



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

**MEMORANDUM**

**DATE:** June 1, 2011

**TO:** Montgomery County Planning Board

**VIA:** Glenn Kreger, Acting Chief, Area 2 Planning Division *GK*  
Khalid Afzal, Planning Supervisor, East County Team *KA*  
Area 2 Planning Division

**FROM:** Marco Fuster, Senior Planner, Area 1 Division (301.495.4521) *[Signature]*

**PLAN NAME:** Brookside Gardens Parking Renovation

**PLAN NUMBER:** FCP #PP1995001

**REVIEW TYPE:** Revised Preliminary Forest Conservation Plan (PFCP) Review

**REVIEW BASIS:** Chapter 22A Montgomery County Forest Conservation Law

**LOCATION:** Brookside Gardens located at 1800 Glenallan Avenue, within Wheaton Regional Park

**APPLICANT:** Montgomery County Department of Parks (M-NCPPC)

**ENGINEER:** Charles P. Johnson & Associates, Inc.

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**RECOMMENDATION:** Approval of the revised Preliminary Forest Conservation Plan (PFCP) with the following conditions:

1. Submission and approval of a Final Forest Conservation Plan prior to any clearing or grading.
2. A sediment and erosion control plan must be submitted with the revised Final Forest Conservation Plan to ensure consistency of the Limits of Disturbances (LODs) and the associated tree/forest preservation measures.

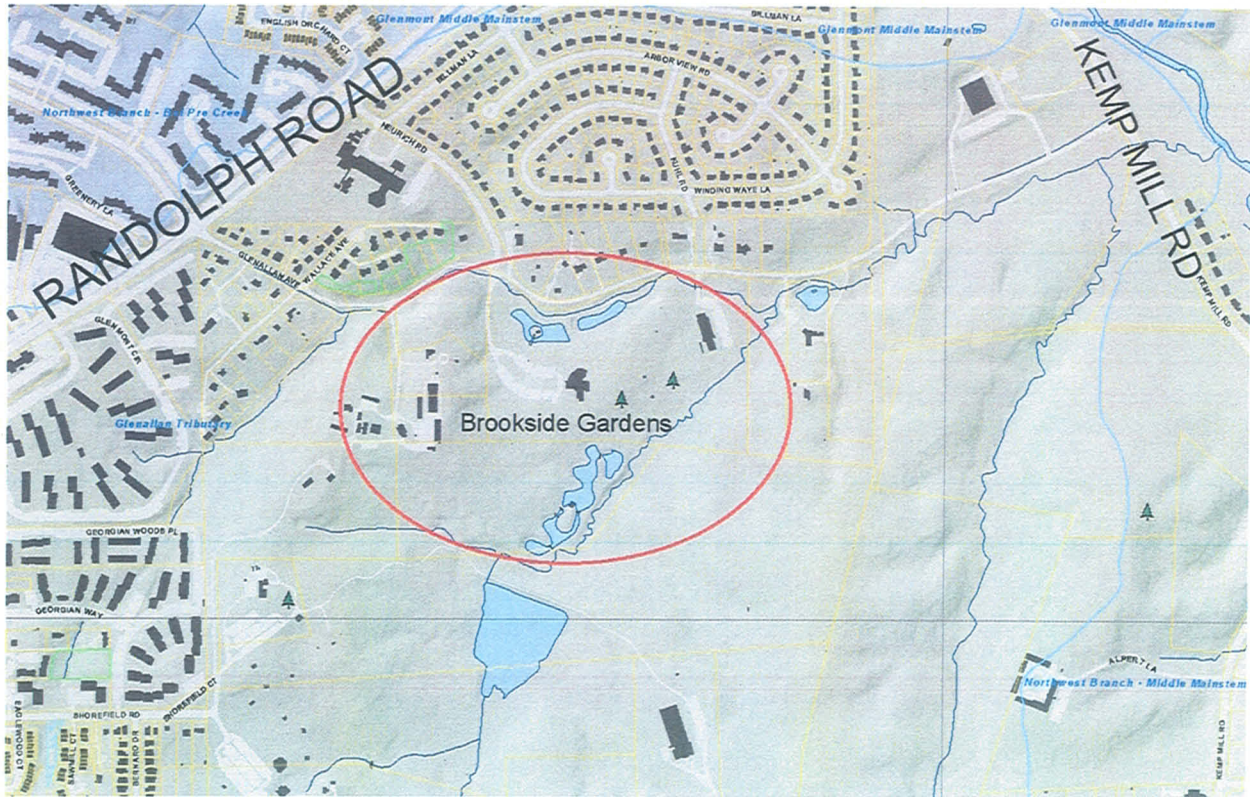
## DISCUSSION

The Facility Plan for the current project was presented to the Planning Board on February 25, 2010. The Park Development Division prepared a Facility Plan for Parking and Access Improvements at the Brookside Gardens Visitors Center, located within Wheaton Regional Park. The proposed project will add roughly 70 parking spaces, improve circulation, and create a greatly enhanced arrival space and transition between the parking and gardens. The Facility Plan was approved by the Board on condition of the approval of the PFCP and associated variance for impacts to trees  $\geq 30''$  DBH.

The Board's actions on the current proposal for the revised PFCP and the associated variance are regulatory and binding.

## SITE DESCRIPTION

Brookside Gardens is located at 1800 Glenallan Avenue, within Wheaton Regional Park in the *1989 Master Plan for the Communities of Kensington-Wheaton* area. Brookside Gardens provides a popular cultural destination known for plant collections, scenic landscapes and horticultural education services. The site is bounded by Wheaton Regional Park on three sides, including Brookside Nature Center to the east and mature forests to the south and west sides. Glenallan Avenue runs along the northern property boundary. Residential homes in the R-90 Zone are located on the north side of Glenallan Avenue.



M-NCPPC GIS image.

## BACKGROUND AND PROJECT HISTORY

The Visitors Center was constructed in 1998 under a revised Final Forest Conservation Plan approved on May 10, 1996. Due to the popularity of the center and associated gardens, the parking was found to be inadequate. Subsequently, the Brookside Gardens Master Plan (approved in 2001, revised in 2004) was presented to the Montgomery County Planning Board on January 6, 2005 and approved by the Board on March 3, 2005. The Master Plan identifies numerous phases for renovation of the facility. The first phase identified enhancements to the entry drive and pedestrian access from Glenallan Avenue. A revised Preliminary Forest Conservation Plan was conditionally approved on November 13, 2007, for modifications to the entryway. The plans for that phase have not been finalized. The Montgomery County Department of Parks is currently proposing to renovate the existing Visitors Center parking per the recommendations of the Brookside Gardens Master Plan. The project is designed to alleviate parking shortages and improve circulation, while incorporating stormwater management and minimizing loss of existing trees and forest areas.

## PROJECT DESCRIPTION

The current project area covers approximately 3.0 acres and includes approximately 0.30 acres of forest clearing. Most of the proposed forest clearing occurs at the north side of the existing parking lot (south of the pond). The existing forest proposed for removal generally consists of trees younger than other forest areas in the vicinity. However, the clearing does include the removal of one 24" tree and a 30" tree, both of which are listed in fair condition. A minor area of clearing is also associated with a proposed access path installation on the south side of the parking lot. The path is proposed for emergency and maintenance access, and utilizes special above-grade matting and paving which will minimize impacts to adjacent trees and the remaining forest areas.



M-NCPPC GIS image with approximate LOD superimposed.

## **ENVIRONMENTAL GUIDELINES**

There is a perennial stream with a relatively narrow forested buffer occurring along and within the Glenallan Avenue right-of-way and the northern side of the property. Two man-made stormwater detention ponds/aquatic gardens are also located in the vicinity. Based on previous approvals, the pond/aquatic gardens were included in the environmental buffer. The currently proposed work is not within the environmental buffer area except for minor rehabilitation and adjustments to previously approved/existing pathways. An area of highly erodible soils occurs nearby to the northwest, but is located entirely out of the currently proposed project area. The site is not within a Special Protection Area (SPA).

## **FOREST CONSERVATION PLAN**

This project is subject to the Chapter 22A Montgomery County Forest Conservation Law and a revised Preliminary Forest Conservation Plan has been submitted for approval. Based on the previously approved Final Forest Conservation Plan (FFCP), the net tract area for the site is 60.0 acres (although the current revision affects approximately 3.0 acres). The project proposes to clear approximately 0.30 acres of existing forest. Due to the preservation of other forest areas within the property, the site remains 11.00 acres above the forest conservation threshold and therefore does not have any reforestation /afforestation planting requirements.

## **TREE SAVE**

There are approximately 29 significant and 37 specimen trees identified within the study area for the project. The proposed work includes the removal of 7 trees which measure  $\geq 24$ " diameter at breast height (DBH), and removal of 4 trees measuring  $\geq 30$ " DBH. Some of the removals referenced above were previously approved under existing Forest Conservation Plans. The current plans include numerous provisions for tree preservation measures/techniques which have been endorsed by an International Society of Arboriculture (ISA) certified arborist.

## **VARIANCE REQUIREMENTS**

Section 22A-12(b) of the Montgomery County Code identifies the following trees, shrubs, plants, and specific areas as priority for retention and protection, and requires that they shall be left in an undisturbed condition unless the applicant qualifies for a variance. More specifically the vegetation to remain undisturbed includes:

- A. *Trees, shrubs, or plants determined to be rare, threatened, or endangered under:*
  - (1) *The federal Endangered Species Act of 1973,*
  - (2) *The Maryland Nongame and Endangered Species Conservation Act, Natural Resources Article, §§10-2A-01—10-2A-09, Annotated Code of Maryland, and*
  - (3) *COMAR 08.03.08;*

B. *Trees that:*

- (1) *Are part of an historic site,*
- (2) *Are associated with an historic structure, or*
- (3) *Have been designated by the State or the Department as a national, State, or county champion tree; and*

C. *Any tree having a diameter measured at 4.5 feet above the ground of:*

- (1) *30 inches or more, or*
- (2) *75 percent or more of the diameter, measured at 4.5 feet above the ground, of the current State champion tree of that species as designated by the Department of Natural Resources.*

Under Chapter 22A-21 of the County Code, a person may request in writing a variance from this Chapter if the person demonstrates that enforcement would result in unwarranted hardship to the person. The applicant for a variance 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 avoided 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.

Before considering the variance in Montgomery County the Planning Board must refer a copy of each request to the County Arborist within the Montgomery County Department of Environmental Protection for a written recommendation. The County Arborist must make a recommendation on the variance request to the Planning Board within 30 days from the receipt of the request. If there is no recommendation from the County Arborist, the response is presumed to be favorable.

### VARIANCE REQUEST

On March 17, 2011 the applicant requested a variance for *removal* of 2 subject trees and *impacts* to 16 subject trees  $\geq 30''$  DBH.

**Table of Subject Trees to be Removed**

Tree #	Common Name	Scientific Name	DBH (in.)	Condition	Remove
79	Tulip Poplar	<i>Liriodendron tulipifera</i>	32.5	Fair	X
130	Tulip Poplar	<i>Liriodendron tulipifera</i>	30	Fair	X

Please note that trees 101 and 101A (which are 30'' and 36'' DBH, respectively) were shown for removal under a previously approved FCP revision in 2007 for upgrades to the entrance to the Visitors Center and therefore do not require a variance.

**Table of Subject Trees to be Retained**

ID	Common Name	Scientific Name	DBH (in.)	% CRZ Impacted	Condition	RP	CA	SP	DRW	AGP
127	Tulip Poplar	<i>Liriodendron tulipifera</i>	32	25%	Fair	X		X		
137a	Tulip Poplar	<i>Liriodendron tulipifera</i>	33	8%	Fair/Good					X
138	Tulip Poplar	<i>Liriodendron tulipifera</i>	32.5	18%	Good		X	X	X	X
139	Tulip Poplar	<i>Liriodendron tulipifera</i>	33	34%	Good		X			X
140	Tulip Poplar	<i>Liriodendron tulipifera</i>	32	45% **	Good		X			X
141	Tulip Poplar	<i>Liriodendron tulipifera</i>	33	47% **	Good		X			X
143	Tulip Poplar	<i>Liriodendron tulipifera</i>	32	13%	Poor			X		
147	Tulip Poplar	<i>Liriodendron tulipifera</i>	30	23%	Fair	X	X			
152	Tulip Poplar	<i>Liriodendron tulipifera</i>	39	32%	Good	X	X			
156	Tulip Poplar	<i>Liriodendron tulipifera</i>	35	8%	Fair/Good	X	X			
160	Tulip Poplar	<i>Liriodendron tulipifera</i>	30	1%	Fair/Good	X				
165	Tulip Poplar	<i>Liriodendron tulipifera</i>	36	8%	Fair/Good	X	X			
169	Tulip Poplar	<i>Liriodendron tulipifera</i>	33	3%	Fair/Good	X				
179	Tulip Poplar - (Twin)	<i>Liriodendron tulipifera</i>	32	17%	Good		X			X
181	Tulip Poplar	<i>Liriodendron tulipifera</i>	30	34%	Good		X			X
186	Red Maple	<i>Acer Rubra</i>	40	10%	Fair		X			X

\*\* These impacts are mitigated on the plan with above grade paving and core aeration.

**Terminology:**

(RP) Root pruning is to be performed inside the tree protection fence. It is to be accomplished by a vibratory plow with a serrated cutting edge or a root cutter with a 36" wheel to a depth of 24". Chain driven trenchers are not acceptable.

(CA) Core aeration is to be done with a handheld manual punch core aerator at 2 holes per sq.ft throughout the root zone. Incorporate an organic product (Leafgrow) and an inorganic product (Sand or Solite) during the aeration process.  
 (SP) Sanitation prune to remove all dead or dying limbs greater than one inch on a tree to improve its health and appearance. Thin crown where necessary to reduce canopy density by maximum twenty-five percent to compensate for root loss and construction stress.

(DRW) Deep root watering to occur on a weekly basis during drought periods.

(AGP) Above grade paving to minimize root disturbance and compaction.

