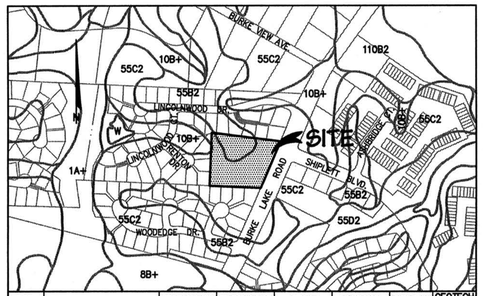
CONCEPTUAL / FINAL DEVELOPMENT PLAN

BRYCE ESTATES

BRADDOCK DISTRICT

FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003



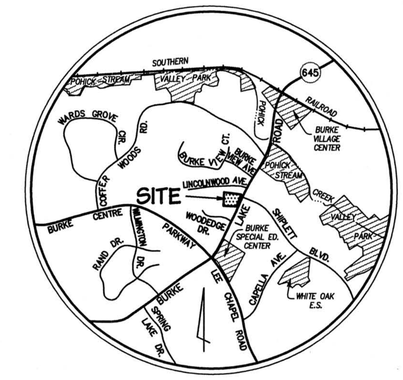
SOIL #	SERIES NAME	FOUNDATION SUPPORT	SUBSURFACE DRAINAGE	SLOPE STABILITY	EROSION POTENTIAL	PROBLEM CLASS	GEOTECH REPORT REQ'D
10B+	GLENVILLE	FAIR	MARGINAL	GOOD	MODERATE	B	NO
55B2	GLENELG	GOOD	GOOD	GOOD	HIGH	C	NO
55C2	GLENELG	GOOD	GOOD	GOOD	HIGH	C	NO

SOILS MAP/DATA

SCALE : 1" = 500'

