREA (PMA).
11. THERE ARE NO FEMA 100-YEAR FLOODPLAINS LOCATED WITHIN THE NET TRACT AREA AS INDICATED ON FEMA FIRM PANEL NUMBERS 24031C0365D AND 24031C0455D, BOTH DATED SEPTEMBER 29, 2006 AND THE MC ATLAS.
12. ALL TREES WERE MEASURED WITH A DIAMETER TAPE (D-TAPE) MEASURED AT 4.5' ABOVE THE GROUND.
13. ALL TREES OVER 24" DBH HAVE BEEN FIELD IDENTIFIED AND LOCATED. NO TREES WITHIN THE NET TRACT AREA ARE 75% OF THE STATE CHAMPION TREE FOR THAT SPECIES.
14. DETAILED TOPOGRAPHIC INFORMATION IS BASED ON SURVEYS CONDUCTED IN SEPTEMBER-OCTOBER 2012 (1' INTERVALS).
15. TREE PROTECTION FENCE SHOULD BE INSTALLED ADJACENT TO ALL FORESTED AREAS OF THE LOD AS ILLUSTRATED ON THIS PLAN.
16. PER SECTION 22A-9(b) COUNTY HIGHWAY PROJECTS; REFORESTATION REQUIREMENTS WILL BE EQUAL TO THE TOTAL FOREST TO BE CLEARED. FOREST CONSERVATION MITIGATION OF 1.35 ACRES WILL BE CONDUCTED AT THE C.I.P. ADVANCED REFORESTATION OFFSITE MITIGATION BANK, C.I.P. PROJECT NO 500112.

LEGEND
- PROPERTY BOUNDARY
- NEW EASEMENT BOUNDARY
- 300 MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING TREELINE
- BRUSHLINE
- T-1 SPECIMEN TREE
- T-2 SIGNIFICANT TREE
- SPECIMEN / SIGNIFICANT TO BE TREE REMOVED
- SPECIMEN / SIGNIFICANT TREE TO BE SAVED BUT CONSITERED REMOVED (OVER 30% CRZ IMPACTED)
- CRITICAL ROOT ZONE
- CRITICAL ROOT ZONE IMPACTS
- 2B 2C NRCS SOILS
- NEW ROADWAY
- LOD LIMITS OF DISTURBANCE
- TPF TREE PROTECTION FENCE
- FOREST CLEARING
- SLOPES 15-25%
- SLOPES >25%

SCALE: 1" = 30'

WR&A
Whitman, Requardt and Associates, LLP
Engineers, Architects and Planners
801 S. Caroline Street
Baltimore, Maryland 21231
410-235-3450

James Ashby 3/17/2014
JAMES ASHBY DATE
MD DNR QUALIFIED PROFESSIONAL
WHITMAN, REQUARDT & ASSOCIATES, LLP

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

PLATT RIDGE DRIVE EXTENDED FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

PRELIMINARY FOREST CONSERVATION PLAN #420121680

SCALE : 1":30' MARCH 2014

Designed by: VAK Drawn by: NSP Checked by: MTR

Project No. : 31681-013 SHEET 1 of 3

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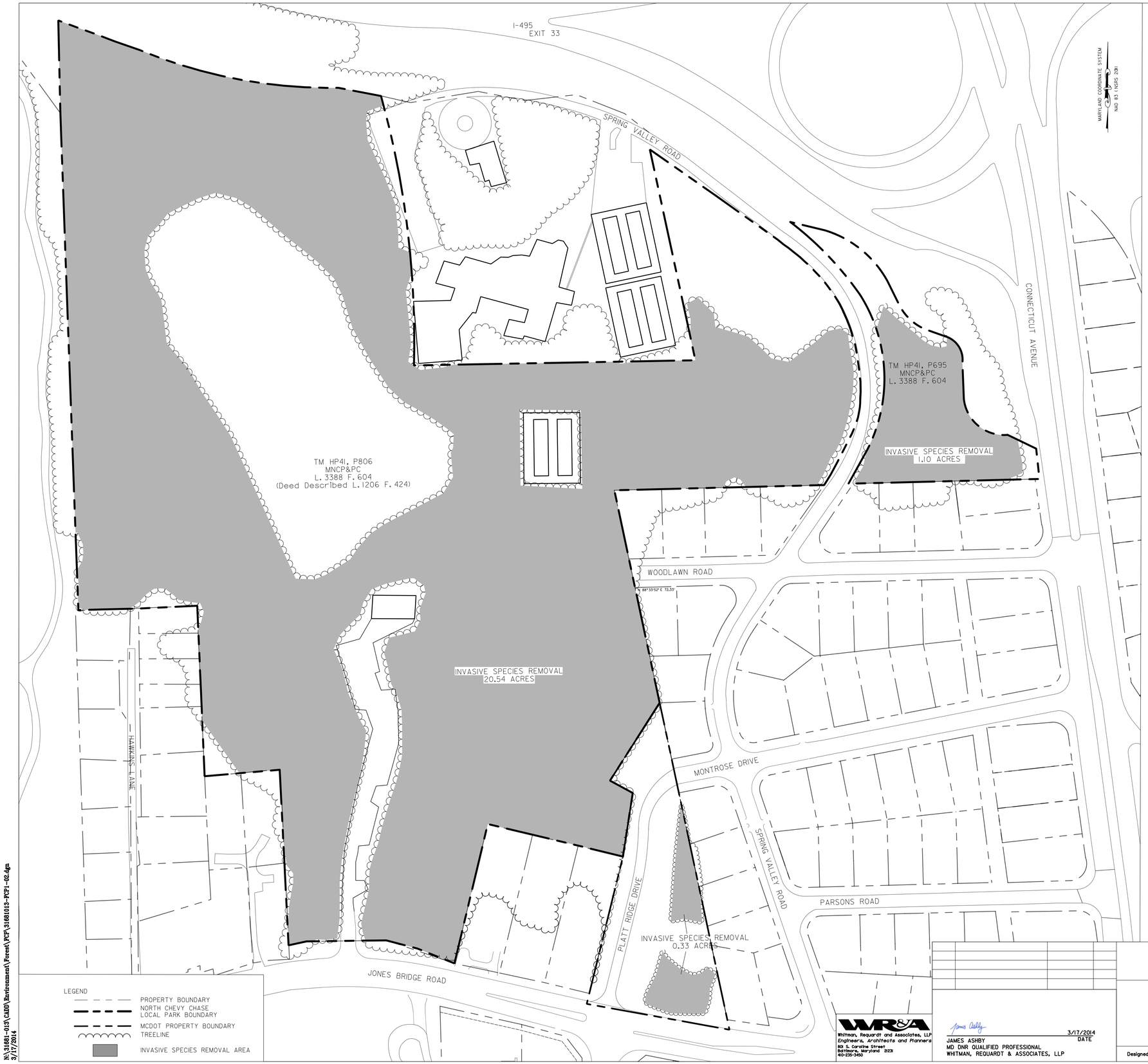

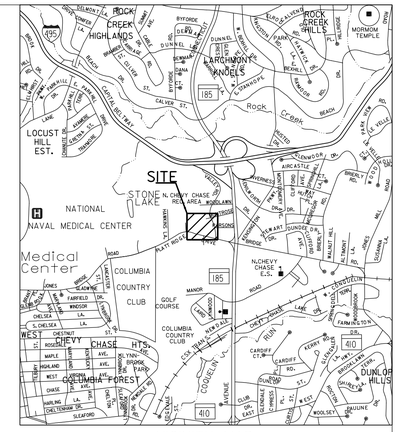

VICINITY MAP
1"=2,000'

SITE SUMMARY:
THE TREELINE OUTSIDE OF THE PLATT RIDGE DRIVE EXTENDED PROJECT AREA IS BASED ON THE MOST RECENT AERIAL IMAGERY (BING, 2014). ALL FORESTED PORTIONS OF THE NORTH CHEVY CHASE LOCAL PARK AND THE MCDOT NEWELY AQUIRED PARCEL WILL RECIEVE INVASIVE SPECIES CONTROL. THE TOTAL INVASIVE SPECIES CONTROL WILL COVER 21.97 ACRES. ACCORDING TO MARYLAND DEPARTMENT OF NATURAL RESOURCES (DNR) LIST OF INVASIVE SPECIES OF CONCERN IN MARYLAND THERE WERE 3 INVASIVE SPECIES WITHIN THE STUDY AREA. THESE SPECIES INCLUDED; GARLIC MUSTARD (*ALLARIA PERIOLATA*, ENGLISH IVY (*HEDERA HELIX*) AND JAPANESE HONEYSUCKLE (*LONICERA JAPONICA*). APPROXIMATELY 26% OF THE HERBACEOUS LAYER WITHIN THE PLATT RIDGE DRIVE EXTENDED STUDY AREA WERE INVASIVE SPECIES.
IF THE CONTRACTOR REQUIRES ASSISTANCE IN THE USE OF HERBICIDES AS RECOMMENDED IN THIS PLAN, THEY SHOULD CONSULT WITH THE DEPARTMENT OF PARKS NATURAL RESOURCES STEWERDSHIP STAFF.
IF AVAILABLE SPECIFIC CONTACTS INCLUDE:
CAROLE BERGMANN - 301-949-2818
ROB GIBBS - 301-949-2909

GARLIC MUSTARD (*ALLARIA PERIOLATA*):
CHEMICAL TREATMENT
APPLICATION: FOLIAR SPRAYING
CHEMICAL: GLYPHOSATE (ROUNDUP PRO)
THIS SHOULD BE APPLIED IN EARLY SPRING OR LATE FALL.
(IF APPLING IN FALL CONCENTRATE CHEMICALS ON IST YEAR ROSETTES)

MECHANICAL TREATMENT
HAND PULLING.
IF SEEDPODS ARE PRESENT, CUT MATERIALS MUST BE BAGGED AND REMOVED FROM THE SITE.
USE OF A POWER TRIMMER MAY BE PRACTICLE FOR LARGE INFESTATIONS, IF DONE EARLY IN SPRING.