In accordance with Montgomery County Code, Section 22A-21(c) the Planning Board referred a copy of the variance request to the County Arborist in the Montgomery County Department of Environmental Protection for a written recommendation prior to acting on the request (refer to Attachment B for applicants' request letter). In this case, the variance request was referred to the Montgomery County Arborist on April 11, 2011.

The County Arborist responded on April 18, 2011 with a favorable recommendation on condition that appropriate mitigation is provided for the resources disturbed (see Attachment A).

## **VARIANCE FINDINGS**

The Planning Board must make findings that the applicant has met all requirements of Chapter 22A-21 before granting the variance. Staff has made the following determination on the required findings:

- a) *Approval of the variance will not confer on the applicant a special privilege that would be denied to other applicants.* The renovation is in step with the approved Brookside Gardens Master Plan, which originally identified the need for additional parking at Brookside Gardens which accommodates over 400,000 visitors each year. The general impacts of the proposed renovation have been shown on conditionally approved facility plan and the revised Brookside Gardens Master Plan. Refinement of the approved concept is an anticipated and necessary part of the design process, rather than a unique or special consideration for the applicant. Furthermore, the maintenance and upgrading of regional facilities is the responsibility of public agencies in executing their duties to the community. Therefore, staff finds that the variance request would be granted to any applicant in a similar situation.
  
- b) *Approval of the variance is not based on conditions or circumstances which are the result of the action by the applicant.* The program requirements of the project were developed based on guidance from the master plan as well as input received from the M-NCPPC staff and public outreach. In order to accomplish the goals, some limited impacts/removals of specimen trees were found to be necessary. Over a dozen parking configurations were examined as part of the schematic design and four alternatives were developed for further consideration. The preferred alternative was chosen based on obtaining the maximum amount of parking available within the smallest footprint while preserving the high quality forest and numerous specimen trees to the south. The impact and removals are necessary and unavoidable to implement the plan as proposed. Staff finds the variance can be granted under this condition if mitigation for the impacts is provided (above and beyond forest conservation requirements). A minimum of eighteen 2" caliper native tree plantings will be credited on the FFCP as mitigation for the impacts/removals subject to the variance. Note that the 30% concept planting plan for this project includes forty-five (45) 2.5" caliper shade trees, twenty-one (21) 1.5" caliper flowering trees, and one hundred and twenty (120) shrubs.

- c) *Approval of the variance does not arise from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property.* The requested variance is a result of the current application on the subject property and is not related to land or building use on a neighboring property.
  
- d) *Approval of the variance will not violate State water quality standards or cause measurable degradation in water quality.* The proposed plan will use Environmental Site Design criteria including permeable paving and bioretention areas to treat the stormwater on site. These best management practices are not being used at the existing parking lot. Therefore, the proposed design will provide significantly improved water quality treatment than the existing condition. Additionally the project has an approved Stormwater Management (SWM) Concept, and the final SWM Plans will be approved for this project by the Montgomery County Department of Permitting Services. The approved SWM Plan will ensure that water quality standards will be met in accordance with State and County criteria.

As a result of the above findings, staff recommends the Board approve the applicant's request for a variance from Forest Conservation Law to remove 2 subject trees and impact 16 subject trees associated with the site. The variance approval is assumed into the Planning Board's approval of the Forest Conservation Plan.

## **NOTIFICATION AND OUTREACH**

Adjoining and confronting property owners and other parties of interest will be notified of the upcoming public hearing on the proposed project. As of the date of this report, Planning staff has received no inquiries. Any comments received hereafter will be forwarded to the Planning Board. Public input received by Parks staff for the original Facility Plan was generally supportive.

## **CONCLUSION**

Staff is recommending **approval** of revised Preliminary Forest Conservation Plan with conditions listed at the front of this report.

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### **Attachments:**

Attachment A: Variance response letter from Laura Miller (County Arborist).

Attachment B: Variance request letter

Attachment C: Preliminary Forest Conservation Plan (PFCP)

Attachment D: February 18, 2010 staff report for Facility Plan



# ATTACHMENT A



**RECEIVED**  
0385  
APR 25 2011

OFFICE OF THE CHAIRMAN  
THE MARYLAND NATIONAL CAPITAL  
PARK AND PLANNING COMMISSION

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Isiah Leggett  
County Executive

Robert G. Hoyt  
Director

April 18, 2011

Françoise Carrier, Chair  
Montgomery County Planning Board  
Maryland National Capital Park & Planning Commission  
8787 Georgia Avenue  
Silver Spring, Maryland 20910

RE: Brookside Gardens Parking Lot Expansion – Second Revision to Variance Request,  
#P-95001

Dear Ms. Carrier:

The County Attorney's Office has advised me that the provisions contained in Section 5-1607 of Title 5 (Natural Resources) of the Maryland Code apply to any application required by Chapter 22A of the Montgomery County Code submitted after October 1, 2009. Since the application for the above referenced request is required to comply with Chapter 22A based on a review by the Maryland National Capital Park & Planning Commission (MNCPPC) and was submitted after this date, I am providing the following recommendation pertaining to this request for a variance.

Section 22A-21(d) of the Forest Conservation Law 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;
2. Is based on conditions or circumstances which are the result of the actions by the applicant;
3. Arises from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property; or
4. Will violate State water quality standards or cause measurable degradation in water quality.

Applying the above conditions to the plan submitted by the applicant results in the following findings:

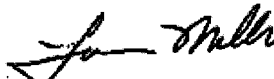
Françoise Carrier  
April 18, 2011  
Page 2

1. The granting of a variance in this case would not confer a special privilege on this applicant that would be denied other applicants as long as the same criteria are applied in each case. Therefore, the variance can be granted under this condition.
2. Based on a discussion on March 19, 2010 with representatives of the Maryland Department of Natural Resources Forest Service and the MNCPPC, the disturbance of trees, or other vegetation, is not interpreted as a condition or circumstance that is the direct result of the actions by the applicant and, therefore, the variance can be granted under this condition, as long as appropriate mitigation is provided for the resources disturbed.
3. The disturbance of trees, or other vegetation, by the applicant does not arise from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property. Therefore, the variance can be granted under this condition.
4. The disturbance of trees, or other vegetation, by the applicant will not result in a violation of State water quality standards or cause measurable degradation in water quality. Therefore, the variance can be granted under this condition.

Therefore, I recommend that this applicant qualify for a variance conditioned upon mitigating for the loss of resources due to removal or disturbance to trees, and other vegetation, subject to the law. Until other guidelines are developed, I recommend requiring mitigation based on the area of the critical root zone lost or disturbed. The mitigation can be met using any currently acceptable method under Chapter 22A of the Montgomery County Code.

If you have any questions, please do not hesitate to contact me directly.

Sincerely,



Laura Miller  
County Arborist

cc: Robert Hoyt, Director  
Walter Wilson, Associate County Attorney  
Mark Pfefferle, Acting Chief

# ATTACHMENT B



## MONTGOMERY COUNTY DEPARTMENT OF PARKS THE MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION

March 17, 2011

Mr. Mark Pfefferle  
Acting Chief  
Environmental Planning, Community-Based Planning  
Maryland – National Capital Park and Planning Commission  
8787 Georgia Ave.  
Silver Spring, MD 20910

RE: Brookside Gardens Parking Lot Expansion  
Forest Conservation Plan revision to #P-95001  
30" tree variance

Dear Mr. Pfefferle:

The Park Development Division of the Maryland-National Capital Park and Planning Commission respectfully requests a variance from Section 22A-21 of the Montgomery County Code for (18) trees having a diameter at breast height (dbh) of greater than 30" at (4.5' from ground). This request is being made in concert with conceptual design plans being prepared for the expansion of the Brookside Gardens Visitor's Center Parking Lot.

A paper copy of the Preliminary Forest Conservation Plan set and a CD containing a digital copy of this Variance Request letter and Preliminary Forest Conservation Plan are attached for your review and comment. Please note that two (2) trees are slated for removal (Table 1) while sixteen (16) trees are slated for retention with impacts within their critical root zone (CRZ) (Table 2). The table below identifies the specimen tree that is part of this Variance Request.

**Table 1 - Significant trees for removal within the Limits of Disturbance with DBH (>30")**

ID	Common Name	Scientific Name	DBH (in.)	CRZ (Ft.)	Condition
79	Tulip Poplar	<i>Liriodendron tulipifera</i>	32.5	48.75	Fair
130	Tulip Poplar	<i>Liriodendron tulipifera</i>	30.0	45.0	Fair

Sixteen trees greater than 30" dbh are shown to have impacts within their calculated CRZ's and will be protected using specific measures shown in the table below. Tree number 127 is within a priority 2 forest stand to the north of the existing building and is shown to have 25% CRZ disturbance associated with expansion of the parking lot and plaza in this area. Five of the trees over 30" DBH which will be impacted without removal are located along the periphery of the existing parking lot area with calculated critical root zones that extend within the existing parking lot area to be refurbished. The remaining seven trees to be impacted are located in the southern forest stand through which a small (10' wide) maintenance access road will be located. Existing access to the gardens requires maintenance and emergency vehicles to share primary



pedestrian pathways creating unsafe conditions. The new maintenance road has been preliminarily located to avoid impacts to existing trees and will be staked in the field for approval by M-NCPPC prior to construction. The path will be constructed "on grade" with bed preparation limited to a 2" depth max to reduce stress to root systems. Further, a tri-planar geonet mat will be used to provide additional root protection and only low-impact construction equipment will be permitted within the forest stand. Tree number 186 will similarly have a new walkway constructed within the existing root zone.

**Table 1 - SPECIAL PROTECTION MEASURES FOR TREES TO REMAIN > 30"**

ID	Common Name	DBH (in.)	Condition	RP	DRF	CA	SP	DRW	AGP
127	Tulip Poplar	32	Fair	X			X		
137a	Tulip Poplar	33	Fair/Good						X
138	Tulip Poplar	32.5	Good			X	X	X	X
139	Tulip Poplar	33	Good			X			X
140	Tulip Poplar	32	Good			X			X
141	Tulip Poplar	33	Good			X			X
143	Tulip Poplar	32	Poor				X		
147	Tulip Poplar	30	Fair	X		X			
152	Tulip Poplar	39	Good	X		X			
156	Tulip Poplar	35	Fair/Good	X		X			
160	Tulip Poplar	30	Fair/Good	X					
165	Tulip Poplar	36	Fair/Good	X		X			
169	Tulip Poplar	33	Fair/Good	X					
179	Tulip Poplar	32	Good			X			X
181	Tulip Poplar	30	Good			X			X
186	Red Maple	40	Fair			X			X

(RP) Root pruning is to be performed inside the tree protection fence. It is to be accomplished by a vibratory plow with a serrated cutting edge or a root cutter with a 36" wheel to a depth of 24". Chain driven trenchers are not acceptable.

(DRF) Deep root fertilize using a hydraulic pump to inject a liquid solution of 30-10-7 arboricultural grade fertilizer and a hormone stimulator such as "Roots" or "Essential".

(CA) Core aeration is to be done with a handheld manual punch core aerator at 2 holes per sq.ft throughout the root zone. Incorporate an organic product (Leafgrow) and an inorganic product (Sand or Solite) during the aeration process.

(SP) Sanitation prune to remove all dead or dying limbs greater than one inch on a tree to improve its health and appearance. Thin crown where necessary to reduce canopy density by maximum twenty-five percent to compensate for root loss and construction stress.

(DRW) Deep root watering to occur on a weekly basis during drought periods.

(AGP) Above grade paving to minimize root disturbance and compaction.

It is our understanding that applicants for a variance must demonstrate the following criteria. Our responses follow each point:

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

The expansion is in step with the approved 2001 master plan for the garden, which identified the need for additional parking at the undersized parking lots at Brookside Gardens which welcomes over 400,000 visitors each year. The Visitors Center is a hub of activity, used extensively for classes, larger gatherings, and community functions. In addition to a regional garden attraction, over 95,000 visitors annually attend special events held at Brookside Gardens such as the Garden of Light show. It is not uncommon during these events and during busy weekends for visitors to overwhelm the existing parking lot. It is estimated by Brookside Staff that over 50 times a year the parking lot is overwhelmed by visitors reducing access and creating unsafe traffic conditions within the park and along Glenallen Avenue. The following program requirements were developed based on guidance from the master plan as well as input received from the M-NCPPC staff and public outreach:

- *Provide a minimum of 50 new parking spaces to better accommodate visitors*
- *Provide a minimum of 2 parking spaces for buses*
- *Provide accessible parking spaces and pedestrian circulation in compliance with the Americans with Disabilities Act Guidelines*
- *Improve the visitor drop-off area for vehicles and buses*
- *Improve parking area circulation and safety for pedestrians and vehicles*
- *Create an arrival and transition space between the parking area, the Visitors Center and the gardens*
- *Enhance the visitor experience and appearance of the parking area and entrance by introducing gardens into the parking area and by use of special hardscape materials*
- *Design vehicular and pedestrian circulation to accommodate a future main entrance to the building at the southwest side of the existing building*
- *Implement low impact development techniques and stormwater best management practices in accordance with new environmental site design criteria*
- *Provide a service drive along the south side of the Visitors Center separated from pedestrian circulation to the facility*
- *Provide energy efficient lighting for safe access to the building at night*
- *Provide irrigation as required for landscape plantings*
- *Design facilities in compliance with Crime Prevention Through Environmental Design (CPTED) principles*

In order to accomplish these goals, some limited impacts to specimen trees were found to be necessary. Over a dozen parking configurations were examined as part of the

schematic design and four alternatives were developed for further consideration. The preferred alternative was chosen based on obtaining the maximum amount of parking available within the smallest footprint while preserving the high quality forest and specimen trees to the south. However, since the trees described above are impacted (i.e. disturbance or modification to root zone), they are also considered impacted and must be included in the Variance Request. The access road is required to improve pedestrian safety. Equally important it provides a secondary connection between the parking lot and gardens for emergency vehicle use. It will be a hardship to M-NCPPC if the variance is not granted and the approved master plan cannot be implemented.