NOTES

1. THE PROPERTY DELINEATED ON THIS PLAN IS LOCATED ON FAIRFAX COUNTY TAX ASSESSMENT MAP NUMBER 78-3((1))9. THE SITE IS CURRENTLY ZONED R-1. THE PROPOSED ZONING IS PDH-3.
2. THE PROPERTY HEREON IS CURRENTLY IN THE OWNERSHIP OF STEWART LYNN AND BEVERLY K. BRYCE IN DEED BOOK 19845 AT PAGE 1294 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA.
3. BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A FIELD RUN SURVEY PREPARED BY CHARLES P. JOHNSON & ASSOCIATES, DATED DECEMBER 2009. CONTOUR INTERVAL EQUALS TWO FEET NGVD 1929.
4. THERE ARE NO 100-YEAR FLOODPLAINS ON-SITE. NO FLOODPLAIN OR DRAINAGE STUDIES ARE REQUIRED FOR THIS PROJECT.
5. THERE ARE NO RESOURCE PROTECTION AREAS (RPAs) OR ENVIRONMENTAL QUALITY CORRIDORS (EQCs) ON THIS SITE. A WATER QUALITY IMPACT ASSESSMENT WILL NOT BE REQUIRED.
6. TO THE BEST OF OUR KNOWLEDGE, THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION.
7. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN GRAVES, OBJECTS, OR STRUCTURES MARKING A PLACE OF BURIAL.
8. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF 25 FEET OR GREATER, NOR ANY MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED WITHIN THE SITE.
9. ANY EXISTING WELLS ON-SITE ARE TO BE CAPPED AND ABANDONED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.
10. SEE SHEET 4 FOR A DESCRIPTION OF EXISTING VEGETATION.
11. EXISTING STRUCTURES ARE TO BE REMOVED. THE EXISTING DWELLING WAS CONSTRUCTED IN 1959.
12. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 116.4, 302.4, AND 355; HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA / DEPARTMENT OF WASTE MANAGEMENT VR 672-10-1 – VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATION; AND/OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280; TO BE GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF ON-SITE.
13. THERE ARE NO ZONING OVERLAY DISTRICTS FOR THIS SITE.
14. THERE ARE NO AFFORDABLE DWELLING UNITS (ADUs) REQUIRED FOR THIS PROJECT.
15. NO DENSITY REDUCTIONS ARE REQUIRED BY ZONING ORDINANCE SECTION 2-308.
16. IN ACCORDANCE WITH THE ADOPTED COMPREHENSIVE PLAN, THE PROPOSED DEVELOPMENT WILL PROVIDE RESIDENTIAL DEVELOPMENT AT 2.64 DWELLING UNITS PER ACRE AND WILL CONFORM TO ALL APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS EXCEPT FOR THE FOLLOWING WAIVERS/MODIFICATIONS HEREBY REQUESTED :
    - A WAIVER OF PFM SECTION 11-302 TO ALLOW A PRIVATE STREET IN EXCESS OF 600 FEET IN LENGTH
    - A WAIVER OF THE ON-ROAD BIKE ROUTE
    - A WAIVER OF PFM SECTION 10-0102.5C THAT A SANITARY SEWER BE 15 FEET FROM A BUILDING
    - A MODIFICATION OF THE TREE PRESERVATION TARGET AREA REQUIREMENT IN PFM SECTION 12-0507.1
    - A MODIFICATION OF THE MAJOR PAVED TRAIL (8-10' WIDTH) REQUIREMENT TO ALLOW THE EXISTING 5.5' PAVED TRAIL TO REMAIN
    - A MODIFICATION OF ZONING ORDINANCE §10-104.3.C TO ALLOW AN 8-FOOT HIGH SOLID WOOD FENCE ALONG THE SITE'S NORTHERN BOUNDARY, IN ACCORDANCE WITH §10-104.3.H
17. PROPOSED PUBLIC IMPROVEMENTS :
    - WATER SERVICE IS TO BE PROVIDED BY AN EXISTING 12" MAIN LOCATED IN BURKE LAKE ROAD
    - SANITARY SERVICE IS TO BE PROVIDED BY AN EXISTING 8" MAIN LOCATED IN RENTON DRIVE
18. THERE ARE NO RECREATIONAL FACILITIES PROPOSED WITH THIS DEVELOPMENT.
19. A GAZEBO IS BEING PROPOSED AS A SPECIAL AMENTITY.
20. A DEVELOPMENT SCHEDULE HAS NOT BEEN DETERMINED AT THIS TIME.
21. SEE SHEET 9 FOR ARCHITECTURAL ELEVATIONS.
22. A MAJOR PAVED TRAIL AND ON-ROAD BIKE ROUTE ARE REQUIRED FOR THIS PROJECT ON BURKE LAKE ROAD PER THE FAIRFAX COUNTY TRAILS PLAN (SEE NOTE 16). THERE IS AN EXISTING 5.5' ASPHALT TRAIL PARALLEL TO BURKE LAKE ROAD WITHIN THE RIGHT-OF-WAY.
23. PARCEL "A" WILL BE CONVEYED TO A HOMEOWNERS ASSOCIATION FOR OWNERSHIP AND MAINTENANCE.
24. MINOR MODIFICATIONS TO THE BUILDING FOOTPRINTS, LOT AREAS, DIMENSIONS, UTILITY LAYOUT, AND LIMITS OF CLEARING AND GRADING MAY OCCUR WITH THE FINAL ENGINEERING DESIGN, IN SUBSTANTIAL CONFORMANCE WITH THE CDP/FDP, PROVIDED SUCH ARE IN ACCORDANCE WITH THE MINOR MODIFICATIONS PROVISION IN SECTION 16-403 OF THE ZONING ORDINANCE.



VICINITY MAP

SCALE : 1" = 2000'

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) ((CDP)) (FDP)
SEE PROFFERS DATED 10-28-2010
Date of ((BOS)) (PC) approval 11-16-2010

Sheet 1 of 9

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
10.15.10
PROFESSIONAL ENGINEER

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

☒ 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').

☒ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 3.

☒ 3. Provide :

Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
Infiltration Trench	1.22	N/A	1.22	2,300	4,000	N/A
Bioretention Filter	0.99	0.97	1.96	3,670	2,200	1
Totals	2.21	0.97	3.18	5,970	6,200	

☒ 4. Onsite drainage channels, outfalls, and pipe systems are shown on Sheet 3. Pond inlet and outlet pipe systems are shown on Sheet 3.

☒ 5. Maintenace access (road) to stormwater management facility(ies) are shown on Sheet 3. Type of maintenance access road surface noted on the plat is asphalt.

☒ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 7.

☒ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 6.

☒ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 6.

☒ 9. A description of how the outfall requirements, including known changes to contributing drainage areas (i.e. drainage diversions), of the Public Facilities Manual will be satisfied is provided on Sheet 6.

☒ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 1 & 2.