ENGLISH IVY (*HEDERA HELIX*):
CHEMICAL TREATMENT
APPLICATION: FOLIAR OR CUT STEMS
CHEMICAL: TRICLOPYR (GARLON 3A, PATHFINDER II OR VINE-X)
THIS CAN BE APPLIED YEAR ROUND, HOWEVER TEMPERATURES BELOW 40 DEGREES WILL IMPEADE PLANT ABSORPTION.
FOR CLIMBING VINES, CUT A SECTION OF THE VINE AND TREAT THE ROOTED PORTION WITH TRICLOPYR.

APPLICATION: BASAL BARK TREATMENT
CHEMICAL: TRICLOPYR ESTER 20% (GARLON 4, PATHFINDER II OR VINE-X)
APPLY CAREFULLY TO BARK AS TO AVOID APPLICATION ON HOST PLANT.

APPLICATION: FOLIAR TREATEMENT
CHEMICAL: TRICLOPYR SALT (GARLON 3A, 5% CONCENTRATION REQUIRED) ADD A 0.5% NON-IONIC SURFACTANT.
THIS APPROACH IS THE MOST EFFECTIVE IF LOW LYING PLANTS ARE CUT, APPLY TREATMENT IMMEDEATLY AFTER LOW LYING LANTS HAVE BEEN CUT.

JAPANESE HONEYSUCKLE (*LONICERA JAPONICA*):
CHEMICAL TREATMENT
APPLICATION: CUT STEMS
CHEMICAL: GLYPHOSATE 25% (ROUNDUP PRO)
THIS CAN BE APPLIED YEAR ROUND, HOWEVER TEMPERATURES BELOW 40 DEGREES WILL IMPEADE PLANT ABSORPTION.

APPLICATION: FOLIAR SPRAYING
CHEMICAL: GLYPHOSATE 2% (ROUNDUP PRO OR RODEO WITH A 5% SURFACTANT).

INVASIVE SPECIES REMOVAL SUMMARY TABLE

INVASIVE SPECIES CONTROL IN NORTH CHEVY CHASE LOCAL PARK	21.64 ACRES
INVASIVE SPECIES CONTROL IN MCDOT PROPERTY	0.33 Acres

Whitman, Requardt and Associates, LLP
Engineers, Architects and Planners
801 S. Caroline Street
Baltimore, Maryland 21231
410-235-3450

JAMES ASHBY
MD DNR QUALIFIED PROFESSIONAL
WHITMAN, REQUARDT & ASSOCIATES, LLP
3/17/2014
DATE

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

PLATT RIDGE DRIVE EXTENDED FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

INVASIVE PLANT REMOVAL PLAN

SCALE : 1":80'
MARCH 2014

Designed by: VAK Drawn by: NSP Checked by: MTR
Project No. : 31681-013 SHEET 2 of 3

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3/17/2014

SEQUENCE OF EVENTS FOR PROPERTY OWNERS REQUIRED TO COMPLY WITH FOREST CONSERVATION PLANS

PRE-CONSTRUCTION

1. AN ON-SITE PRE-CONSTRUCTION MEETING IS REQUIRED AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS. THE PROPERTY OWNER SHOULD CONTACT THE MONTGOMERY COUNTY PLANNING DEPARTMENT INSPECTION STAFF BEFORE CONSTRUCTION TO VERIFY THE LIMITS OF DISTURBANCE AND DISCUSS TREE PROTECTION AND TREE CARE MEASURES. THE DEVELOPER'S REPRESENTATIVE, CONSTRUCTION SUPERINTENDENT, ISA CERTIFIED ARBORIST OR MARYLAND-LICENSED TREE EXPERT THAT WILL IMPLEMENT THE TREE PROTECTION MEASURES, FOREST CONSERVATION INSPECTOR, AND DEPARTMENT OF PERMITTING SERVICES (DPS) SEDIMENT CONTROL INSPECTOR SHOULD ATTEND THIS PRE-CONSTRUCTION MEETING.

2. NO CLEARING OR GRADING SHALL BEGIN BEFORE STRESS-REDUCTION MEASURES HAVE BEEN IMPLEMENTED. APPROPRIATE MEASURES MAY INCLUDE, BUT ARE NOT LIMITED TO:
   A. ROOT PRUNING
   B. CROWN REDUCTION OR PRUNING
   C. WATERING
   D. FERTILIZING
   E. VERTICAL MULCHING
   F. ROOT AERATION MATTING

   MEASURES NOT SPECIFIED ON THE FOREST CONSERVATION PLAN MAY BE REQUIRED AS DETERMINED BY THE FOREST CONSERVATION INSPECTOR IN COORDINATION WITH THE ARBORIST.

3. A MARYLAND-LICENSED TREE EXPERT OR AN INTERNATIONAL SOCIETY OF ARBORICULTURE-CERTIFIED ARBORIST MUST PERFORM ALL STRESS REDUCTION MEASURES. DOCUMENTATION OF STRESS REDUCTION MEASURES MUST BE EITHER OBSERVED BY THE FOREST CONSERVATION INSPECTOR OR SENT TO THE INSPECTOR AT 8787 GEORGIA AVENUE, SILVER SPRING, MD 20910. THE FOREST CONSERVATION INSPECTOR WILL DETERMINE THE EXACT METHOD TO CONVEY THE STRESS REDUCTIONS MEASURES DURING THE PRE-CONSTRUCTION MEETING.

4. TEMPORARY TREE PROTECTION DEVICES SHALL BE INSTALLED PER THE FOREST CONSERVATION PLAN AND PRIOR TO ANY CONSTRUCTION ACTIVITIES. TREE PROTECTION FENCING LOCATIONS SHOULD BE STAKED PRIOR TO THE PRE-CONSTRUCTION MEETING. THE FOREST CONSERVATION INSPECTOR, IN COORDINATION WITH THE DPS SEDIMENT CONTROL INSPECTOR, MAY MAKE FIELD ADJUSTMENTS TO INCREASE THE SURVIVABILITY OF TREES AND FOREST SHOWN AS SAVED ON THE APPROVED PLAN. TEMPORARY TREE PROTECT DEVICES MAY INCLUDE:
   A. CHAIN LINK FENCE (FOUR FEET HIGH)
   B. 14 GAUGE 2 INCH X 4 INCH WELDED WIRE FENCING SUPPORTED BY STEEL T-BAR POSTS (MINIMUM 4 FEET HIGH) WITH HIGH VISIBILITY FLAGGING.
   C. SUPER SILT FENCE WITH WIRE STRUNG BETWEEN SUPPORT BY STEEL T-BAR POSTS (MIN 4' HIGH) WITH HIGH VISIBILITY FLAGGING.

5. TEMPORARY PROTECTION DEVICES SHALL BE MAINTAINED AND INSTALLED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION PROJECT AND MUST NOT BE ALTERED WITHOUT PRIOR APPROVAL FROM THE FOREST CONSERVATION INSPECTOR. NO EQUIPMENT, TRUCKS, MATERIALS, OR DEBRIS MAY BE STORED WITHIN THE TREE PROTECTION FENCE AREAS DURING THE ENTIRE CONSTRUCTION PROJECT. NO VEHICLE OR EQUIPMENT ACCESS TO THE FENCED AREA WILL BE PERMITTED. TREE PROTECTION SHALL NOT BE REMOVED WITHOUT PRIOR APPROVAL OF FOREST CONSERVATION INSPECTOR.

6. FOREST RETENTION AREA SIGNS SHALL BE INSTALLED AS REQUIRED BY THE FOREST CONSERVATION INSPECTOR, OR AS SHOWN ON THE APPROVED PLAN.

7. LONG-TERM PROTECTION DEVICES WILL BE INSTALLED PER THE FOREST CONSERVATION PLAN AND ATTACHED DETAILS. INSTALLATION WILL OCCUR AT THE APPROPRIATE TIME DURING THE CONSTRUCTION PROJECT. REFER TO THE PLAN DRAWING FOR LONG-TERM PROTECTION MEASURES TO BE INSTALLED.

DURING CONSTRUCTION

8. PERIODIC INSPECTIONS BY THE FOREST CONSERVATION INSPECTOR WILL OCCUR DURING THE CONSTRUCTION PROJECT. CORRECTIONS AND REPAIRS TO ALL TREE PROTECTION DEVICES, AS DETERMINED BY THE FOREST CONSERVATION INSPECTOR, MUST BE MADE WITHIN THE TIMEFRAME ESTABLISHED BY THE INSPECTOR.

POST-CONSTRUCTION

9. AFTER CONSTRUCTION IS COMPLETED, AN INSPECTION SHALL BE REQUESTED. CORRECTIVE MEASURES MAY INCLUDE:
   A. REMOVAL AND REPLACEMENT OF DEAD AND DYING TREES
   B. PRUNING OF DEAD OR DECLINING LIMBS
   C. SOIL AERATION
   D. FERTILIZATION
   E. WATERING
   F. WOUND REPAIR (MYCHORRIAE TREATMENT AS NEEDED)
   G. CLEAN-UP OF RETENTION AREAS

10. AFTER INSPECTION AND COMPLETION OF CORRECTIVE MEASURES HAVE BEEN UNDERTAKEN, ALL TEMPORARY PROTECTION DEVICES SHALL BE REMOVED FROM THE SITE. REMOVAL OF TREE PROTECTION DEVICES THAT ALSO OPERATE FOR EROSION AND SEDIMENT CONTROL MUST BE COORDINATED WITH BOTH THE DEPARTMENT OF PERMITTING SERVICES AND THE FOREST CONSERVATION INSPECTOR. NO ADDITIONAL GRADING, SODDING, OR BURRIAL MAY TAKE PLACE AFTER THE TREE PROTECTION FENCING IS REMOVED.