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

Enforcement of these rules would deprive the owner of their right to improve user safety and upgrade a public amenity to meet current and anticipated needs. In addition, enforcement of these rules would not allow the owner to fully implement the tenets of Environmental Site Design to meet sustainability and stormwater management guidelines. The proposed design was configured to avoid impacts to as many existing trees as possible with a priority given to avoiding expansion into existing forest stand #1 to the south of the existing parking lot and the specimen trees contained within

- 3) *Verify that State water quality standards will not be avoided or that a measurable degradation in water quality will occur as a result of granting the variance.*

State water quality standards will not be avoided and a measurable degradation in water quality will not occur as a result of granting this variance. In this case, the proposed parking facility is slated to use Environmental Site Design criteria including permeable paving and Bioretention areas to treat stormwater on site, these best management practices are not being used at the existing parking lot. Therefore, the proposed design will provide significantly better water quality treatment than the existing condition. In addition, the Stormwater Management Concept and a Sediment Control Plan will be submitted for review and approval by Montgomery County Department of Permitting Services to ensure that current State and County water quality standards and regulations will be met.

- 4) *Provide any other information appropriate to the request.*

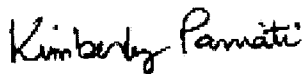
Please note that trees 101 and 101A were shown for removal under a previous FCP revision in 2007 for upgrades to the entrance to the Visitor's Center. That project is still under design. Also, tree 186 was also to be impacted in previous approved plans, and the current plan reduces the impact. Tree number 79 appears to be stressed by construction of the existing parking lot and has been a source of safety concern for staff over the years.

5) Applicants must apply for and include mitigation in their requests for variances for all trees, and other vegetation, regulated under section 5-1607 that are removed or disturbed by the applicant's activity.

A note has been added to the Preliminary Forest Conservation plan that "a minimum of eighteen (18) trees must be included in the final forest conservation planting plan to mitigate for impacts to existing specimen trees". Please note that the 30% concept planting plan for this project includes forty-five (45) 2.5" caliper shade trees, twenty-one (21) 1.5" caliper flowering trees, and one hundred and twenty (120) shrubs.

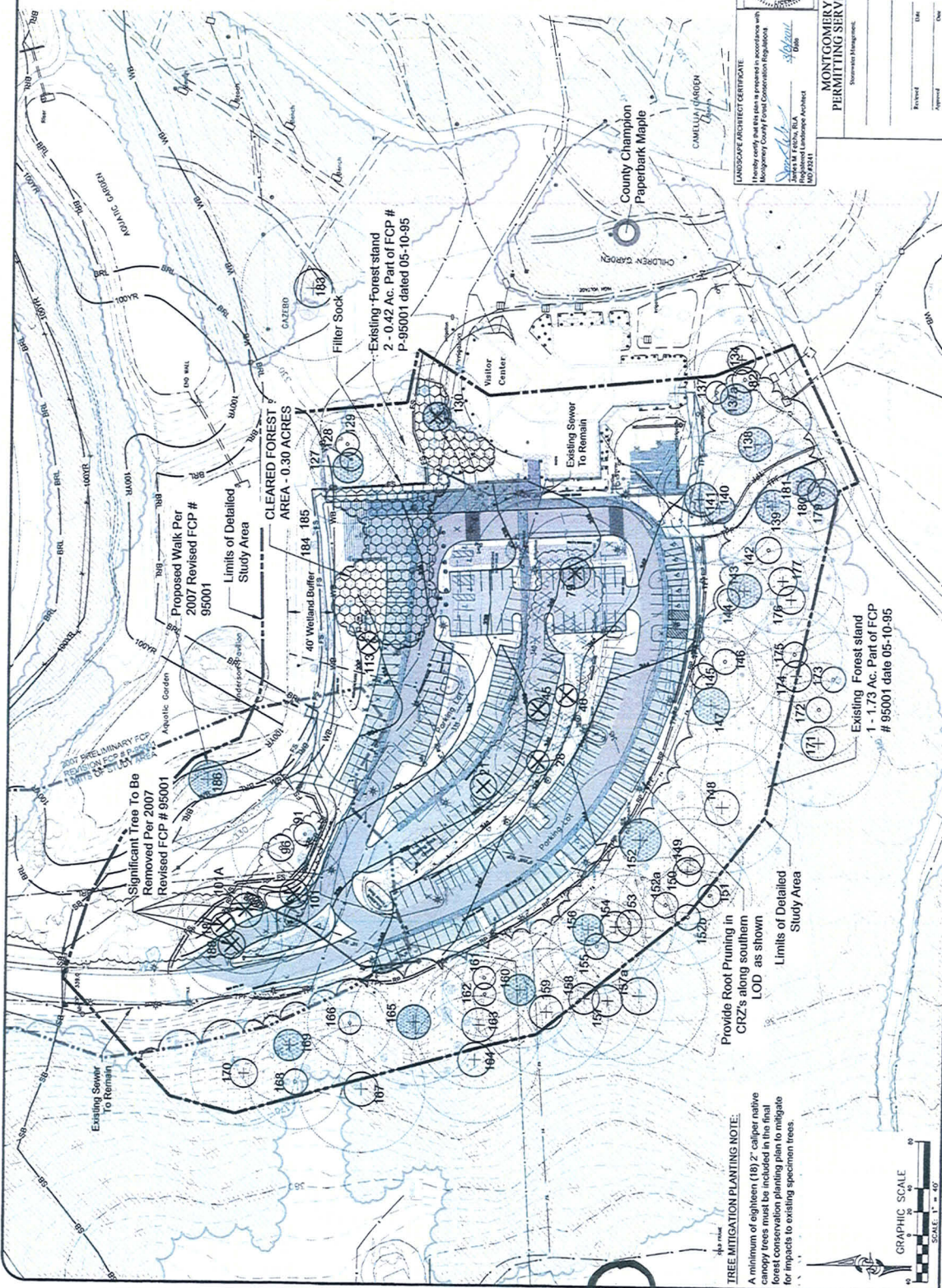
If you have any other questions or need additional information, please contact me at 301-495-2465 or via email at: [Kimberly.paniati@montgomeryparks.org](mailto:Kimberly.paniati@montgomeryparks.org).

Sincerely,



Kimberly Paniati  
Engineer, M-NCPPC Park Development Division

CC: James Ferchu, CPJ  
Marco Fuster, M-NCPPC  
File



**LEGEND**

○	INDIVIDUAL TREE <24"
○	30' + DBH TREE RCL VARIANCE
○	SPECIMEN TREE 24" and Greater
○	COUNTRY CHAMPION TREES
○	CRZ2 CRITICAL ROOT ZONE
○	TREE TO BE REMOVED
○	EX. TREE STAND
○	EX. FOREST BASED ON APPROVED NRP/FSI # 4-84149
○	FOREST WITHIN DETAILED STUDY AREA
○	40' WETLAND BUFFER
○	STREAM BUFFER
○	LAKE OR STREAM LINE
○	WETLAND BUFFER
○	LIMITS OF DETAILED STUDY AREA
○	LIMITS OF DISTURBANCE
○	FS TREE PROTECTION FENCE
○	RP ROOT PRUNING
○	FOREST TO BE CLEARED
○	PLAZA/PAVER
○	ASPHALT SURFACE
○	PERMEABLE SURFACE
○	PROPOSED SIDEWALK
○	ENHANCED FILTER AREAS
○	PROPOSED WALK PER FCP#95001
○	EXISTING CONTOURS
○	420
○	PROPOSED CONTOURS

SEE SHEET 3 FOR TREES TO BE PROTECTED TABLE

**SHEET INDEX**

1. Plan View Within Study Area
2. Site General View
3. Details

**Abbrev. Tree Stem Recommendation Note:**  
For all important trees with CRZ of 10 or more impacted by the proposed LOD located on the site, the following tree stem recommendations shall be followed for protection and preservation. Above grade pruning practices shall be used to protect and preserve for such trees. Root pruning practices shall be used to protect and preserve for such trees. All trees to be removed shall be removed in a timely manner. In addition, see the note in the plan for all trees along the southern edge of LOD.

**MONTEGOMERY COUNTY DEPT OF PERMITTING SERVICES APPROVED FOR:**

**CPJ Environmental Services Division**  
STEVEN BRYAN - SUPERVISOR  
MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES  
SIXTY SEVEN MILL FREDERICK ROAD TAMPA, FL 33611

**LANDSCAPE ARCHITECT CERTIFICATE**  
Montgomery County Permit Conservation Registration  
James M. Fenton, L.A.  
1407821

**ARCHITECT CERTIFICATE**  
I hereby certify that I have reviewed the project and concur with the proposed site plan.  
Cathy Beatty  
Date: 3/16/11

**NOTICE:** THESE PLANS AND DOCUMENTS REQUIRE THIS AND A SUCCESSOR'S SIGNATURE.

Administrative Requirements:  
Reviewed \_\_\_\_\_ Date \_\_\_\_\_  
Approved \_\_\_\_\_ Date \_\_\_\_\_

Submitted to: \_\_\_\_\_  
Reviewed \_\_\_\_\_ Date \_\_\_\_\_  
Approved \_\_\_\_\_ Date \_\_\_\_\_

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Approved \_\_\_\_\_ Date \_\_\_\_\_

**The Maryland-National Capital Park and Planning Commission**  
9500 Brunnet Avenue  
Silver Spring, Maryland 20901  
Montgomery County Department of Parks  
(301) 495-2355



**review and approval**

park development division	date
central maintenance	date
region	date
natural resources	date
superintendent of parks	date
park police	date

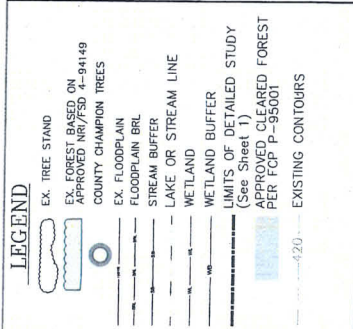
**review and approval**

design	date
check	date
approve	date

**GRAPHIC SCALE**  
SCALE: 1" = 40'

**DESIGNER:** CPJ Environmental Services Division  
**DATE:** 3/16/11





**LEGEND**

- EX TREE STAND
- EX FOREST BASED ON APPROVED NRI/FSD 4-94149
- COUNTY CHAMPION TREES
- EX FLOODPLAIN
- FLOODPLAIN BRL
- STREAM BUFFER
- LAKE OR STREAM LINE
- WETLAND
- WETLAND BUFFER
- LIMITS OF DETAILED STUDY (See Sheet 1)
- APPROVED CLEARED FOREST PER FCP P-95001
- EXISTING CONTOURS

**PROPERTY INFORMATION**  
 DETAILED STUDY AREA CONSERVATION PLAN (SHEETS)

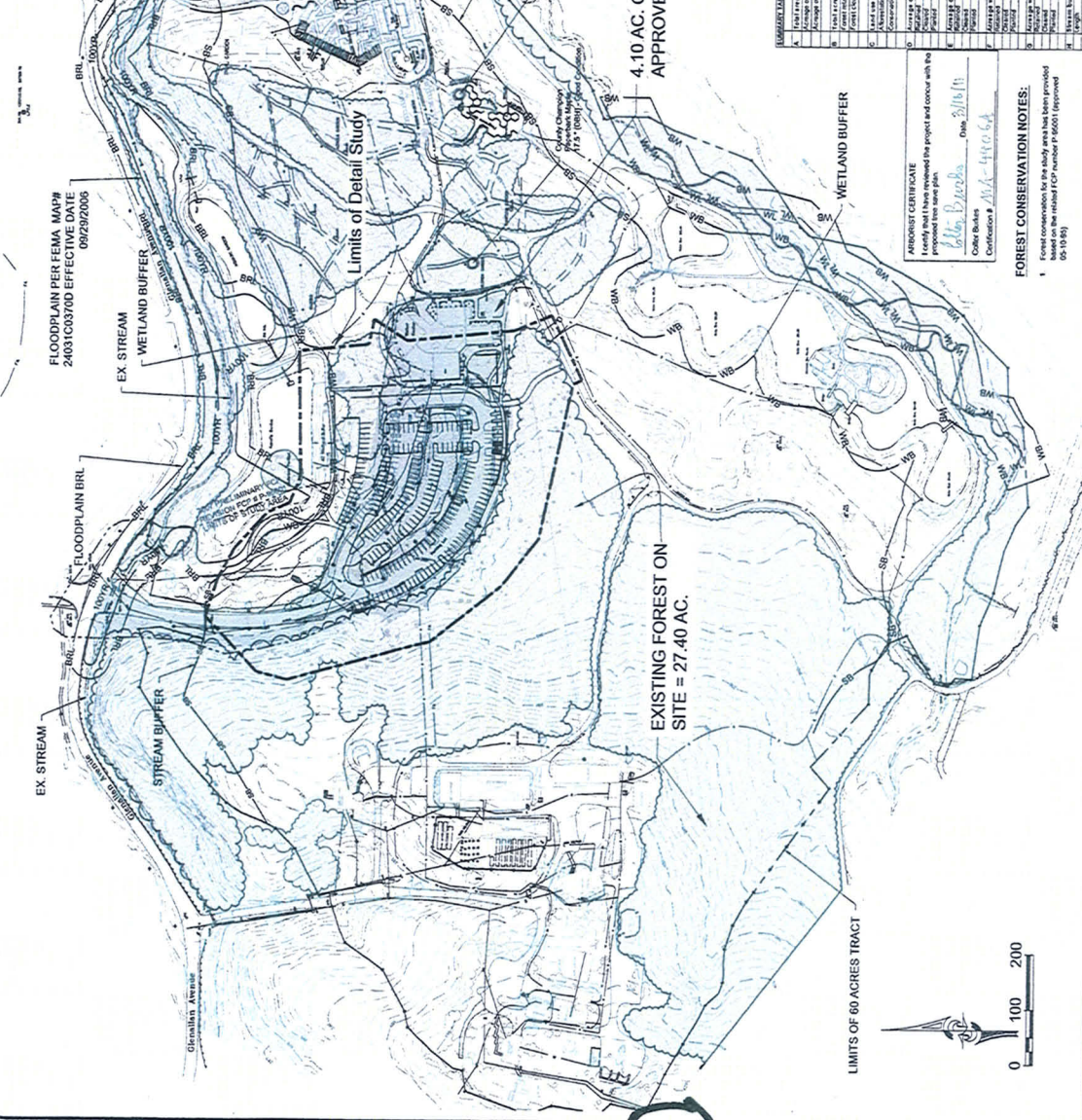
PARCEL NUMBER	P651
ACCOUNT NO.	0298788
SDS NUMBER	3023
USER ID FIELD (2)	01431-0402
TAX MAP NUMBER	2012
TAX MAP NUMBER	2012
AGES	4:185

(STUDY AREA SIZE 27.45 ACRES)

**NRI/FSD NUMBER**  
 N-9119

**FCP NUMBER**  
 P-95001

APPROVED 05-10-85  
 RESUBMITTED FOR REVISION SUBMITTED 2007 FOR ENTRY.