☒ 11. A submission waiver is requested for N/A

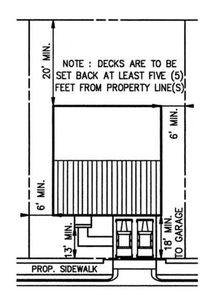
☒ 12. Stormwater management is not required because N/A

SITE TABULATIONS

SITE AREA :	
LOT AREA	59,890∅ (1.375 Ac)
PARCEL "A"	88,376∅ (2.029 Ac)
TOTAL	148,266∅ (3.404 Ac)

PDH-3 ZONE

	REQUIRED	PROVIDED
NUMBER OF UNITS	---	9 SINGLE-FAMILY DETACHED
MAXIMUM DENSITY	3 DU/AC	2.64 DU/AC
MINIMUM LOT AREA	N/R	6,400∅ ±
AVERAGE LOT AREA	N/R	6,650∅ ±
MAXIMUM BUILDING HEIGHT	N/R	35'
MINIMUM YARDS	N/R	SEE SHEET 3 AND TYPICAL LOT LAYOUT
OPEN SPACE	20%	30%±
PARKING	3 SPACES/UNIT (27 total spaces)	4.8 SPACES/ UNIT (18 garage spaces + 18 driveway spaces + 7 street spaces = 43 total spaces)



TYPICAL LOT LAYOUT

SCALE : 1" = 30'

REVISIONS

NO.	SHEET NUMBER AND REVISION DESCRIPTION	DATE
1.	(1) REVISED SITE TABULATIONS (2) REVISED EXISTING TREE LINE (3) REVISED LAYOUT, REMOVED ONE LOT; REVISED CLEARING LIMITS; ADDED GAZEBO (4) REVISED TREE COVER CHART (5) REVISED LANDSCAPING & TREE COVER CALCULATIONS (6) REVISED DRAINAGE DIVIDES	8-6-10
2.	(1) REVISED SITE TABULATIONS; ADDED MOD. REQUEST (2) REVISED EXISTING TREE LINE (3) REVISED LAYOUT, UTILITIES & CLEARING LIMITS (4) REVISED TREE COVER CHART (5) REVISED LANDSCAPING & TREE COVER CALCULATIONS (6) REVISED DRAINAGE DIVIDES;ADDED INFIL. TRENCH DETAIL	8-25-10
3.	(1) REVISED SITE TABULATIONS (3 & 8) REVISED LAYOUT & CLEARING LIMITS (7) REVISED LANDSCAPING & TREE COVER CALCULATIONS (5, 6, 9) NEW SHEET	9-22-10
4.	(3) REVISED FENCE LOCATION (7) ADDED FENCE DETAIL; REVISED LANDSCAPING (5 & 6) CHANGED TREES TO BE SAVED/REMOVED	10-15-10

NO CHANGES, OTHER THAN THOSE SPECIFIED ABOVE, HAVE BEEN MADE TO THIS PLAN FROM WHAT WAS PREVIOUSLY SUBMITTED OR APPROVED.

DEVELOPER

THE CHRISTOPHER COMPANIES
10461 WHITE GRANITE ROAD
SUITE 103
OAKTON, VA 22124
(703) 352-5950

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1 COVER SHEET
2 EXISTING CONDITIONS PLAN
3 CONCEPTUAL/FINAL DEVELOPMENT PLAN
4 EXISTING VEGETATION MAP
5 TREE PRESERVATION PLAN
6 TREE PRESERVATION INVENTORY
7 CONCEPTUAL LANDSCAPE PLAN
8 OUTFALL ANALYSIS
9 ARCHITECTURAL ELEVATIONS

CPJ Associates
Charles P. Johnson & Associates, Inc.
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS SURVEYORS
3959 PENDER DRIVE SUITE 210 FAIRFAX, VIRGINIA 22030 (703)385-7555
SILVER SPRING, MD FAX(703)273-8595