INSPECTIONS

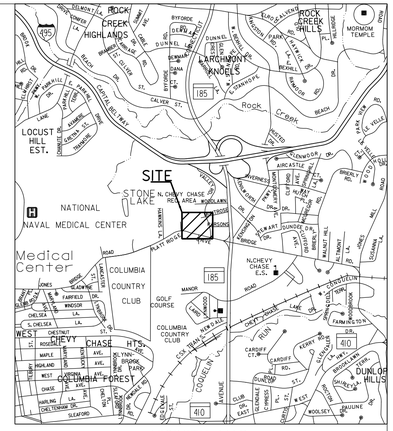
ALL FIELD INSPECTIONS MUST BE REQUESTED BY THE APPLICANT. INSPECTIONS MUST BE CONDUCTED AS FOLLOWS:

1. AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS.
2. AFTER NECESSARY STRESS REDUCTION MEASURES HAVE BEEN COMPLETED AND PROTECTION MEASURES HAVE BEEN INSTALLED, BUT BEFORE ANY CLEARING AND GRADING BEGIN.
3. AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES, BUT BEFORE REMOVAL OF TREE PROTECTION FENCING, TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISION OF THE FOREST CONSERVATION.
4. MNCPPC INSPECTION STAFF PHONE NUMBER IS 301-495-4550.

SIGNIFICANT / SPECIMEN TREE TABLE

Tree ID	Scientific Name	Common Name	Tree Condition	Disposition	DBH (in)	CRZ Area (sf)	CRZ Impacted (sf)	CRZ % Impact	Justification
2	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
3	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	48"	4072	3307	81%	The proposed roadway alignment will require the tree's removal.
4	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	38"	2552	2395	94%	The proposed roadway alignment will require the tree's removal.
5	*Acer rubrum*	Red maple	Fair	Remove	33"	1924	1924	100%	The proposed roadway alignment will require the tree's removal.
14	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	48"	4072	1112	27%	Impacting 27% is required to construct the roadway and new drainage swale. This tree is to be saved via tree protection fence.
24	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	31"	1698	55	3%	Impacting 3% is required to construct a new stormwater management facility. This tree will receive tree protection fence to save the tree from damage.
25	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	32"	1810	1127	62%	The proposed roadway alignment will require the tree's removal.
26	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	30"	1590	1590	100%	The proposed roadway alignment will require the tree's removal.
30	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	36"	2290	752	33%	Impacting greater than 30% is required to construct the roadway and new stormwater management pond. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
31	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	1590	408	26%	This tree is located outside of the MCDOT Parcel. This tree is to be saved via tree protection fence.
32	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
33	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	45"	3578	1322	37%	Impacting greater than 30% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
34	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	41"	2971	171	6%	Impacting 6% is required to construct the roadway. This tree is to be saved via tree protection fence.
35	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
36	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	34"	2042	2042	100%	The proposed roadway alignment will require the tree's removal.
37	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
39	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	2290	1338	58%	The proposed roadway alignment will require the tree's removal.
41	*Acer rubrum*	Red maple	Good / fair	Impacted / Save	32"	1810	139	8%	Impacting 8% is required to construct the roadway and drainage swale grading. This tree is to be saved via tree protection fence.
43	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	32"	1848	242	13%	Impacting 13% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
44	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	1590	462	29%	Impacting 29% is required to construct the roadway and drainage swale grading. This tree is to be saved via tree protection fence.
56	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	26"	1195	853	71%	The proposed roadway alignment will require the tree's removal.
62	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	28"	1385	119	9%	Impacting 9% is required to construct the roadway and new stormwater management facility. This tree is to be saved via tree protection fence.
63	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	25"	1104	916	83%	The proposed new stormwater management facility grading will require the tree's removal.
64	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	28"	1385	871	63%	The proposed roadway alignment will require the tree's removal.
65	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	24"	1017	1017	100%	The proposed new stormwater management facility grading will require the tree's removal.
66	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	27"	2971	137	5%	Impacting 5% is required to for grading the new drainage swale. This tree is to be saved via tree protection fence.
68	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	25"	1104	1104	100%	The proposed roadway alignment will require the tree's removal.
69	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	39"	2688	1960	73%	The proposed roadway alignment will require the tree's removal.
73	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	25"	1104	546	49%	This tree is to be removed due to greater than 30% CRZ impacted.
75	*Robinia pseudoacacia*	Black locust	Fair	Impacted / Save	24"	1018	302	30%	Impacting 30% is required to construct the roadway and a sidewalk along Jones Bridge Road for pedestrians. This tree is to be saved via tree protection fence.
79	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	2290	2148	94%	The proposed roadway alignment will require the tree's removal.
80	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	26"	1195	688	58%	The proposed roadway alignment will require the tree's removal.
81	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	24"	1017	1017	100%	The proposed roadway alignment will require the tree's removal.
82	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	41"	2970	2937	99%	The proposed roadway alignment will require the tree's removal.

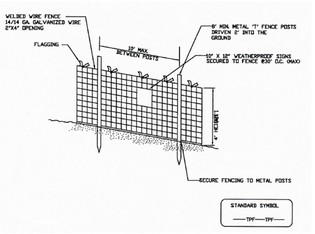
Specimen Tree



VICINITY MAP
1"=2,000'

Tree Protection Fence Detail

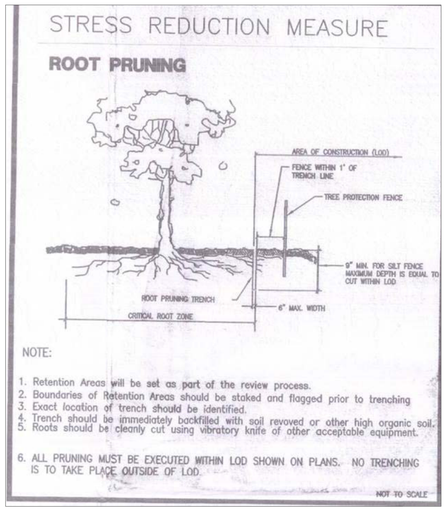
Not to scale



NOTES

1. Location and limits of fencing shall be coordinated in field with arborist and M-NCPPC.
2. Boundaries of protection area should be staked prior to installing protective device.
3. Root damage shall be avoided.
4. Protection signage is required.
5. Fencing shall be maintained throughout construction.

Montgomery County Planning Department • M-NCPPC
MontgomeryPlanning.org



CERTIFICATE OF COMPLIANCE

I do hereby certify, to the best of my knowledge, information, and reasonable belief, that all of the information and data provided with this application is accurate, and all of the features and elements provided on the plans is consistent with the standards of the applicable zone. The certification includes, but is not limited to boundary information, property information and ownership, topography, historic resources, etc. I agree that the submitted plans may be rejected or returned by the Maryland-National Capital Park and Planning Commission if the plans are found to be inaccurate, false or misleading.

James Ashby
Applicant or Applicant's Representative Date

Print Name: James Ashby

Print Company: Whitman, Requardt & Associates LLP

Print Title: Environmental Scientist

Platt Ridge Drive Extended From
Plan Name: Jones Bridge Road to Montrose Driveway

Plan Number: 420131680

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No._____ including, financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: _____
Printed Company Name

Contact Person or Owner: _____
Printed Name

Address: _____

Phone and Email: _____

Signature: _____

Whitman, Requardt and Associates, LLP
Engineers, Architects and Planners
801 S. Caroline Street
Baltimore, Maryland 21231
410-235-3450

James Ashby 3/17/2014
JAMES ASHBY DATE
MD DNR QUALIFIED PROFESSIONAL
WHITMAN, REQUARDT & ASSOCIATES, LLP

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

PLATT RIDGE DRIVE EXTENDED FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