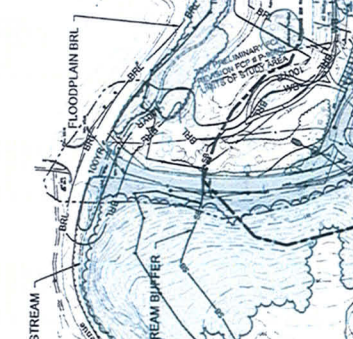


**AMENDMENT CERTIFICATE**  
 I, the undersigned, do hereby certify that the plan is prepared in accordance with the requirements of the Maryland-National Capital Park and Planning Commission's Ordinance No. 89-1587, and that the information furnished to the Commission is true and correct.

Date: 8/16/14  
 Confession to: 214A-490-64  
 Code Booklet

**FOREST CONSERVATION NOTES:**  
 1. Forest compensation for the study area has been provided based on the related FCP number P-66001 (approved 05-19-85).

AMOUNT OF FOREST TO BE CONSERVED	27.40
AMOUNT OF FOREST TO BE RESTORED	27.40
AMOUNT OF FOREST TO BE MAINTAINED	27.40
AMOUNT OF FOREST TO BE REPLANTED	27.40
AMOUNT OF FOREST TO BE PROTECTED	27.40
AMOUNT OF FOREST TO BE MONITORED	27.40
AMOUNT OF FOREST TO BE PRESERVED	27.40
AMOUNT OF FOREST TO BE SAVED	27.40
AMOUNT OF FOREST TO BE PROTECTED	27.40
AMOUNT OF FOREST TO BE MAINTAINED	27.40
AMOUNT OF FOREST TO BE RESTORED	27.40
AMOUNT OF FOREST TO BE REPLANTED	27.40
AMOUNT OF FOREST TO BE CONSERVED	27.40



design	Charles F. Johnson - MF	03-2011
landscape architect	MF	date
architect	MF	date
engineer	Charles F. Johnson - JJ	03-2011
down	date	date

review and approval	review and approval	review and approval	review and approval
park development division	central maintenance	recreation	natural resources
date	date	date	date
date	date	date	date
date	date	date	date
date	date	date	date

**The Maryland-National Capital Park and Planning Commission**

9500 Brunnet Avenue  
 Silver Spring, Maryland 20901  
 Montgomery County Department of Parks  
 (301) 995-2535

**CPJ Environmental Services Division**  
 STEAMERBOARDS - STREAMWATER MANAGEMENT - WETLAND PERMITS AND FORESTATION - MONTGOMERY COUNTY - MARYLAND 20898

Montgomery County Department of Parks  
 301-995-2535

**Montgomery County DEPT OF PERMITTING SERVICES APPROVED FOR:**

Secretary Management: [Signature]  
 Date: [Date]  
 Approved: [Signature]  
 Date: [Date]

**LANDSCAPE ARCHITECT CERTIFICATE**  
 I, the undersigned, do hereby certify that the plan is prepared in accordance with the requirements of the Montgomery County Forest Conservation Regulations and that the information furnished to the Commission is true and correct.

Date: 8/16/14  
 Confession to: 214A-490-64  
 Code Booklet

**FOREST CONSERVATION NOTES:**  
 1. Forest compensation for the study area has been provided based on the related FCP number P-66001 (approved 05-19-85).



# ATTACHMENT D



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

MCPB  
Item: 5  
Date: 2/25/10

February 18, 2010

### MEMORANDUM

**TO:** Montgomery County Planning Board

**VIA:** Mary R. Bradford, Director of Parks *MB*  
Michael F. Riley, Deputy Director, Department of Parks *MR*  
Mitra Pedoeem, Chief, Park Development Division *MP*

**FROM:** Patricia McManus, Design Section Supervisor, Park Development Division *PM*  
Kimberly Paniati, Project Manager, Park Development Division (301-495-2465) *KP*  
Ching-Fang Chen, Landscape Architect, Park Development Division *CFC*

**SUBJECT:** Facility Plan for Brookside Gardens Parking and Access Improvements

### STAFF RECOMMENDATION

- 1) Approve the facility plan Alternative 4 for parking and access improvements at the Brookside Gardens Visitors Center, including cost estimate.

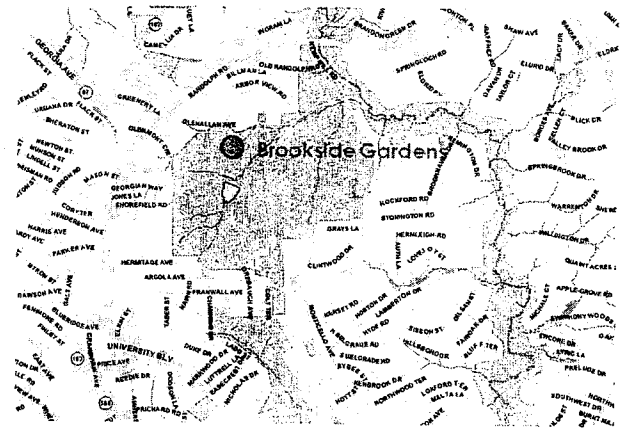
Note: Approval of the facility plan is conditioned upon approval of the revised Preliminary Forest Conservation Plan, as well as a variance for impacts to trees 30 inches or larger in diameter. The Preliminary Forest Conservation Plan and variance is currently under review and will be presented to the Planning Board by Environmental Planning staff at a later date. The facility plan is presented at this time, in order to meet the schedule for the Montgomery County Council's Planning Housing and Economic Development (PHED) Committee review of the FY11-16 Department of Parks Capital Improvements Program.

### PROJECT DESCRIPTION

#### Introduction

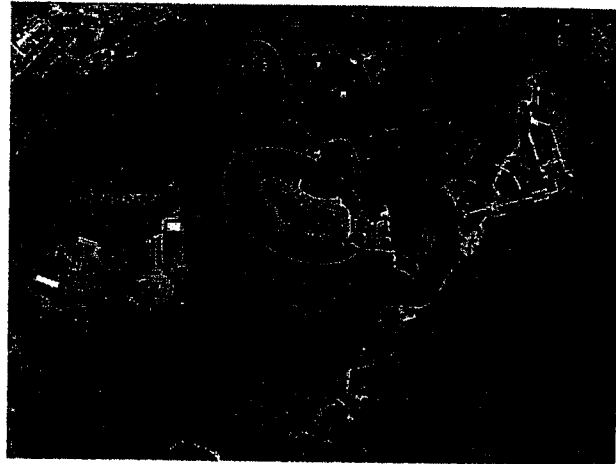
The purpose of this project is to prepare a facility plan to expand the existing parking area at the Brookside Gardens Visitors Center in order to help alleviate parking shortages and to create a more welcoming entrance to the building. This project is the second phase of work identified in the Brookside Gardens Master Plan and will be implemented in conjunction with the first phase of the master plan, which is the renovation of the entrance to Brookside Gardens at 1800 Glenallan Avenue. The entrance renovation and parking lot expansion projects are intended to reinforce the entrance to the Visitors Center as the primary entrance to Brookside Gardens and to set the tone for the visitation experience throughout the Gardens.

Brookside Gardens is located within the 500-acre Wheaton Regional Park in the Kensington-Wheaton planning area. The facility provides a popular cultural destination known for plant collections, scenic landscapes, and horticulture education services. The Gardens encompass 50 acres of which 35 are open to the public and 15 are service and natural areas. Brookside Gardens is bounded by Wheaton Regional Park on three sides, with Brookside Nature Center to the east and mature woodlands from the park to the south and west sides. The north side of the property is bounded by a narrow residential street, Glenallan Avenue, which provides access to both public and service areas of the Gardens. Regional transportation routes nearby include Georgia Avenue, Randolph Road and Kemp Mill Road.



**Vicinity Plan**

Brookside Gardens welcomes over 400,000 visitors of all ages each year. It includes a connected sequence of individual garden areas, open spaces, a conservatory, and a visitors center. The Visitors Center is a hub of activity, used extensively for classes, larger gatherings, and community functions. In addition to providing a regional garden attraction, over 95,000 visitors annually attend special events held at Brookside Gardens such as the Wings of Fancy butterfly exhibit and the Garden of Light Show.



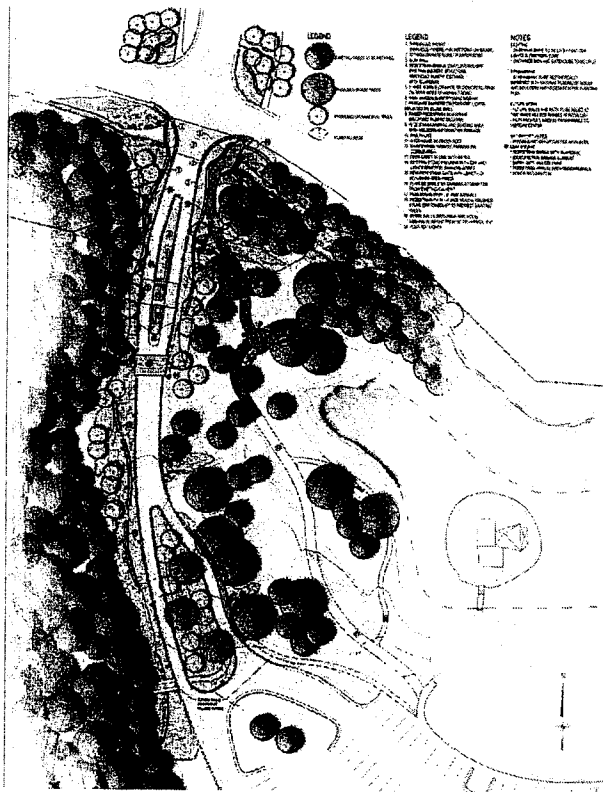
**Project Location**

A facility plan for the Phase I entrance renovations was completed and approved by the Montgomery County Planning Board on July 17, 2008. The purpose of the project was to visually reinforce the Visitors Center entrance on Glenallan Avenue as the primary entrance to Brookside Gardens, improve vehicular and pedestrian access, and to enhance the garden experience upon arrival to the facility. This project included reconfiguring the vehicular and pedestrian entrances on Glenallan Avenue, removing impervious surfaces, providing decorative pervious paving, and providing entrance features including artwork, signage, a gatehouse with a green roof, display plantings along the entrance drive, deer control measures, and rain gardens.

Staff is recommending that Phases I and II should be developed together as one project through detailed design and construction, so that the arrival experience is designed and constructed sequentially and to ensure that physical improvements from the Phase I entrance renovation would not be damaged by construction activities occurring later for the Phase II parking area. This approach will also result in cost savings.

### Project Funding and Timing

The facility planning study was funded with \$130,000 in the Capital Improvements Program in the Brookside Gardens Master Plan Implementation PDF. The project was designed by in-house staff in collaboration with Charles P. Johnson & Associates, Inc., who provided engineering and environmental services. The project was initiated in late July 2009 and was combined with the approved Phase I entrance renovation project for detailed design and construction in the FY11-16 Capital Improvements Program, which was submitted to the County Executive in Fall 2009 and recommended for approval. The facility plan provides 30% complete construction documents, a determination of the regulatory feasibility of the project, and a detailed cost estimate.



**Phase I Entrance Renovation**  
Approved July 17, 2008



## **Facility Planning Process**

The facility planning process included the following steps:

1. Review and analyze existing site conditions and project background information.
2. Prepare site survey, including location of utilities and delineation of existing wetlands.
3. Prepare a geotechnical analysis and report to determine feasibility of parking and stormwater management options.
4. Prepare and obtain approval of Natural Resources Inventory/Forest Stand Delineation Summary Map.
5. Prepare preliminary program of requirements.
6. Prepare preliminary parking lot alternatives.
7. Discuss alternatives and technical issues with internal stakeholder groups and expand study limits to include area between building and parking lot.
8. Present program of requirements, design alternatives and recommended plan to the community.
9. Prepare stormwater management concept submission and obtain approval from the Department of Permitting Services.
10. Prepare and submit Preliminary Forest Conservation Plan and variance request for impacts to trees 30 inches in diameter or greater for approval.
11. Prepare final facility plan, report, cost estimate, and operating budget estimates.
12. Present facility plan recommendations and costs to the Montgomery County Planning Board for approval.

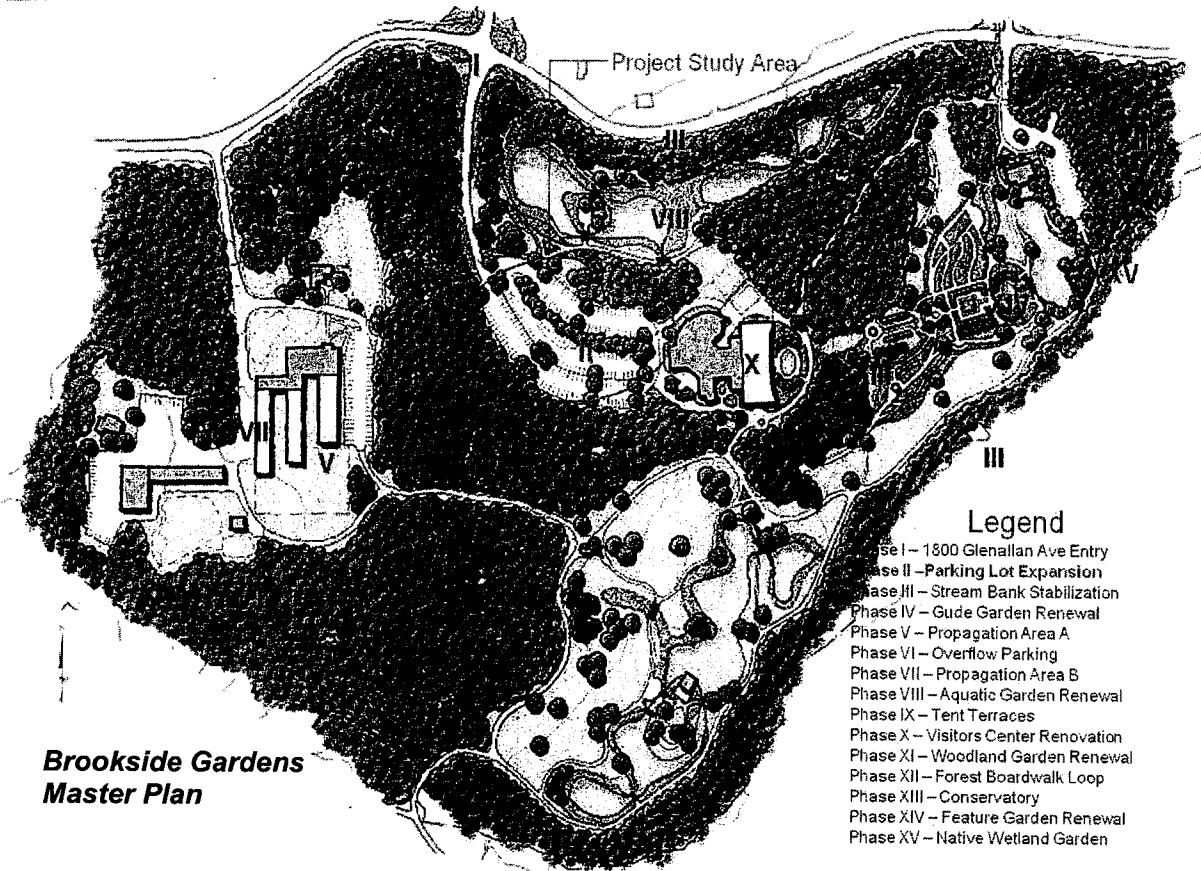
## **PLANNING DOCUMENT RECOMMENDATIONS**

### **Brookside Gardens Master Plan**

The Brookside Gardens Master Plan was completed and approved by the Montgomery County Planning Board in March of 2005, providing a long-term vision for the renewal of Brookside Gardens. The master plan identified fifteen phases of development for implementation. The renovation of the main entrance was identified as the first phase for implementation, and this project to expand the parking lot and improve access to the building was identified as the second phase.

The master plan identified the scope of this project as including expansion of the existing parking lot by approximately 50 spaces within the limits of the existing developed parking area, introduction of gardens in the parking area, providing a service drive along the south side of the Visitors Center, and providing stormwater management as required. In addition the master plan envisions reconfiguring the Visitors Center complex in the future so that the southwest door to the existing building will eventually become the main visitor entrance. The parking lot configuration, drop-off functions and pedestrian circulation should be designed to accommodate this future building reconfiguration.

The Maryland-National Capital Park & Planning Commission has a policy of maintaining a ratio of 1/3 developed to 2/3 undeveloped land within regional parks. Since Wheaton Regional Park is nearing its threshold for development, the master plan for Brookside Gardens focuses primarily on enhancing the gardens and improving the visitor experience rather than increasing development and visitation. The proposed parking lot expansion is modest in size to maintain this park development ratio and to provide an aesthetically pleasing entrance experience with substantive planted areas within the parking lot and at the building entrance.



**Brookside Gardens  
Master Plan**

**PROGRAM OF REQUIREMENTS**

The following program of requirements was developed based on guidance from the master plan as well as input received from the staff team:

- Provide a minimum of 50 new parking spaces to better accommodate visitors
- Provide a minimum of 2 parking spaces for busses
- Provide accessible parking spaces and pedestrian circulation in compliance with the Americans with Disabilities Act Guidelines
- Improve the visitor drop-off area for vehicles and busses
- Improve parking area circulation and safety for pedestrians and vehicles

- Create an arrival and transition space between the parking area, the Visitors Center and the gardens
- Enhance the visitor experience and appearance of the parking area and entrance by introducing gardens into the parking area and by use of special hardscape materials
- Design vehicular and pedestrian circulation to accommodate a future main entrance to the building at the southwest side of the existing building
- Implement low impact development techniques and stormwater best management practices in accordance with new environmental site design criteria
- Provide a service drive along the south side of the Visitors Center separated from pedestrian circulation to the facility
- Provide energy efficient lighting for safe access to the building at night
- Provide irrigation as required for landscape plantings
- Design facilities in compliance with Crime Prevention Through Environmental Design (CPTED) principles

## FACILITY PLAN STUDY

### Existing Conditions

The Visitors Center was constructed in 1998 and is a significant resource for the gardens. While the building and parking areas are evident from the approach drive, the design of building entrances and layout of parking and walkways contribute to visitor confusion. The existing parking area is terraced, with spaces for 122 automobiles and 2 busses. The vehicular circulation system is intended to be a one-way system, however the drive aisles are wide enough for two way traffic and signage is unclear, making wayfinding difficult for a first-time visitor. There is a drive aisle at the front of the building which is part of the main parking lot circulation flow and is also used for pedestrian drop-off, service deliveries and maintenance access. The main pedestrian access to the gardens at the south side of the building is also the access point for maintenance vehicles, detracting from the visitor experience and efficiency of maintenance activities and emergency access. There is also a need for more direct pedestrian connectivity from the



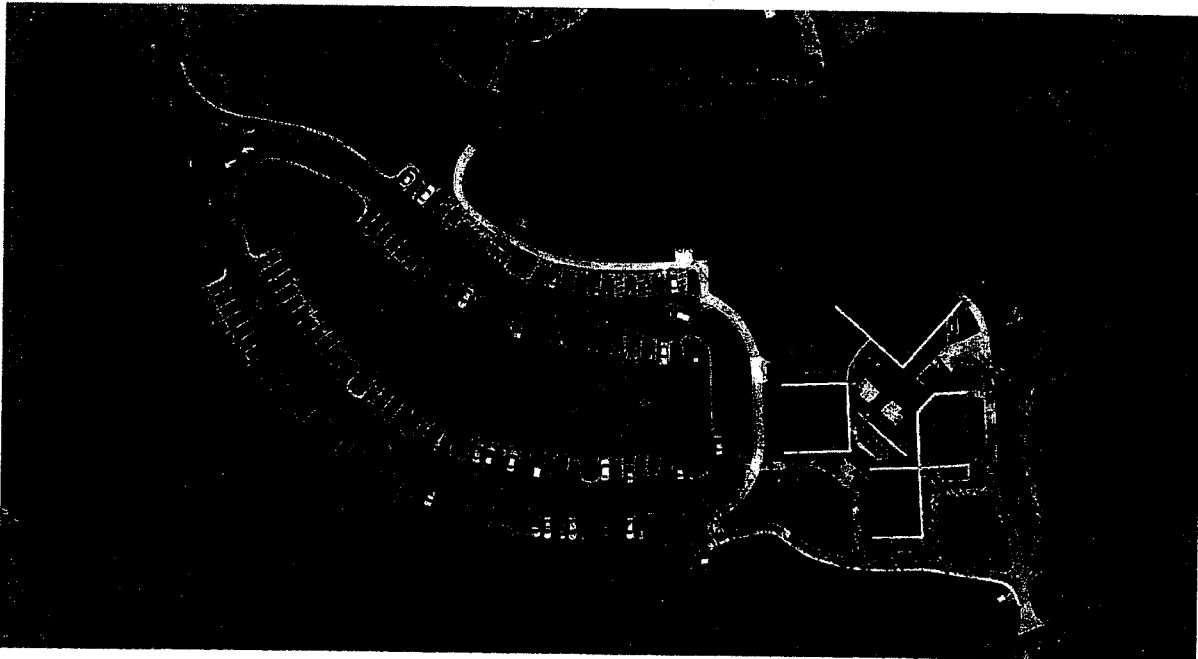


building entrance to Glenallan Avenue and the aquatic gardens, as well as from the parking lot to the gardens on the north side of the building.

Brookside staff estimates that there is no available visitor parking for at least 45 days per year, and visitors park their vehicles on the neighboring residential street, Heurich Road. In addition, there are 14 days per year when Brookside staff makes arrangements to use the parking area at the adjacent Nature Center and nearby Glenallan Elementary School to provide overflow parking for events and popular visitation days such as Mother's Day. On these busy days visitors frequently park in the drop-off aisle, exacerbating vehicular congestion. Since there are few areas for pedestrians to gather near building entrances, pedestrians occasionally gather in the drop-off aisle, further restricting vehicular flow and creating safety concerns.

The existing setting for the parking lot includes a prominent wooded slope on the south side of the parking lot with a high quality stand of mature trees, comprised primarily of tulip poplar and red maple. A large island within the parking lot takes up six to eight feet of grade change between the two existing bays of parking. The island includes recently planted trees as well as several large tulip poplars, which are remnants of the previously forested area and have been declining over recent years. On the north side of the parking lot, there is a small stand of hardwood forest in the mid succession stage, comprised of tulip poplar, red maple and sycamore.

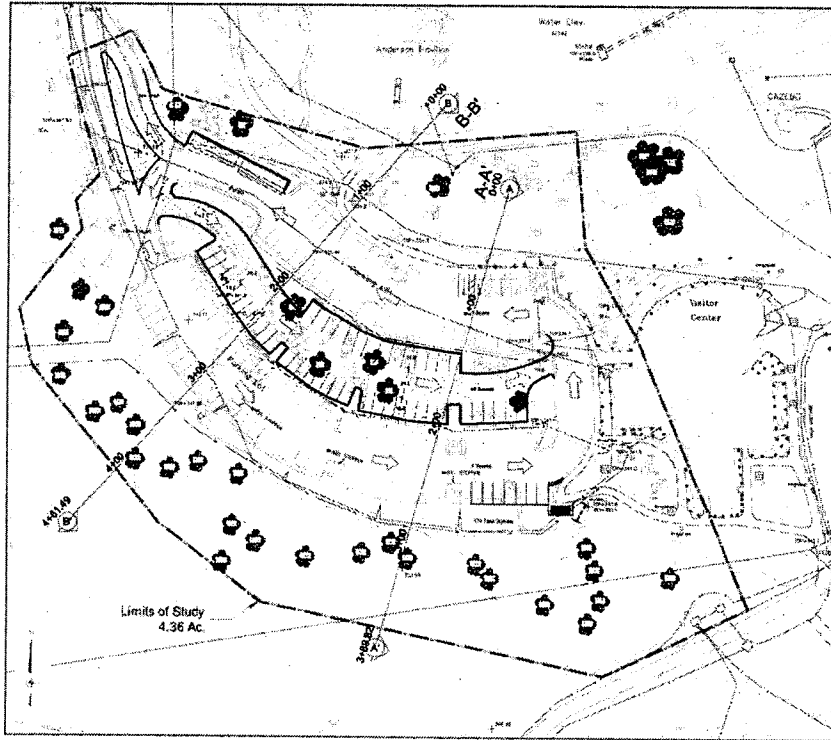
Water is collected from the existing parking lot through stormwater management infiltration trenches, which are not functioning properly. Erosion is occurring at some of the existing storm drains, and the pedestrian paving at the main entrance drains poorly causing winter icing conditions. The Visitors Center, parking lot and entrance road drain to an existing stormwater management pond adjacent to Glenallan Avenue, which is considered to be part of the aquatic gardens. Fringe wetlands are located adjacent to this pond. Water is collected, routed through an existing riser structure and is then conveyed through a storm drain to an adjoining lower pond in the aquatic gardens where it eventually discharges to the existing stream adjacent to Glenallan Avenue. The 100 year floodplain is generally limited to the upper banks of this tributary.



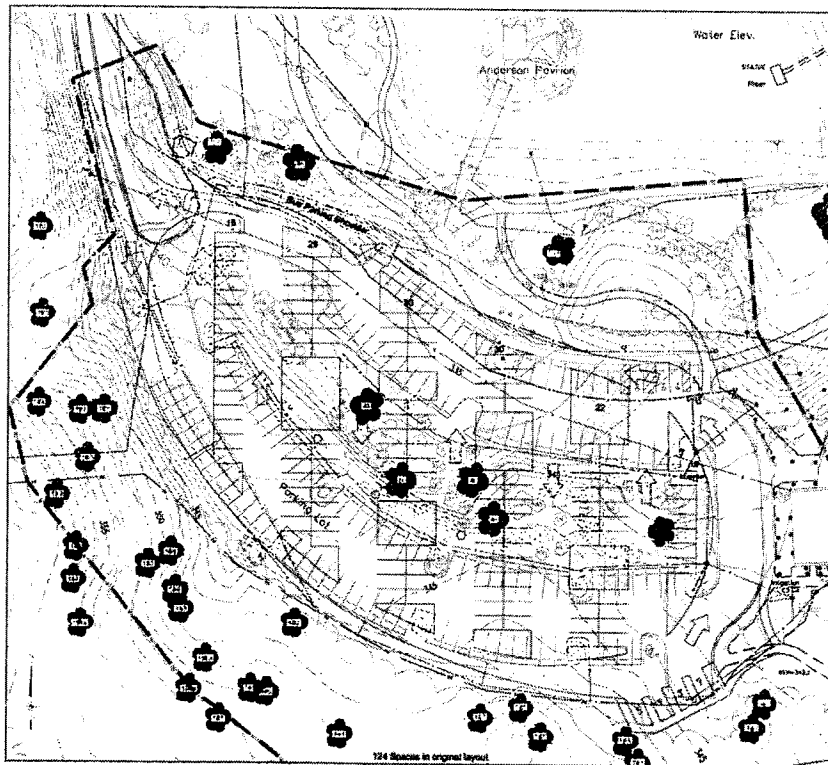
## Alternatives Considered

The following chart summarizes the alternatives considered for the parking lot.