PRELIMINARY FOREST CONSERVATION PLAN #420131680

MARCH 2014

Designed by: VAK Drawn by: NSP Checked by: MTR

Project No. : 31681-013 SHEET 3 of 3

N:\31681-013\CADD\Environment\Forest\PCP\31681013-PCP1-03.dgn
3/19/2014

Montgomery County
Department of Transportation

PLATT RIDGE DRIVE EXTENDED

FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

CONTRACT NUMBER: C.I.P. NO. 501200

CONCEPT STORMWATER MANAGEMENT REPORT

MAY 2013

WHITMAN, REQUARDT & ASSOCIATES, LLP
ENGINEERS · ARCHITECTS · PLANNERS
EST. 1915

Table of Contents

Montgomery County
Department of Transportation

CONCEPT STORMWATER MANAGEMENT REPORT
PLATT RIDGE DRIVE EXTENDED
FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

CONTRACT NUMBER: C.I.P. NO. 501200

MAY 2013

WHITMAN, REQUARDT & ASSOCIATES, LLP
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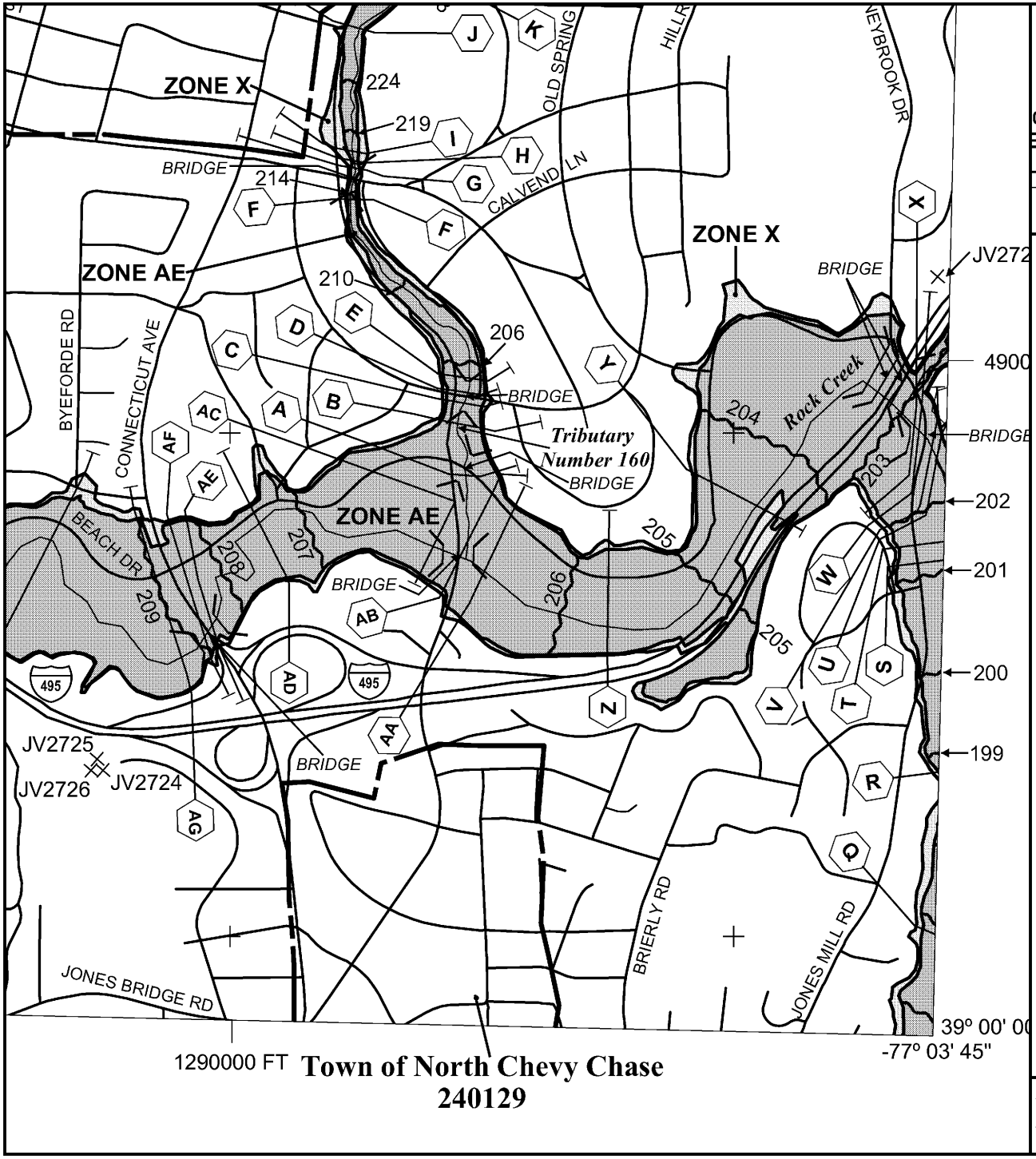
EST. 1915



MAP SCALE 1" = 1000'

0 0 1000 2000 FEET

METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0365D

FIRM

FLOOD INSURANCE RATE MAP

MONTGOMERY COUNTY, MARYLAND

AND INCORPORATED AREAS

PANEL 365 OF 480

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CHEVY CHASE VIEW, TOWN OF	240132	0365	D
GARRETT PARK, CITY OF	240150	0365	D
KENSINGTON, TOWN OF	240119	0365	D
MONTGOMERY COUNTY	240049	0365	D
NORTH CHEVY CHASE, TOWN OF	240129	0365	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
24031C0365D

EFFECTIVE DATE
SEPTEMBER 29, 2006

Federal Emergency Management Agency

I. PROJECT DESCRIPTION

The Montgomery County Department of Transportation, Division of Transportation Engineering (MCDOT-DTE) proposes construction of a northerly extension of existing Platt Ridge Drive from its terminus at Jones Bridge Road approximately 600-feet through North Chevy Chase Local Park to connect with Montrose Driveway. The roadway will consist of a two lane (20-feet width) with curb, guardrails, retaining walls, sidewalk connections, drainage and stormwater management improvements. This work is proposed as a relief to expected traffic increases in the area associated with local Base Realignment and Closing Program improvements. In addition to the roadway, an existing ephemeral stream is proposed for improvement and relocation.

It is anticipated that a variety of Environmental Site Design elements will be utilized to meet stormwater management requirements, including, but not limited to minimization of impervious area increases, minimization of impacts to existing resources and construction of a micro-bioretention facility.

II. REGULATORY REQUIREMENTS

This report presents requirements for stormwater management as detailed in the Maryland Department of the Environment (MDE) 2000 Maryland Stormwater Design Manual, Volumes 1 and 2, Supplement No. 1 (Manual) and Montgomery County Department of Permitting Services (DPS) requirements. Water quality and water quantity criteria utilizing Environmental Site Design (ESD) methodologies to the maximum extent practicable (MEP) are assessed and addressed per POI, as applicable.

A. GENERAL ASSUMPTIONS

- Maryland Stormwater Design Manual, Vol. I & II, Maryland Department of the Environment, 2000, Supplement No. 1 (Manual).
- Maryland Stormwater Management Guidelines for State and Federal Projects – April 15, 2010 (Guidelines).
- Environmental Site Design (ESD) Redevelopment Examples, October 2010 (MDE).
- Environmental Site Design (ESD) Process & Computations, July 2010 (MDE).
- U.S.D.A. Soil Conservation Service, Technical Release No. 55, Urban Hydrology for Small Watersheds.
- Environmental Systems Research Institute, Inc., ArcView GIS.
- Drainage areas were determined through field-run topographic mapping (CAD format) and aerial contour information provided by Montgomery County.
- Land uses within the project area were determined through field-run topographic mapping (CAD format), aerial imagery, and field inspections.
- Support data are assumed to be most recent and best available data to supplement surveyed and observed field data.

III. ENVIRONMENTAL RESOURCES AND OUTFALL DESCRIPTIONS

The proposed extension of Platt Ridge Drive is located in the Rock Creek watershed (MDE No. 02140206), a tributary to the Potomac River. Rock Creek is designated a use I-P (Water Contact Recreation and Protection of Aquatic Life) in this location. No wetlands are recorded with either the

Maryland Department of Natural Resources or the National Wetland Inventory for this site. FEMA FIRM Panel No. 24031C0365D indicates that this site is also outside of delineated floodways and floodplains. The existing small, ephemeral stream onsite is not considered a waters of the U.S.

At present, all runoff from the site collects in the stream and is discharged to a nearby closed-conduit storm drain. This includes runoff from inlets located on Jones Bridge Road which discharge into the stream. The stream is currently highly eroded and will require relocation and stabilization in conjunction with the roadway improvements. Drainage patterns are not proposed to change functionally from present with the exception of increased runoff from new impervious areas; however it should be noted that the entirety of the proposed roadway discharges to a proposed stormwater management facility which will have an attenuating effect on peak runoff rates. The stormwater management facility discharges back into the stream and is conveyed to the site Point of Investigation (POI).

POI 1

There is only one POI for this project, located at the proposed tie-in to existing storm drain on Montrose Driveway, at approximately Sta. 105+25, 14'Rt. The drainage area extends south from the POI to Jones Bridge Road where roadway runoff is collected in a storm drain, and is bounded to the east by Spring Valley Road and the west by a topographical grade break.

Under existing conditions, land uses in this drainage area consist primarily of woods in good condition and quarter-acre residential with some impervious areas contributing as well. All soils within the drainage area are Hydrologic Soils Group Type B. Under proposed conditions, land uses will change to include impervious area from the roadway extension, as well as open space where the proposed stormwater management facility is located.

IV. ENVIRONMENTAL SITE DESIGN

ESD for this project is proposed to be accomplished through variety of techniques on this project, including minimization of the roadway typical section, construction of a micro-bioretention facility and the protection of natural resources to the MEP.

A. Natural Resource Protection

The majority of work for this project is located within an existing forested park area. As previously noted, a small stream (in deteriorated condition) is located within the limits and is proposed for relocation and stabilization. Efforts were taken during the design of the roadway embankment and grading to reduce impacts to existing woodlands through strategic placement of the proposed micro-bioretention facility, reduction of roadway width to minimum allowable and implementation of a retaining wall.

B. Maintenance of Natural Flow Patterns

It is proposed to maintain existing flow patterns with slight modifications for storm water management treatment purposes and the addition of the roadway itself. In all cases, the proposed outfalls will match the existing outfalls.

C. Reduction of Impervious Surfaces

Impervious areas associated with this project have been reduced to the maximum extent possible. The proposed roadway typical section has been minimized as described below.

Travel Way Width
Platt Ridge Drive is a two-lane two-way roadway that is functionally classified as an urban local street. The design speed of the roadway is 20 MPH. The traffic volume on the roadway is projected to be 200 ADT. The truck percentage is projected to be 0%. A Policy on Geometric Design of Highways and Streets 2001 (AASHTO) allows for 10-feet lanes for urban local streets. Additionally, the MCDOT Standard No. MC-210.01 for a Tertiary Residential Street with 44-feet Right-of-Way allows for two 10-feet lanes with curb and gutter and no shoulders. Therefore this project will use the minimum width of travel lane, 10-feet.

Shoulder Width
AASHTO does not require a minimum width of shoulders for urban local streets. Additionally, the MCDOT Standard No. MC-210.01 for a Tertiary Residential Street with 44-feet Right-of-Way allows for two 10-feet lanes with curb and gutter and no shoulders. Therefore this project will use not use shoulders.

V. STORMWATER TREATMENT STRATEGY

It is anticipated that provision of ESD practices will provide adequate water quality and channel protection (Cp_v) treatment to meet requirements as set forth in the MDE Manual and DPS requirements. ESD practices are shown on the Site Resource Mapping, included in Appendix A and their corresponding computations are included in Appendix B. The site area for this project was taken as the limits of all construction, excluding areas required for installation of stormwater management facilities and areas included in the limits of disturbance temporarily necessary for construction (eg. areas required for erosion and sediment control measures and construction buffers and easements). As the existing site impervious area is less than 40% of the overall area, the project has been assessed under "New Development" guidelines.

Micro-Bioretention
One micro-bioretention facility is proposed for this project to provide ESD to the MEP on the north-west side of the proposed roadway embankment. Treatment provided by this facility treats the entire required Environmental Site Design Volume (ESD_v) and, therefore, water quality and quantity requirements are considered met.

The micro-bioretention facility proposed treats runoff collected from the entirety of the proposed roadway, conveyed via storm drain. A forebay is provided in the facility whose volume is equal to 25% of the Water Quality Volume (WQ_v) per MDE guidance. The forebay acts as a pretreatment provision for the filtration media as well as a stilling basin and level-spreader which allows incoming concentrated flow to be distributed over the filter media of the facility.

The filtration portion of the facility has been designed according to Montgomery County specifications, with 2-feet of filter media depth, 6-inches of ASTM C33 sand buffer layer and 12-inches of SHA No. 7 Stone. Although soil borings are not yet available, it is anticipated that the in-situ soils will allow infiltration of filtered runoff. A yard inlet whose top elevation is set equal to the

ponding depth of the facility provides bypass for storms greater than the 1-year, 24-hour event. The outlet structure discharges through the embankment to the relocated stream, where it is conveyed to the POI. The forebay is graded at 2:1 while the filter bed has 4:1 side slopes to the top of embankment, providing 0.25-feet of freeboard. Additional grading to the facility is 2:1 to minimize impacts to surrounding woodlands.

The following is a summary of treatment requirements and provisions as proposed for this project.

SWM Volume Computations

Summary of Treatment Provided by ESD Devices

	Required	Provided	Net
Environmental Site Design Volume (ESD_V) (cf)	1,947	2,057	110
Forebay Sizing (25% of WQ_V) (cf)	304	333	29

Construction of the proposed ESD practices as reported results in surplus treatment of stormwater quality and Environmental Site Design Volume; therefore, the requirements of providing ESD to the MEP are met.

APPENDIX A

SITE RESOURCES MAPPING

NOTES:
1. ALL SOILS ON SITE ARE HSG TYPE B PER NRCS WEB SOIL SURVEY.

LEGEND

- POINT OF INVESTIGATION (POI)
- PROJECT DRAINAGE AREA BOUNDARY
- NEW IMPERVIOUS AREA
- REDEVELOPED IMPERVIOUS AREA
- REMOVED IMPERVIOUS AREA
- EXISTING SIGNIFICANT TREE
- EXISTING TREE LINE
- EXISTING STREAM
- LOD — PROJECT LIMITS OF DISTURBANCE
- PROPOSED SOIL BORING

IMPERVIOUS AREA SUMMARY

NEW IMPERVIOUS:	3.47 AC
REDEVELOPED IMPERVIOUS:	69
REMOVED IMPERVIOUS:	0.119 HR

ENVIRONMENTAL SITE DESIGN SUMMARY

ESDv REQUIRED:	1,947 CFT
ESDv PROVIDED: (MICRO-BIORETENTION)	2,057 CFT
FOREBAY VOLUME REQUIRED:	304 CFT
FOREBAY VOLUME PROVIDED:	333 CFT

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19165
EXPIRATION DATE: 06/11/2013

WR&A
801 South Caroline Street, Baltimore, MD 21231
WHITMAN, REQUARDT & ASSOCIATES, LLP

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: VAK Drawn by: NSP Checked by: MTR

SITE RESOURCE AND WATER QUALITY MAPPING

PLATT RIDGE DRIVE EXTENDED FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

SCALE : 1" = 20'
MAY 2013

Project No. : 501200 SHEET ____ of ____

N:\31681-013\CADD\Highway\STW DISPLAY\31681013H10-SITE RESOURCE 1.dgn
5/22/2013

APPENDIX B

ENVIRONMENTAL SITE DESIGN COMPUTATIONS

Environmental Site Design Summary

Site Data and ESD Target Treatment (New Development)

Project: Platt Ridge Drive Extended from Jones Bridge Road to Montrose Driveway

	SWM Site Area:	**36,967**	**sft**	**0.85 acre**	
I.	Existing Percent Impervious:	8.58%	Less than 40% Impervious, therefore New Development.		= Existing Impervious / Total Site Area
II.	Proposed Percent Impervious:	38.33%			
III.	Existing Impervious Area:	3172.40	sft	0.07 acre	
IV.	Proposed Impervious Area:	14171.10	sft	0.33 acre	

Site P_E Determination

Hydrologic Soil Group:	B (100%)	
Proposed Conditions Impervious Area (rounded up):	40%	
P_E (HSG Type B):	1.60	in
Composite P_E:	**1.60**	**in**

ESD_V Target Determination

$ESD_v = (P_E) \times (R_v) \times (A)/12$

NEW DEVELOPMENT: Provide ESDv treatment for the Site P_E for any impervious area increase over existing conditions.

Target P_E :	1.60	in	
Rv = 0.05 + 0.009 (I), I = 38%:	0.40		
A = Area Req. Treatment (Site Area):	0.85	acre	
ESD_v =	**0.045**	**acre-ft**	**1,947 cu. ft**

Forebay Sizing Requirements

Rv = 0.05 + 0.009 (I), I = 38%:	0.40		
A = Area Req. Treatment (Site Area):	0.85	acre	
P = Water Quality Treatment Depth:	1.0	in	
WQ_v:	0.02793532	ac-ft	= (P x Rv x A)/12
WQ_v:	1217	ft^3	
Forebay Storage Required:	**304**	**ft^3**	**= 25% x WQ_v**

SWM Volume Computations

Micro-Bioretention - 1

Project: Platt Ridge Drive Extended from Jones Bridge Road to Montrose Driveway

1.0 Site Data

POI: 1

Location: Sta. 104+60, 36' LT.

Total Drainage Area (A): 0.416 acres

Impervious Area: 0.373 acres

Percent Impervious Area (I): 89.5

HSG Soils:

	Total Area	Impv.		P_E	
A	-	-	ft^2	0.0	in
B	18,140	16,237	ft^2	2.4	in
C	-	-	ft^2	0.0	in
D	-	-	ft^2	0.0	in
Total Areas =	18,140	16,237	ft^2		

2.0 ESD Sizing Requirements

A. Target P_E (Table 5.3): **2.4** inches *(New Development)*

B. Target ESDv:

Rv = 0.05 + 0.009 (I)

Rv = 0.856

Target ESDv = (P_E x Rv x A) / 12

Target ESDv = 3104 ft^3

C. Maximum Treatment P_E (Table 5.3): **2.6** inches *(New Development)*

B. Maximum Treatment ESDv:

Rv = 0.05 + 0.009 (I)

Rv = 0.856

Maximum ESDv = (P_E x Rv x A) / 12

Maximum ESDv = 3363 ft^3

3.0 Filter Bed Area Sizing Criteria and Characteristics

A. Preliminary Characteristics

Filter Bed Area (Af) =	1,469.2	ft^2
Ponding Depth =	0.75	ft
Area at Ponding Depth =	2,050.8	ft^2
Ponding Volume =	1,314.0	ft^3

B. Filter Bed Storage Provided:

Filter Bed Area (Af) =	1,469.2	ft^2	Porosity:	Equiv. Storage Depth: (Depth x Porosity)
Filter Bed Media Depth (d_f) =	2.0	ft	40%	0.80 ft
Sand Bed Depth (ASTM C33) =	0.5	ft	40%	0.20 ft
Gravel Layer (SHA No. 7 Stone) to Top of Underdrain =	1.00	ft	40%	0.40 ft
Equivalent Storage per Square Foot of Bed Area:				1.40 ft^3
Total Filter Bed Storage Provided (ESD_v Provided):				**2,056.94 ft^3**

C. Ponding Volume Requirements

Af =	1469	ft	
Ai =	16,237	ft	
Af/Ai =	9%		
Storage Volume (% of ESDv) required above surface area =	55%		(from SHA Bioretention Soil Mix table)
Min. Storage Volume Req. Above Surface =	1707.2	ft^3	
Storage Volume (% of ESDv) provided above surface area =	42%		
Percent ponded volume provided of required =	76.97%		
Adjusted volume provided =	1011	ft^3	(Percent ponded vol. multiplied by ponding vol. provided)

D. Surface Area Required

Must be at least 2% of contributing drainage area.