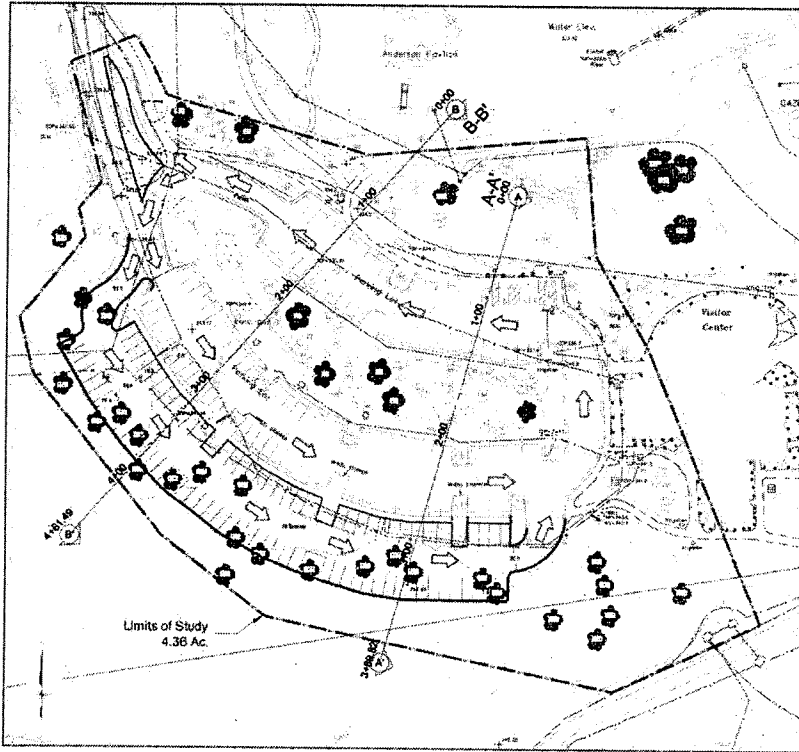
Alternative	Description	Comments
Master Plan Alternative	Provides new bay of parking between existing parking aisles	<ul style="list-style-type: none"> <li>• Adds 52 spaces</li> <li>• Does not improve existing arrival or drop-off space</li> <li>• Expansive asphalt with limited green space, which does not represent or enhance the character of the gardens</li> <li>• 8 foot high retaining walls required to take up grade change between bays</li> <li>• Locates bus parking remote from building</li> </ul>
Alternative 1	Re-oriens parking aisles 90 degrees	<ul style="list-style-type: none"> <li>• Eliminates 12 spaces from current count, no gain in parking</li> <li>• Inefficient layout, poor pedestrian flow, no arrival space and steep grades in parking lot</li> <li>• Provides ample opportunity for internal planting islands</li> </ul>
Alternative 2	Preserve existing parking lot island and locate new bay of parking to south of existing parking lot	<ul style="list-style-type: none"> <li>• Adds 78 spaces</li> <li>• Does not improve existing arrival or drop-off space</li> <li>• Preserves trees in existing parking lot and scrub woodlands to north of existing parking lot</li> <li>• Removes 14 specimen trees and high quality forest cover to south of existing parking lot</li> <li>• Requires large retaining walls to south of parking lot</li> </ul>
Alternative 3	Maintains existing limits of parking lot on south side, and adds third bay immediately north of existing bay	<ul style="list-style-type: none"> <li>• Adds 57 spaces</li> <li>• Requires large retaining walls between parking bays</li> <li>• Provides some improvement to drop-off and arrival area</li> <li>• Limited internal green space in parking lot</li> </ul>
Alternative 4	Maintains existing limits of parking lot on south side, but changes orientation of two bays to north to provide internal green space	<ul style="list-style-type: none"> <li>• Adds 63 spaces</li> <li>• Provides separate drop off zone and bus parking in close proximity to building</li> <li>• Provides flexible circulation pattern, including potential for valet parking for special events</li> <li>• Provides large amounts of internal greenspace in parking lot</li> <li>• Eliminates need for large retaining walls</li> <li>• Preserves high quality forest and specimen trees to south</li> <li>• Eliminates most of scrub woodlands to north</li> <li>• Areas requiring retaining walls are limited</li> </ul>



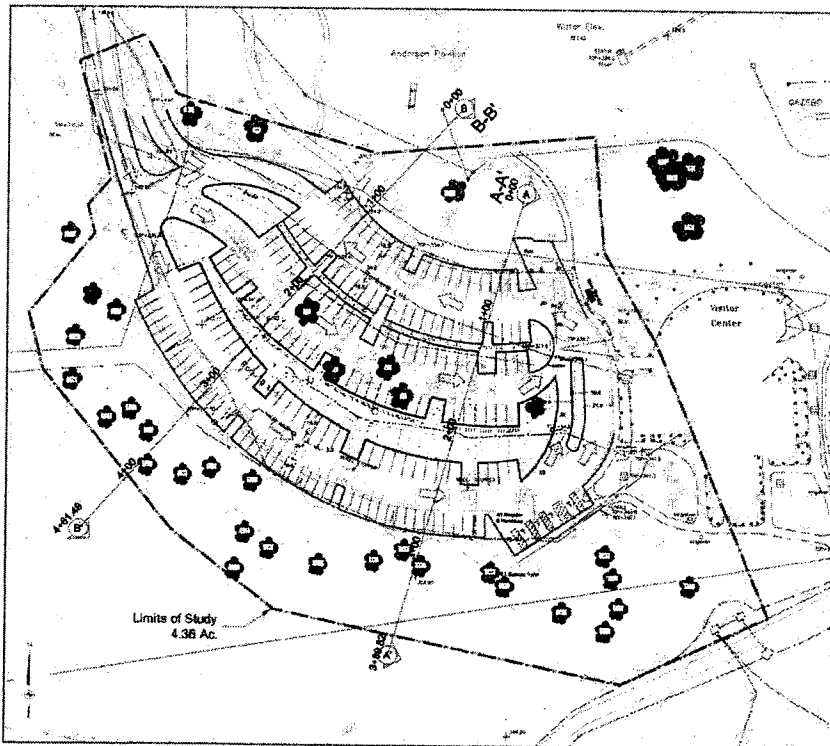
**Master Plan Alternative**



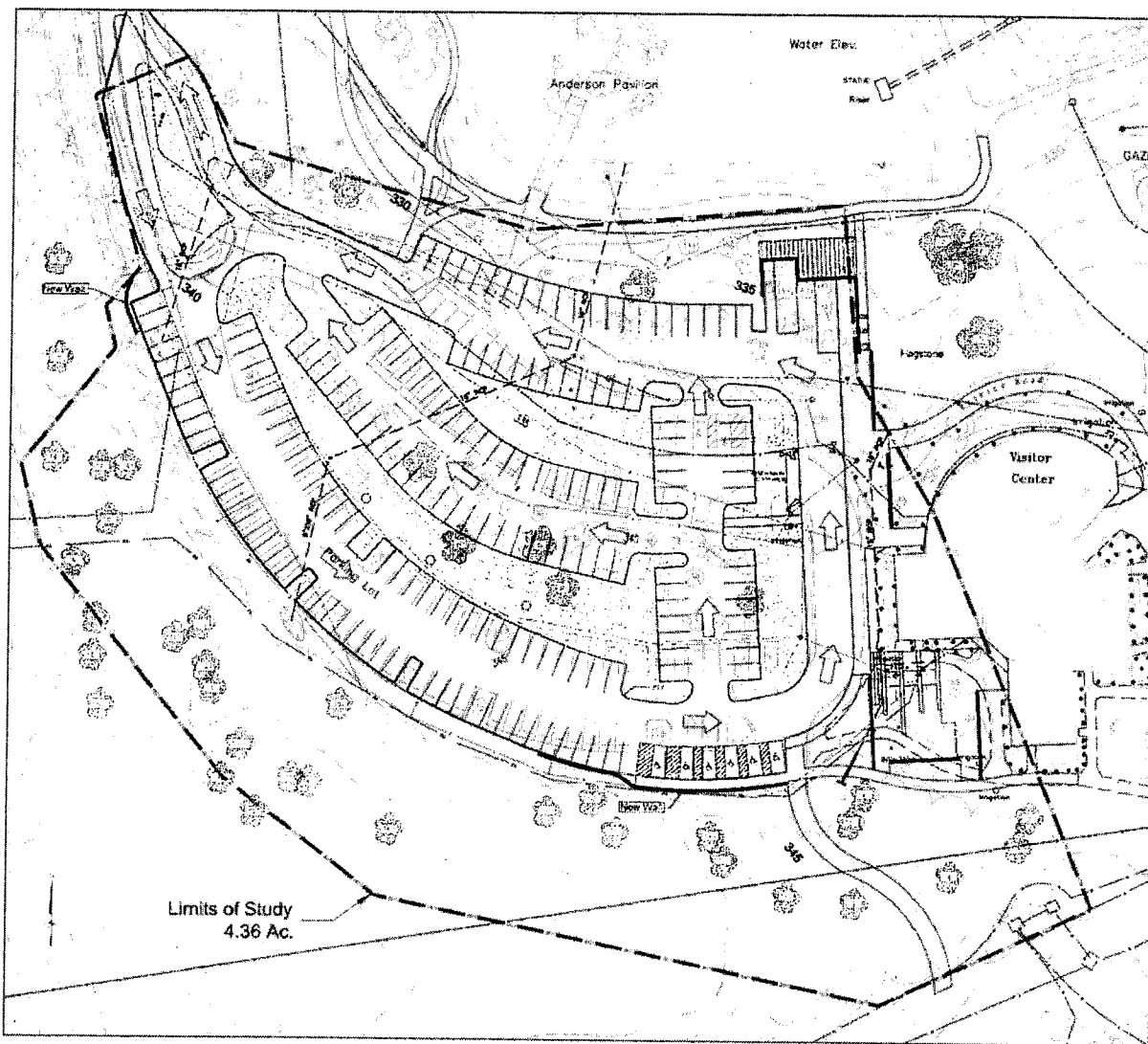
**Alternative 1**



**Alternative 2**



**Alternative 3**



**Preferred Plan - Alternative 4**

### Community Outreach

The existing conditions, program of requirements, design alternatives and recommended plan were presented to the community in a public meeting on January 7, 2010. Most of the attendees were neighbors, however there were several questions sent in by e-mail. In general, the recommended plan was well received and supported. Specific questions and concerns included improving the directional signage to reinforce the one-way system and direct traffic flow, adding a crosswalk at Heurich Road and Glenallan Avenue, requesting a Ride-on bus service stop at Brookside Gardens, and using diagonally oriented parking spaces rather than ninety degree spaces to make it easier and safer for visitors to park. There were also questions about how the programmatic need for fifty spaces was determined, whether planting could occur in the road right-of-way at the Heurich Road intersection and whether the terrace at the drop-off area would encourage people to stay longer, fill up the parking lot, and picnic in the gardens on weekends.

Staff intends to improve the directional signage and will consider using angled parking. Our initial studies of angled parking with the curved parking lot alignment resulted in inefficiencies and a loss in the number of parking spaces, however we will re-evaluate this alternative during detailed design. Brookside staff requested Ride-on bus service and a crosswalk in the past, but was denied service because Glenallan Avenue is classified as a rural road and a traffic study did not warrant a crosswalk. Plantings in the right-of-way at the Heurich Road intersection were envisioned as part of the Phase I renovations. Staff intends to pursue the planting, crosswalk and bus service issues further with County agencies during the detailed design stage of the project. With respect to picnicking, Brookside staff indicated that picnicking is not permitted in Brookside Gardens, and staff is present on weekends to enforce the rules.

### **Agency Coordination and Regulatory Approvals**

The following is a summary of agency coordination and regulatory approvals obtained for this project.

- Montgomery County Department of Permitting Services (DPS) - The stormwater management concept plan (Plan #237186) was approved by DPS on January 29, 2010.
- M-NCPPC Environmental Planning (NRI/FSD) - A Natural Resources Inventory/Forest Stand Delineation Summary Map (NRI/FSD) for the entrance renovation was approved on May 4, 2007. A revision to the approved NRI/FSD (#4-94149) was submitted for the parking lot expansion and is currently under review.
- M-NCPPC/Montgomery County Department of Environmental Protection (DEP) – In accordance with the new Maryland State Bill 666 and proposed changes to the Montgomery County Forest Conservation Law (Chapter 22A), an application for a variance was submitted to remove three trees in fair condition having a diameter of 30 inches or greater. Two of the three trees were shown for removal on the previously approved Preliminary Forest Conservation Plan for the entrance renovations (#P-95001) from November 13, 2007. The third tree is located in an existing parking lot island which is being removed. The application is currently under review and is the first application that DEP has received since the law went into effect.
- M-NCPPC Environmental Planning (FCP) – A Preliminary Forest Conservation Plan for the entrance renovation was approved on November 13, 2007. A revision to the approved Preliminary Forest Conservation Plan (#P-95001) was submitted for the parking lot expansion and is currently under review.

### **Recommended Facility Plan Alternative 4**

The recommended facility plan Alternative 4 significantly improves the visitor parking and entrance experience at Brookside Gardens Visitors Center. The recommended plan improves circulation and safety for pedestrian and vehicular traffic, creates an arrival and transition space between the parking area and the Visitors Center and gardens, enhances the aesthetics of the entry and parking area, provides flexibility for operational use, and implements innovative,

environmentally sensitive stormwater management practices. Refer to Attachment B for the Facility Plan Technical Appendices.