Minimum Surface Area =	2% x A					
Minimum Surface Area =	363	ft^2	<	1469.2	ft^2	**OK**

E. Drain Time Through Filter Bed

$$t_f = (V)\,(d_f) / [(k)\,(h_f + d_f)\,(A_f)]$$

where:

Surface Area of Filter Bed (A_f) =	1469.2	ft^2				
Storage Volume Provided (V) =	1314.0	ft^3				
Filter Bed Depth (d_f) =	2.0	ft				
Coefficient of Permeability of Filter Media (k)	2.0	ft/day	*SHA Bioretention Soil Mixture*			
Average Height of Water Above Filter Bed (h_f) =	0.38	ft				
Filter Bed Drain Time (t_f) =	0.4	days	<	2.0	days	**OK**

SWM Volume Computations

Summary of Treatment Provided by ESD Devices

ESD No.	Description	Impervious Area Treated (sft)	Impervious Area Treated (ac)	ESD_v Treated (cft)
ESD 1-1	Micro-Bioretention	16,237	0.37	2,057
			TOTAL TREATMENT PROVIDED	**2,057**
			TOTAL TREATMENT REQUIRED	**1,947**
			NET ESD_v PROVIDED	**110**

Platt Ridge Drive Extended from Jones Bridge Road to Montrose Driveway
Stage-Storage Calculations - Forebay

Top of Embankment: 208.00

25% of WQv = 304 ft^3 Weir Spillway Elevation: 206.75

Stage	Delta H	Area	Avg. Area	Storage	Cum. Storage (ft^3)	Cum. Storage (ac-ft)
0.00	0.000	104.29	0.00	0.00	0.00	0.0000
1.00	1.000	194.47	149.38	149.38	149.38	0.0034
1.75	0.750	293.99	244.23	183.17	332.55	0.0076
				Total Storage:	332.55	0.01

APPENDIX C

DRAINAGE AREA MAPPING

NOTES:
1. ALL SOILS ON SITE ARE HSG TYPE B PER NRCS WEB SOIL SURVEY.

LEGEND	
	POINT OF INVESTIGATION (POI)
	PROPOSED TC PATH
	DRAINAGE AREA BOUNDARY
	DRAINAGE SUB AREA BOUNDARY
	WOODS, GOOD COND'N LAND USE
	IMPERVIOUS SURFACES LAND USE
	1/4 ACRE RESIDENTIAL LAND USE

EXISTING CONDITIONS LAND USE SUMMARY (POI 1)	
TOTAL SITE AREA:	3.47 AC
RCN:	69
TIME OF CONCENTRATION:	0.119
WOODS, GOOD COND'N:	1.52 AC
IMPERVIOUS SURFACES:	0.49 AC
1/4 ACRE RESIDENTIAL:	1.46 AC

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19165
EXPIRATION DATE: 06/11/2015

WR&A
801 South Caroline Street, Baltimore, MD 21231
WHITMAN, REQUARDT & ASSOCIATES, LLP

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: VAK Drawn by: NSP Checked by: MTR

DA01 – EXISTING DRAINAGE AREA MAP

PLATT RIDGE DRIVE EXTENDED FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

SCALE : 1" = 20'
MAY 2013

Project No. : 501200 SHEET ____ of 19

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5/23/2013

NOTES:
1. ALL SOILS ON SITE ARE HSG TYPE B PER NRCS WEB SOIL SURVEY.

LEGEND

- POINT OF INVESTIGATION (POI)
- PROPOSED TC PATH
- DRAINAGE AREA BOUNDARY
- DRAINAGE SUB AREA BOUNDARY
- WOODS, GOOD COND'N LAND USE
- IMPERVIOUS SURFACES LAND USE
- 1/4 ACRE RESIDENTIAL LAND USE
- OPEN SPACE LAND USE

PROP. CONDITIONS LAND USE SUMMARY (POI 1)

TOTAL SITE AREA:	3.59 AC
RCN:	71
TIME OF CONCENTRATION:	0.101 HR
WOODS, GOOD COND'N:	1.31 AC
IMPERVIOUS SURFACES:	0.76 AC
1/4 ACRE RESIDENTIAL:	1.43 AC
OPEN SPACE:	0.15 AC

SUBAREA LAND USE SUMMARY

SUBAREA 1

TOTAL SITE AREA:	0.15 AC
RCN:	61
TIME OF CONCENTRATION:	0.100 HR
OPEN SPACE:	0.15 AC

SUBAREA 2

TOTAL SITE AREA:	0.22 AC
RCN:	55
TIME OF CONCENTRATION:	0.100 HR
WOODS, GOOD COND'N:	0.22 AC

SUBAREA 3

TOTAL SITE AREA:	0.92 AC
RCN:	69
TIME OF CONCENTRATION:	0.100 HR
WOODS, GOOD COND'N:	0.29 AC
1/4 ACRE RESIDENTIAL:	0.63 AC

SUBAREA 4

TOTAL SITE AREA:	0.21 AC
RCN:	98
TIME OF CONCENTRATION:	0.100 HR
IMPERVIOUS SURFACES:	0.21 AC

SUBAREA 5

TOTAL SITE AREA:	0.19 AC
RCN:	98
TIME OF CONCENTRATION:	0.100 HR
IMPERVIOUS SURFACES:	0.19 AC

SUBAREA 6

TOTAL SITE AREA:	0.22 AC
RCN:	93
TIME OF CONCENTRATION:	0.100 HR
IMPERVIOUS SURFACES:	0.18 AC
1/4 ACRE RESIDENTIAL:	0.04 AC

SUBAREA 7

TOTAL SITE AREA:	0.18 AC
RCN:	98
TIME OF CONCENTRATION:	0.100 HR
IMPERVIOUS SURFACES:	0.18 AC

SUBAREA 8

TOTAL SITE AREA:	1.57 AC
RCN:	65
TIME OF CONCENTRATION:	0.113 HR
WOODS, GOOD COND'N:	0.81 AC
1/4 ACRE RESIDENTIAL:	0.76 AC

PROFESSIONAL CERTIFICATION.
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 19165
EXPIRATION DATE: 06/11/2015

WR&A
801 South Caroline Street, Baltimore, MD 21231
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: VAK Drawn by: NSP Checked by: MTR

DA02 – PROPOSED DRAINAGE AREA MAP

PLATT RIDGE DRIVE EXTENDED FROM JONES BRIDGE ROAD TO MONTROSE DRIVEWAY

SCALE : 1" = 20'

MAY 2013

Project No. : 501200 SHEET ____ of 19

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5/23/2013

APPENDIX D

TR-55 COMPUTATIONS

WinTR-55 Current Data Description

--- Identification Data ---

User: MWA
Project: Platt Ridge
SubTitle: Existing Conditions
State: Maryland
County: Montgomery NOAA_C
Filename: N:\31681-013\Engineering\Design\H&H\TR-55\Existing Conditions.w55

Date: 5/22/2013
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
One		Outlet	3.47	69	.121

Total area: 3.47 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.1	3.99	4.77	5.97	7.03	8.23	2.57

Storm Data Source: Montgomery NOAA_C County, MD (NRCS)
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

Platt Ridge
Existing Conditions
Montgomery NOAA_C County, Maryland

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.1	3.99	4.77	5.97	7.03	8.23	2.57

Storm Data Source: Montgomery NOAA_C County, MD (NRCS)
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

MWA

Platt Ridge
Existing Conditions
Montgomery NOAA_C County, Maryland

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 2-Yr (cfs)	10-Yr (cfs)	1-Yr (cfs)
SUBAREAS			
One	3.40	9.05	2.01
REACHES			
OUTLET	3.40	9.05	2.01

MWA

Platt Ridge
Existing Conditions
Montgomery NOAA_C County, Maryland

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs)	(hr)	10-Yr (cfs)	(hr)	1-Yr (cfs)	(hr)
SUBAREAS						
One	3.40	12.01	9.05	11.96	2.01	12.02
REACHES						
OUTLET	3.40		9.05		2.01	

MWA

Platt Ridge
Existing Conditions
Montgomery NOAA_C County, Maryland

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
One	3.47	0.121	69	Outlet	

Total Area: 3.47 (ac)

Platt Ridge
Existing Conditions
Montgomery NOAA_C County, Maryland

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
One							
SHEET	50	0.0400	0.150				0.072
SHALLOW	410	0.0900	0.050				0.024
CHANNEL	266					3.000	0.025
					Time of Concentration		.121

Platt Ridge
Existing Conditions
Montgomery NOAA_C County, Maryland

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
One	Paved parking lots, roofs, driveways	B	.492	98
	Residential districts (1/4 acre)	B	1.457	75
	Woods (good)	B	1.524	55
	Total Area / Weighted Curve Number		3.47	69

WinTR-55 Current Data Description

--- Identification Data ---

User: MWA
Project: Platt Ridge
SubTitle: Proposed Conditions
State: Maryland
County: Montgomery NOAA_C
Filename: N:\31681-013\Engineering\Design\H&H\TR-55\Proposed Conditions.w55

Date: 5/22/2013
Units: English
Areal Units: Acres

--- Sub-Area Data ---

Name	Description	Reach	Area(ac)	RCN	Tc
One		Outlet	0.15	61	.101
Two		Outlet	0.15	55	0.100
Three		Outlet	0.92	69	0.100
Four		Outlet	0.21	98	0.100
Five		Outlet	0.19	98	0.100
Six		Outlet	0.22	93	0.100
Seven		Outlet	0.18	98	0.100
Eight		Outlet	1.57	65	0.113

Total area: 3.59 (ac)

--- Storm Data --

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.1	3.99	4.77	5.97	7.03	8.23	2.57

Storm Data Source: Montgomery NOAA_C County, MD (NRCS)
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

Platt Ridge
Proposed Conditions
Montgomery NOAA_C County, Maryland

Storm Data

Rainfall Depth by Rainfall Return Period

2-Yr (in)	5-Yr (in)	10-Yr (in)	25-Yr (in)	50-Yr (in)	100-Yr (in)	1-Yr (in)
3.1	3.99	4.77	5.97	7.03	8.23	2.57

Storm Data Source: Montgomery NOAA_C County, MD (NRCS)
Rainfall Distribution Type: Type II
Dimensionless Unit Hydrograph: <standard>