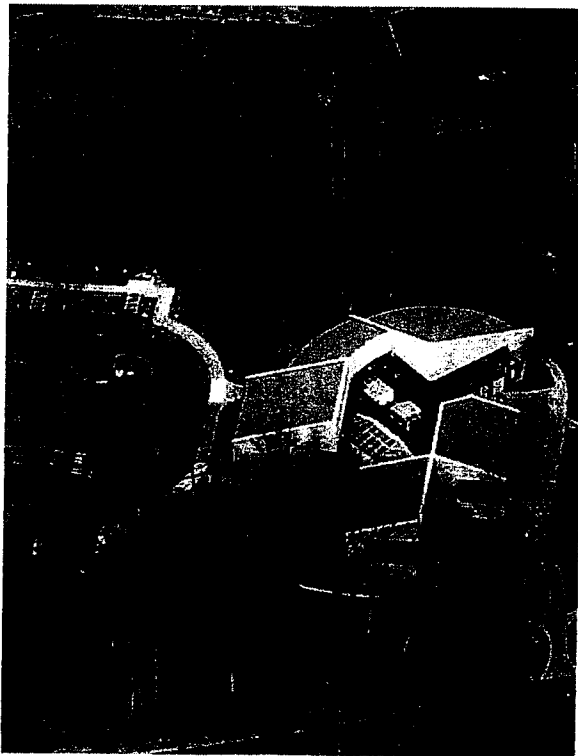
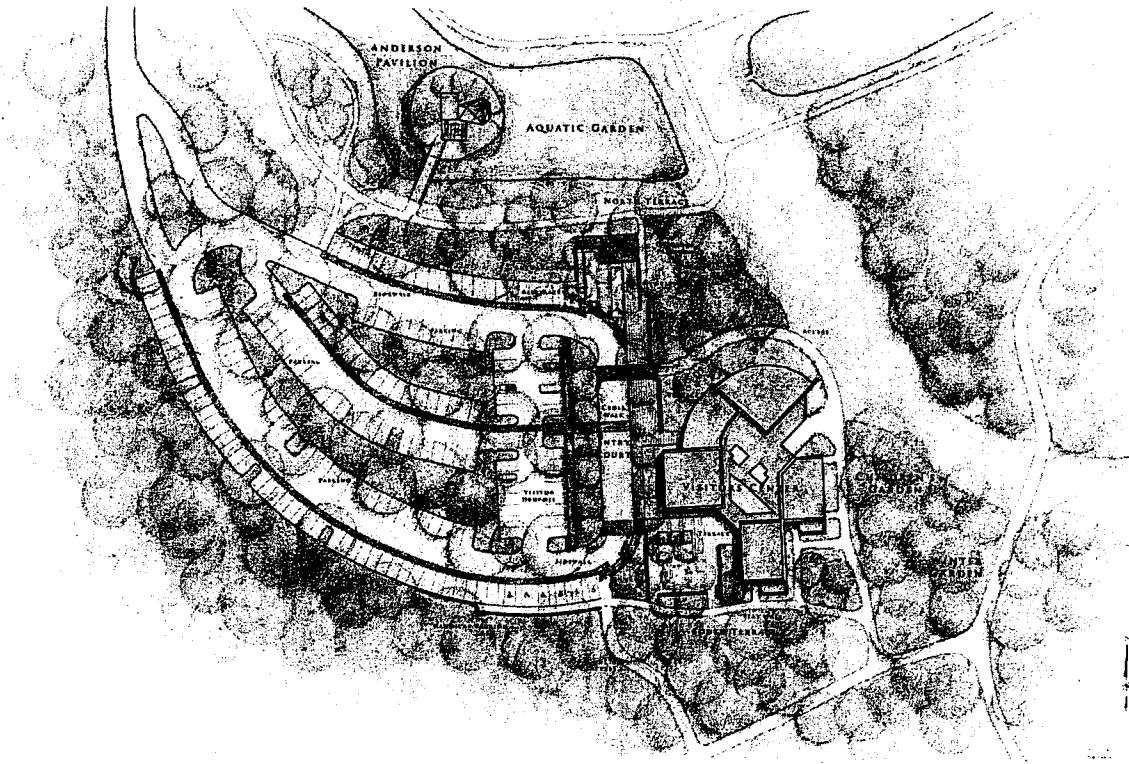
The recommended plan includes the following elements:

- One-way vehicular circulation system with flexibility to bypass the drop-off area;
- Impervious asphalt drive aisles with pervious parking spaces (increase of 63 spaces) ;
- Pedestrian access routes articulated within parking lot by use of decorative pavers;
- Generous internal planting islands with demonstration rain gardens and canopy trees to provide shade and reduce the heat island effect of the parking lot;
- Transitional garden space between parking lot and drop-off aisle to visually separate parking area from building entrance zone;
- Entrance drive with separate pull off area for drop-off;
- Pedestrian crosswalks delineated by unit pavers and ample pedestrian walkways connecting to building entrances;
- Bus parking area for two busses with separate overlook deck and terrace area to allow for group assembly and safety in loading each bus;
- Terrace area with seating for gathering at south building entrance;
- Service and emergency vehicle access drive along the south side of the building separated from pedestrian circulation;
- Directional signage;
- Energy efficient parking lot lights and bollard path lighting;
- Bicycle racks;
- Innovative, low impact stormwater management facilities including permeable paving with underground reservoirs to infiltrate water into the soil, and micro-bioretenion areas;
- Sustainable display plantings with irrigation only as required; and
- Design and construction practices in compliance with principles of Crime Prevention Through Environmental Design (CPTED) and the Sustainable Sites Initiative.

The following is a comparison summary of the existing parking area to the proposed plan.

Item	Existing	Proposed	Increase/Decrease
Total Pavement	1.27 acres	1.80 acres	+0.53 acres
Total Parking Spaces	122 (includes 4 disabled)	185 (includes 6 disabled)	+63 spaces
Bus Parking	2 spaces	2 spaces	0 spaces
Impervious Pavement	1.27 acres	0.69 acre	-0.58acre
Pervious Pavement	0.00 acre	1.11 acre	+1.11 acre
Internal Greenspace	0.59 acre	0.54 acre	-0.05 acre

**PREFERRED PLAN - Alternative 4**



**Existing Conditions**

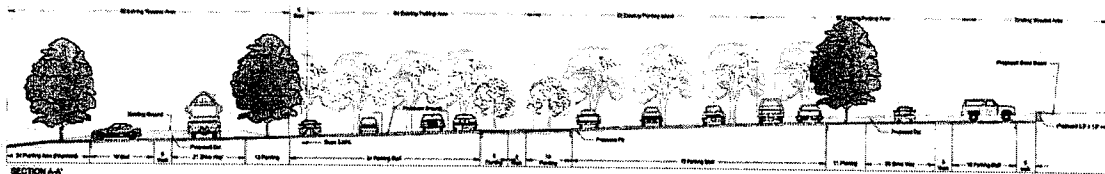
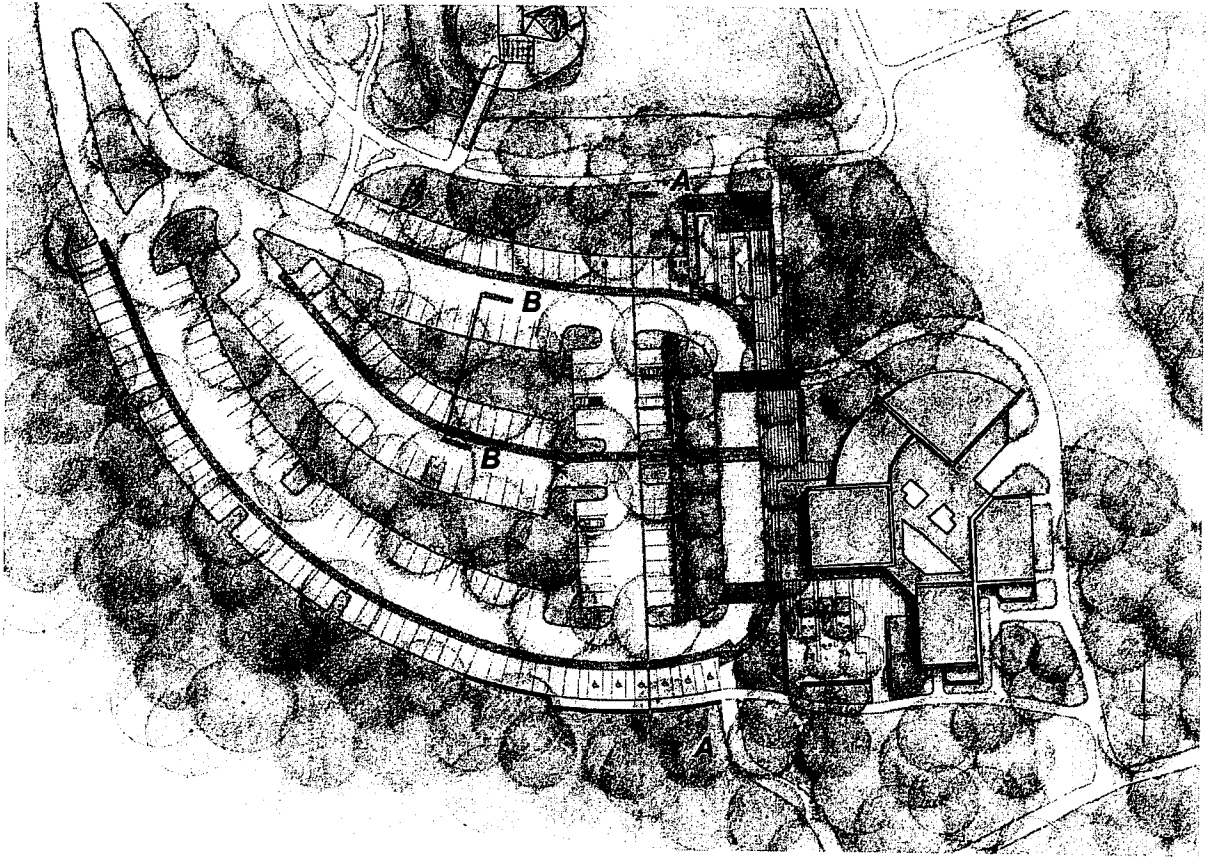
14



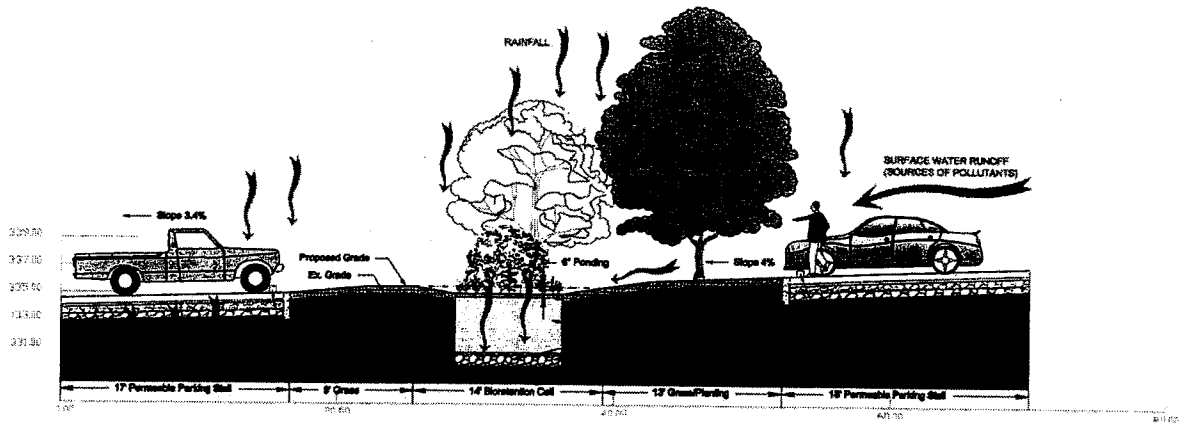
**Proposed Hardscape at Entrance**  
(Model Image, plantings not shown for clarity)