Platt Ridge
Proposed Conditions
Montgomery NOAA_C County, Maryland

Watershed Peak Table

Sub-Area or Reach Identifier	Peak Flow by Rainfall Return Period 2-Yr (cfs)	10-Yr (cfs)	1-Yr (cfs)
SUBAREAS			
One	0.07	0.26	.00
Two	.00	0.17	.00
Three	0.92	2.50	0.55
Four	0.83	1.29	0.68
Five	0.75	1.17	0.62
Six	0.76	1.25	0.60
Seven	0.70	1.09	0.58
Eight	1.12	3.39	0.59
REACHES			
OUTLET	4.94	10.99	3.36

MWA

Platt Ridge
Proposed Conditions
Montgomery NOAA_C County, Maryland

Hydrograph Peak/Peak Time Table

Sub-Area or Reach Identifier	Peak Flow and Peak Time (hr) by Rainfall Return Period 2-Yr (cfs)	(hr)	10-Yr (cfs)	(hr)	1-Yr (cfs)	(hr)
SUBAREAS						
One	0.07	12.02	0.26	11.95	.00	n/a
Two	.00	n/a	0.17	12.02	.00	n/a
Three	0.92	11.96	2.50	11.94	0.55	12.01
Four	0.83	11.93	1.29	11.92	0.68	11.92
Five	0.75	11.93	1.17	11.92	0.62	11.92
Six	0.76	11.93	1.25	11.93	0.60	11.93
Seven	0.70	11.93	1.09	11.92	0.58	11.92
Eight	1.12	12.02	3.39	11.96	0.59	12.03
REACHES						
OUTLET	4.94		10.99		3.36	

Platt Ridge
Proposed Conditions
Montgomery NOAA_C County, Maryland

Sub-Area Summary Table

Sub-Area Identifier	Drainage Area (ac)	Time of Concentration (hr)	Curve Number	Receiving Reach	Sub-Area Description
One	.15	0.101	61	Outlet	
Two	.15	0.100	55	Outlet	
Three	.92	0.100	69	Outlet	
Four	.21	0.100	98	Outlet	
Five	.19	0.100	98	Outlet	
Six	.22	0.100	93	Outlet	
Seven	.18	0.100	98	Outlet	
Eight	1.57	0.113	65	Outlet	

Total Area: 3.59 (ac)

Platt Ridge
Proposed Conditions
Montgomery NOAA_C County, Maryland

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)
One							
SHEET	50	0.0400	0.150				0.072
SHALLOW	359	0.0800	0.050				0.022
CHANNEL	80					3.000	0.007
					Time of Concentration		.101
Two							
User-provided							0.100
					Time of Concentration		0.100
Three							
User-provided							0.100
					Time of Concentration		0.100
Four							
User-provided							0.100
					Time of Concentration		0.100
Five							
User-provided							0.100
					Time of Concentration		0.100
Six							
User-provided							0.100
					Time of Concentration		0.100
Seven							
User-provided							0.100
					Time of Concentration		0.100
Eight							
SHEET	36	0.0200	0.150				0.073
SHALLOW	187	0.1500	0.050				0.008
CHANNEL	349					3.000	0.032
					Time of Concentration		0.113

Platt Ridge
Proposed Conditions
Montgomery NOAA_C County, Maryland

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use		Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
One	Open space; grass cover > 75%	(good)	B	.152	61
	Total Area / Weighted Curve Number			.15	61
Two	Woods	(good)	B	.149	55
	Total Area / Weighted Curve Number			.15	55
Three	Residential districts (1/4 acre)		B	.632	75
	Woods	(good)	B	.289	55
	Total Area / Weighted Curve Number			.92	69
Four	Paved parking lots, roofs, driveways		B	.208	98
	Total Area / Weighted Curve Number			.21	98
Five	Paved parking lots, roofs, driveways		B	.193	98
	Total Area / Weighted Curve Number			.19	98
Six	Paved parking lots, roofs, driveways		B	.18	98
	Residential districts (1/4 acre)		B	.044	75
	Total Area / Weighted Curve Number			.22	93
Seven	Paved parking lots, roofs, driveways		B	.179	98
	Total Area / Weighted Curve Number			.18	98
Eight	Residential districts (1/4 acre)		B	.755	75
	Woods	(good)	B	.81	55
	Total Area / Weighted Curve Number			1.57	65

WR&A WHITMAN, REQUARDT & ASSOCIATES, LLP
ENGINEERS · ARCHITECTS · PLANNERS
EST. 1915

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

November 26, 2013

Jason Cosler, P.E.
Whitman, Requardt & Associates, LLP
801 South Caroline Street
Baltimore, MD 21231

Re: Stormwater Management ***CONCEPT*** Request
for Platt Ridge Drive Extended
Preliminary Plan #:
SM File #: 253673
Tract Size/Zone: 9.99 Ac./Right of way
Total Concept Area: 0.85 Ac.
Lots/Block:
Parcel(s): P806
Watershed: Lower Rock Creek

Dear Mr. Cosler:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above mentioned site is **acceptable**. The stormwater management concept proposes to meet required stormwater management goals via full ESD by the use of a micro-bioretention structure.

The following **items** will need to be addressed **during** the detailed sediment control/stormwater management plan stage:

1. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
2. An engineered sediment control plan must be submitted for this development.
3. All filtration media for manufactured best management practices, whether for new development or redevelopment, must consist of MDE approved material.
4. Use MCDPS latest design criteria for micro-bioretention.
5. Provide easement and covenants if the micro-bioretention is not in the right of way.
6. Use a hydrodynamic structure for pretreatment in place of the forebay. The hydrodynamic must be sized based on the full volume Q.
7. If possible flow split the water going to the micro-bioretention structure. The flow splitter should be designed based on the ESDv water surface elevation.

This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is not required**.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact David Kuykendall at 240-777-6332.

Sincerely,

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: me CN253673 Platt Ridge Drive Extended.DWK

cc: SM File # 253673

ESD Acres:	0.85
STRUCTURAL Acres:	0.00
WAIVED Acres:	0.00

March 17, 2014

Mrs. Tina Schneider
Senior Planner
Montgomery County Planning Department
8787 Georgia Avenue
Silver Springs, MD 20910

Re: Platt Ridge Drive Extended
FCP# 420131680

Mrs Tina Schnieder:

On behalf of the Montgomery County Department of Transportation (MCDOT), Division of Transportation Engineering (MCDOT-DTE) and pursuant to Section 22A-21 *Variance provisions* of the Montgomery County Forest Conservation Ordinance and recent revisions to the State Forest Conservation Law enacted by S.B. 666, we are writing to request a variance(s) to allow impacts to or the removal of the following trees identified on the approved Natural Resource Inventory/Forest Stand Delineation for the above-named County construction project:

Project Description:

This project will construction a northerly extension of existing Platt Ridge Drive from its terminus at Jones Bridge Road approximately 600-feet through North Chevy Chase Local Park to connect with Montrose Driveway. The roadway will consist of two lanes (20-feet width) with curb, guardrails, a retaining wall, and stormwater management improvements. This work is proposed as a relief to expected traffic increases in the area associated with local Base Realignment and Closing Program (BRAC) improvements. The MCDOT parcel is 1.66 acres, contains 1.34 acres of forest and is comprised of one parcel. The site currently is forested consisting of one forest stand (FS-1) and was part of the North Chevy Chase Park. The site is surrounded by residential properties and roadways.

Requirements for Justification of Variance:

Section 22A-21(b) *Application requirements* states that the applicant must:

(1) Describe the special conditions peculiar to the property which would cause the unwarranted hardship;
(2) Describe how enforcement of these rules will deprive the landowner of rights commonly enjoyed by others in similar areas;
(3) Verify that State water quality standards will not be violated or that a measurable degradation in water quality will not occur as a result of the granting of the variance; and
(4) Provide any other information appropriate to support the request.

(4) Provide any other information appropriate to support the request.

Justification of Variance:

(1) Describe the special conditions peculiar to the property which would cause the unwarranted hardship;

Response: As part of the roadway design project, the new road is designed to provide safe traffic patterns for the Spring Valley Community residents due to the expansion of the Naval Support Activity of Bethesda. A recent intersection study conducted by the Montgomery County Department of Transportation was conducted on Jones Bridge Road at the intersections of MD 185 (Connecticut Avenue) and Jones Bridge Road, Jones Bridge Road and Spring Valley Road and at the proposed intersection of Jones Bridge Road and Platt Ridge Drive. The data collection and analyses contained in this study indicate that the intersections of Jones Bridge Road at Spring Valley Road and Platt Ridge Road are affected by the traffic operations at the intersection of MD 185 at Jones Bridge Road, particularly eastbound queuing during the PM peak hour. The study determined that the extension of Platt Ridge Drive to Montrose Drive would improve the congestion and blockage for vehicles and pedestrians and improve access for the residents of the Spring Valley Community due to the expansion of the Naval Support Activity of Bethesda.

This work will require disturbing the root zones of a total of thirty four (34) specimen trees. Nineteen (19) of the thirty four (34) impacted trees will be required to be removed. If we are not allowed to impact or remove these trees, there would not be adequate room for the roadway.

If MCDOT is not allowed to impact the trees, the roadway will not be constructed due to the number of specimen trees within the site. As such, this would cause an *unwarranted hardship* to the Spring Valley Community that it will serve.

(2) Describe how enforcement of these rules will deprive the landowner of rights commonly enjoyed by others in similar areas;

Response: If the Montgomery County Department of Transportation were required to keep the roadway outside of the root zones of the specimen trees, the entire site would be unsuitable for construction due to the close proximity of several specimen trees.

(3) Verify that State water quality standards will not be violated or that a measurable degradation in water quality will not occur as a result of the granting of the variance;

Response: Tree removals have been minimized by careful design ensuring the preservation of as many specimen trees as possible. In addition, this property will be developed in accordance with the latest Maryland Department of the Environment criteria for stormwater management. This includes Environmental Site Design to provide for protecting the natural resources to the maximum extent practicable. A Concept Stormwater Management

Plan has been reviewed and approved by the Montgomery County Department of Permitting Services ensuring that this criteria is enforced. Therefore, the proposed activity will not degrade the water quality of the downstream areas and will not result in *measurable degradation in water quality*.

(4) Provide any other information appropriate to support the request.

Response: NA

As further basis for its variance request, the applicant can demonstrate that it meets the Section 22A-21(d) *Minimum criteria*, which states that a variance must not be granted if granting the request:

(1) Will confer on the applicant a special privilege that would be denied to other applicants;

Response: NA

(2) Is based on conditions or circumstances which are the result of the actions by the applicant**;**

Response: Montgomery County Department of Transportation has taken no *actions leading to the conditions or circumstance*s that are the subject of this variance request.

(3) Arises from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property; or

Response: The recent traffic study on Jones Bridge Road at the intersections of Connecticut Avenue and Jones Bridge Road, Jones Bridge Road and Spring Valley Road and at the proposed intersection of Jones Bridge Road and Platt Ridge Drive determined this project would alleviate traffic congestion for the Spring Valley Community due to the expansion of the Naval Support Activity of Bethesda.

(4) Will violate State water quality standards or cause measurable degradation in water quality.

Response: Granting this variance request will not violate State water quality standards or cause measurable degradation in water quality.

Table 1. Significant Tree / Specimen Trees Within Or Adjacent To The Platt Ridge Drive Extended Limits of Disturbance.

Tree ID	Scientific Name	Common Name	Tree Condition	Disposition	DBH (in)	CRZ Area (sf)	CRZ Impacted (sf)	CRZ % Impact	Justification
2	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
3	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	48"	4072	3307	81%	The proposed roadway alignment will require the tree's removal.
4	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	38"	2552	2395	94%	The proposed roadway alignment will require the tree's removal.
5	*Acer rubrum*	Red maple	Fair	Remove	33"	1924	1924	100%	The proposed roadway alignment will require the tree's removal.
14	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	48"	4072	1112	27%	Impacting 27% is required to construct the roadway and new drainage swale. This tree is to be saved via tree protection fence.
24	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	31"	1698	55	3%	Impacting 3% is required to construct a new stormwater management pond. This tree is to be saved via tree protection fence.
25	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	32"	1810	1127	62%	The proposed roadway alignment will require the tree's removal.
26	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	30"	1590	1590	100%	The proposed roadway alignment will require the tree's removal.
30	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	36"	2290	752	33%	Impacting greater than 30% is required to construct the roadway and new stormwater management pond. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
31	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	1590	408	26%	The proposed roadway alignment will require the tree's removal. This tree is to be saved via tree protection fence.
32	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
33	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	45"	3578	1322	37%	Impacting greater than 30% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
34	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	41"	2971	171	6%	Impacting 6% is required to construct the roadway. This tree is to be saved via tree protection fence.
35	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.

Tree ID	Scientific Name	Common Name	Tree Condition	Disposition	DBH (in)	CRZ Area (sf)	CRZ Impacted (sf)	CRZ % Impact	Justification
36	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	34"	2042	2042	100%	The proposed roadway alignment will require the tree's removal.
37	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	31"	1698	1698	100%	The proposed roadway alignment will require the tree's removal.
39	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	2290	1338	58%	The proposed roadway alignment and grading will require the tree's removal.
41	*Acer rubrum*	Red maple	Good / fair	Impacted / Save	32"	1810	139	8%	Impacting 8% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
43	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	32"	1848	242	13%	Impacting 13% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
44	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	30"	1590	462	29%	Impacting 29% is required to construct the roadway and drainage swale. This tree is to be saved via tree protection fence.
56	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	26"	1195	853	71%	The proposed roadway alignment will require the tree's removal.
62	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	28"	1385	119	9%	Impacting 9% is required to construct the roadway and new stormwater management pond. This tree is to be saved via tree protection fence.
63	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	25"	1104	916	83%	The proposed roadway alignment will require the tree's removal.
64	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	28"	1385	871	63%	The proposed roadway alignment will require the tree's removal.
65	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	24"	1017	1017	100%	The proposed roadway alignment will require the tree's removal.
66	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	27"	2971	137	5%	Impacting 5% is required to construct the roadway and new drainage swale. This tree is to be saved via tree protection fence.
68	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	25"	1104	1104	100%	The proposed roadway alignment will require the tree's removal.
69	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	39"	2688	1960	73%	The proposed roadway alignment will require the tree's removal.

Tree ID	Scientific Name	Common Name	Tree Condition	Disposition	DBH (in)	CRZ Area (sf)	CRZ Impacted (sf)	CRZ % Impact	Justification
73	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Impacted / Save	25"	1104	546	49%	Impacting greater than 30% is required to construct the roadway and a sidewalk along Jones Bridge Road for pedestrians. This tree is to be saved via tree protection fence but is considered removed due to greater than 30% CRZ impacted.
75	*Robinia pseudoacacia*	Black locust	Fair	Impacted / Save	24"	1018	302	30%	Impacting 30% is required to construct the roadway and a sidewalk along Jones Bridge Road for pedestrians. This tree is to be saved via tree protection fence.
79	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	36"	2290	2148	94%	The proposed roadway alignment will require the tree's removal.
80	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	26"	1195	688	58%	The proposed roadway alignment will require the tree's removal.
81	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	24"	1017	1017	100%	The proposed roadway alignment will require the tree's removal.
82	*Liriodendron tulipifera*	Tulip poplar	Good / fair	Remove	41"	2970	2937	99%	The proposed roadway alignment will require the tree's removal.

Specimen Tree
Significant Tree

The following specimen trees will be impacted by construction and require specific treatment to enhance survivability based on conditions noted during an updated site visit on July 6th, 2012.

Tree #14 (48" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just west of the proposed roadway alignment. Work performed in the CRZ (27% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #24 (31" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just west of the proposed roadway alignment. Work performed in the CRZ (3% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #30 (36" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just north of the proposed roadway alignment. Work performed in the CRZ (33% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage but is considered removed due to CRZ impacts over 30%.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #31 (30" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just northwest of the proposed roadway alignment. Work performed in the CRZ (26% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #33 (45" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just northwest of the proposed roadway alignment. Work performed in the CRZ (37% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage but is considered removed due to CRZ impacts over 30%.

- Roots are to be properly pruned at the point of construction damage.
- Mychorrizae treatment is to be applied to the damaged roots.
- Deadwood is to be pruned.

- The tree is to be monitored during construction and immediately after final construction. If the tree begins to show signs of decline or hazardous conditions, it may be removed.

Tree #34 (41" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just northeast of the proposed roadway alignment. Work performed in the CRZ (6% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #41 (32" Red maple, *Acer rubrum*): This tree is located off-site just east of the proposed roadway alignment. Work performed in the CRZ (8% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #43 (32" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just southeast of the proposed roadway alignment. Work performed in the CRZ (13% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #44 (30" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just southeast of the proposed roadway alignment. Work performed in the CRZ (29% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #62 (28" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just north of the proposed roadway alignment. Work performed in the CRZ (9% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #66 (27" Tulip poplar, *Liriodendron tulipifera*): This tree is located off-site just east of the proposed roadway alignment. Work performed in the CRZ (5% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Tree #73 (25" Tulip poplar, *Liriodendron tulipifera*): This tree is located just southwest of the proposed roadway alignment along Jones Bridge Road. Work performed in the CRZ (49% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage but is considered removed due to CRZ impacts over 30%.

- Roots are to be properly pruned at the point of construction damage.
- Mychorrizae treatment is to be applied to the damaged roots.
- Deadwood is to be pruned.
* The tree is to be monitored during construction and immediately after final construction. If the tree begins to show signs of decline or hazardous conditions, it may be removed.

Tree #75 (24" Black locust, *Robinia pseudoacacia*): This tree is located off-site just north of the proposed roadway alignment along Jones Bridge Road. Work performed in the CRZ (30% impacted) of the tree calls for remediation of damaged roots to be performed by a licensed tree expert. This tree will receive tree protection fence to save the tree from damage.

- Roots are to be properly pruned at the point of construction damage.
- Deadwood is to be pruned.

Conclusion:

For the above reasons, the applicant respectfully requests that the Planning Board APPROVE its request for a variance from the provisions of Section 22A of the Montgomery County Forest Conservation Ordinance, and thereby, GRANTS permission to impact/remove the specimen trees in order to allow the construction of this project.

We have taken all precautions to minimize impacts to all trees and critical root zones. We believe that with Mycorrhizal treatment of effected critical roots will promote good tree health. MCDOT will also be providing invasive species removal for all remaining forested portions of the North Chevy Chase Park (roughly acres) and the deed transferred portion to MCDOT (roughly acres) will be treated for invasive species. Invasive Species of Concern in Maryland (DNR) was used to determine all invasive species located within the Plat Ridge Drive Extended study area. Invasive species (comprising roughly 26% of the herbaceous layer) identified within the study area included; Japanese honeysuckle (*Lonicera japonica*), wild garlic (*Allium vineale*) and English ivy (*Hedera helix*).

The recommendations in this report are based on tree conditions noted at the time the NRI/FSD field work was conducted. Tree condition can be influenced by many environmental factors, such as wind, ice and heavy snow, drought conditions, heavy rainfall, rapid or prolonged freezing temperatures, and insect/disease infestation. Therefore, tree conditions are subject to change without notice.

Very truly yours,

Whitman, Requardt & Associates, LLP

James Ashby
Environmental Scientist

Enclosures
cc: Bob Gonzales –MCDOT
Mark Roberts, Jim Guinther - WRA