**SECTIONS**



**Section A-A**

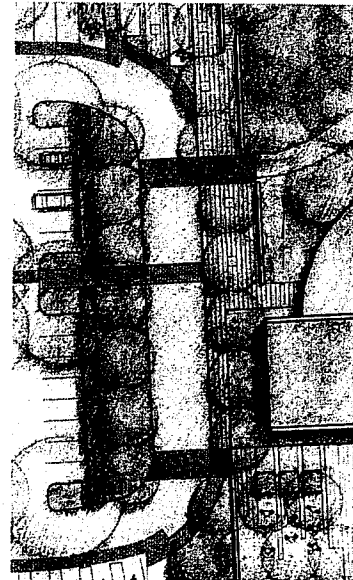


**Section B-B**

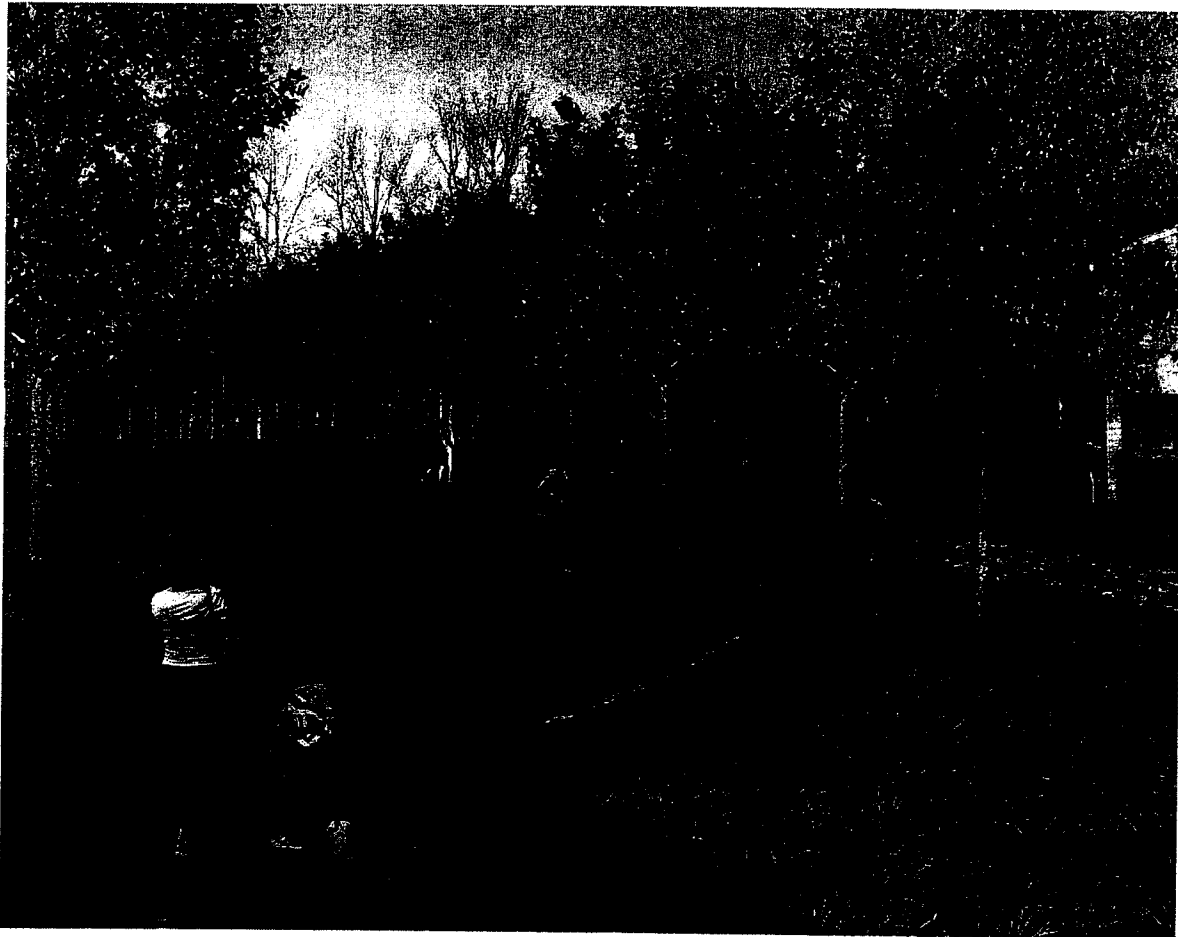
**ENTRY COURT- Visitor Drop-off and Arrival Area**



**Existing Conditions**



**Plan**

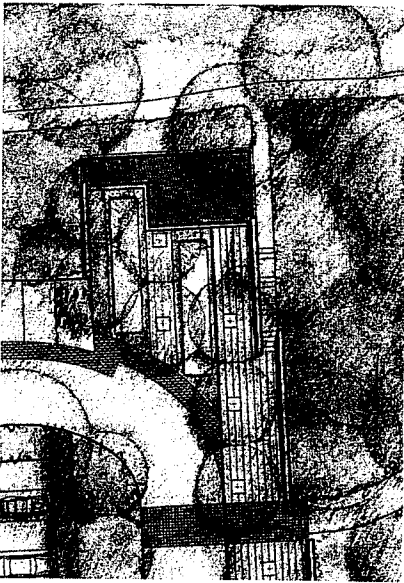


**Proposed (Model Image)**

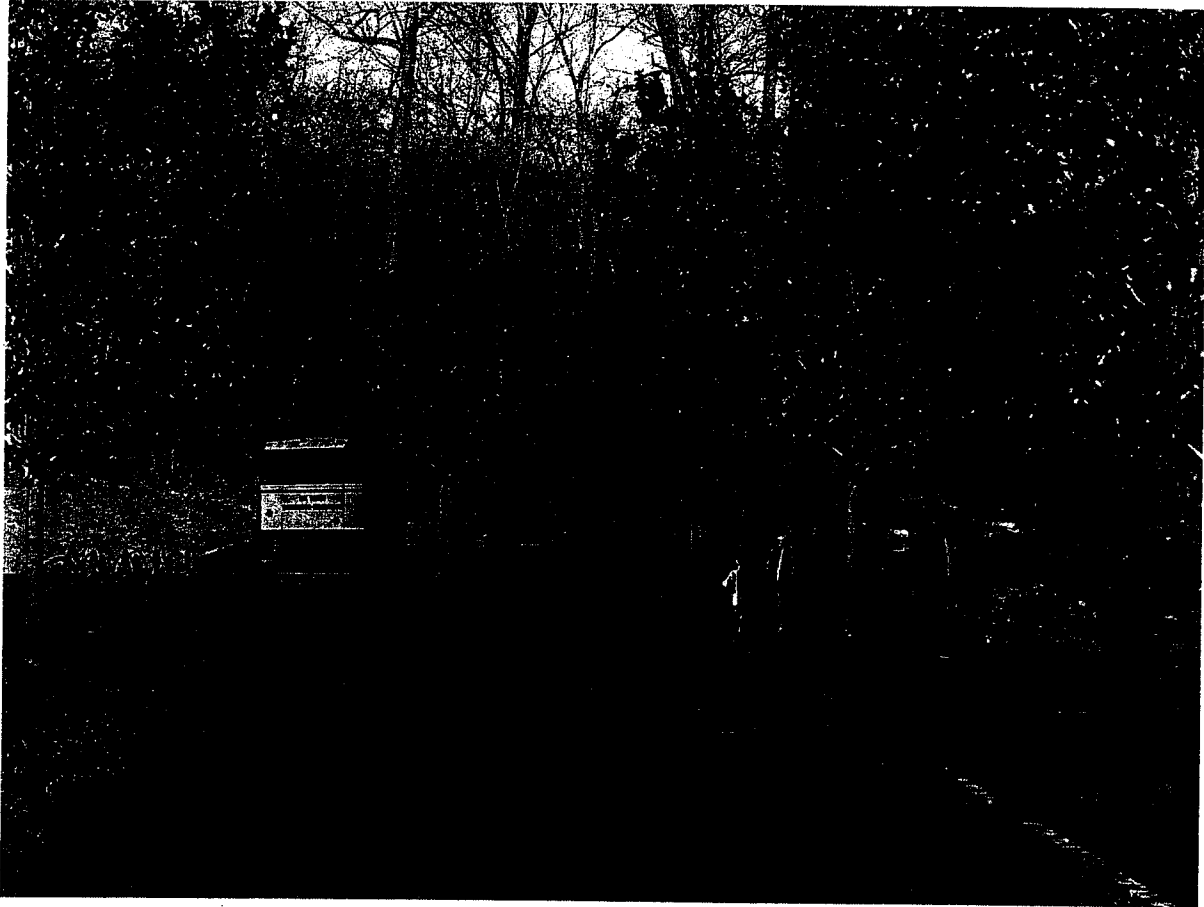
**NORTH TERRACE- Bus Drop-off Area**



*Existing Conditions*



*Plan*



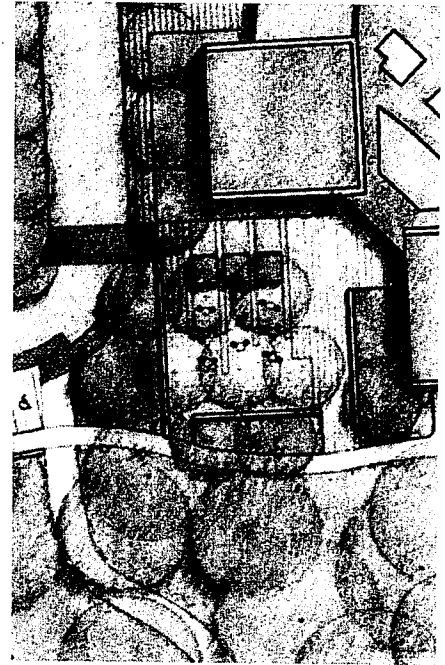
*Proposed (Model Image)*



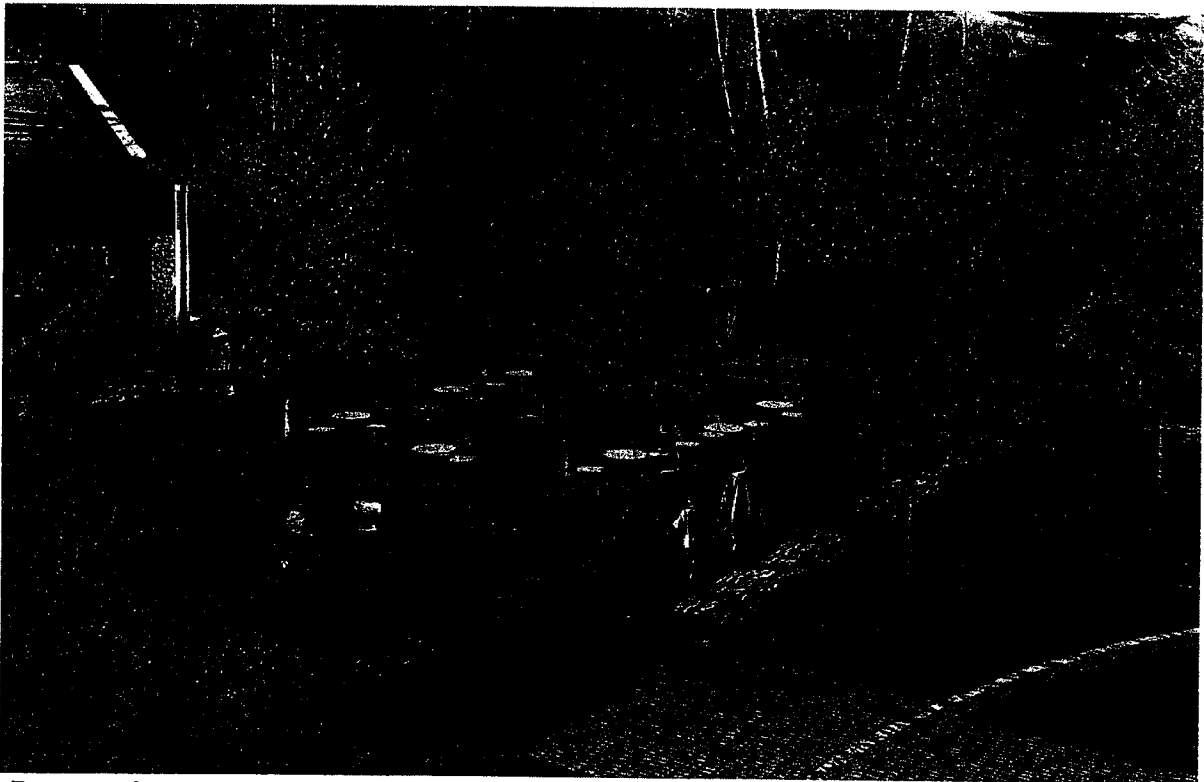
**SOUTH TERRACE— Garden Terrace Area**



**Existing Conditions**



**Plan**



**Proposed (Model Image)**

## COST ESTIMATE

### Construction Costs and Phasing

The proposed cost for the recommended facility plan Alternative 4, including design, permitting, construction and construction management costs is \$3,085,000. The cost of the approved facility plan for the Phase I entrance renovations was \$2,061,000. The County Executive's recommended level of funding in the Capital Improvements Program for both projects is \$4,687,000, which is a shortfall of \$459,000. This shortfall is caused by a recommended cut to the project funding by the County Executive, and our initial budget request did not include the full scope of pedestrian improvements near the building entrance that are proposed in the final plan. A summary of project costs is outlined below. Refer to Attachment A for the Capital Improvements Program Project Description Form and Attachment B for a detailed cost estimate.

ITEM NO	ITEM	TOTAL COST
1	Site Preparation & Demolition	\$238,920
3	Earthwork	\$206,024
4	Drainage & Stormwater Management	\$327,816
5	Structures	\$306,575
6	Pedestrian and Vehicular Paving	\$765,715
7	Utilities	\$195,900
9	Landscaping	\$291,842
*	<b>PARK CONSTRUCTION SUBTOTAL</b>	<b>\$2,332,792</b>
10	Construction Contingency (15% x Construction Subtotal)	\$349,919
**	<b>PARK CONSTRUCTION TOTAL</b>	<b>\$2,682,711</b>
11	Design Contract w/contingency (10% x Construction Total)	\$268,271
12	Staff Charge Backs (20% x Design w/Contingency)	\$53,654
13	Construction Management & Inspection (3% x Construction Total)	\$80,481
***	<b>TOTAL PROJECT COST</b>	<b>\$3,085,118</b>

Staff believes that current market conditions may enable us to build the full scope of work for the currently approved level of funding. Additional strategies that we may pursue are to increase the level of donations that are raised for the project, include some project elements in future phases of the implementation of the master plan, or to re-evaluate selection of materials to reduce project costs. We may also phase the landscape plantings over time and install plants from the Pope Farm Nursery incrementally.

## **Operating Costs**

Annual operating budget costs to maintain the renovated parking and entrance area are expected to increase slightly. Maintenance activities for the planted areas will be absorbed by existing Brookside staff, with no increase to the operating budget. The new parking lot lighting system is more energy efficient and will reduce energy costs, however the size of the lighted area has expanded, which will minimize the cost savings. The increase in operating costs are primarily a result of maintenance requirements for the pervious paving system. Pervious paving typically requires periodic vacuuming or washing of surfaces to maintain porosity. The maintenance requirements will be quantified during the detailed design stage of the project, once a paving system has been specified. Staff does not anticipate the impact to the operating budget to be significant.

## **CONCLUSION**

Staff recommends approval of the facility plan Alternative 4 and the associated cost estimate. The recommended plan is designed in keeping with the desired goals for the entrance to become a welcoming arrival point that will foster anticipation of the gardens inside. The parking and entry area integrates function, sustainability and visitor experience in a way that is coherent and flexible, and the project lives up to the reputation of Brookside Gardens as a forward thinking facility that is designed for the enjoyment of current and future generations.

## **ATTACHMENTS**

Attachment A: CIP Project Description Form  
Attachment B: Facility Plan Technical Appendices