DATE : FEBRUARY 19, 2010
REVISED : AUGUST 6, 2010
AUGUST 25, 2010
SEPTEMBER 22, 2010
OCTOBER 15, 2010

RECEIVED
Department of Planning & Zoning
OCT 18 2010
Zoning Evaluation Division

BRYCE ESTATES

FILE # 08-536

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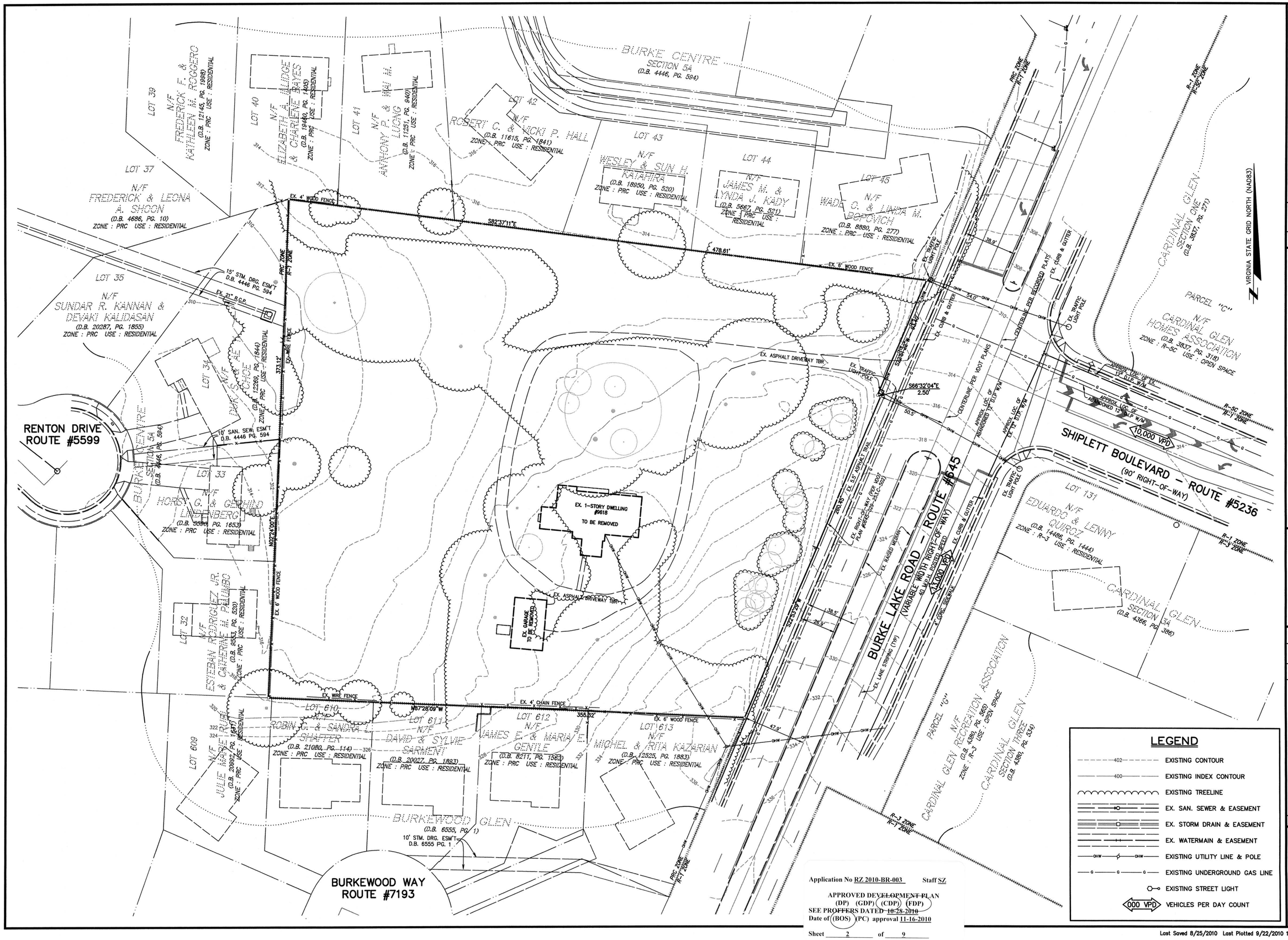

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 10-28-2010
Date of (BOS) (PC) approval 11-16-2010

Sheet 2 of 9

NO.	DATE	REVISION PRIOR TO APPROVAL
2.	8-25-10	REVISED EXISTING TREE LINE (KJV)
1.	8-6-10	REVISED EXISTING TREE LINE (KJV)

CPJ Associates
Charles P. Johnson & Associates, Inc.
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS SURVEYORS
3959 PENDER DRIVE SUITE 210 FAIRFAX, VIRGINIA 22030 (703)385-7555
SILVER SPRING, MD FAX(703)273-8595

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

EXISTING CONDITIONS PLAN

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
9-22-10
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	REVIEW BY	APPROVD. DATE
	REVISIONS		

DESIGN KJV DRAFT KJV APPROVED HMF DATE JAN. 2010 SCALE HORIZ.1" = 30' VERT: ---

SHEET 2 OF 9

PRJ NO: 08-536

TYPE: CDP/FDP

RZ 2010-BR-003

Attached Xrefs: 08-F0500/00-0301/00-R0401

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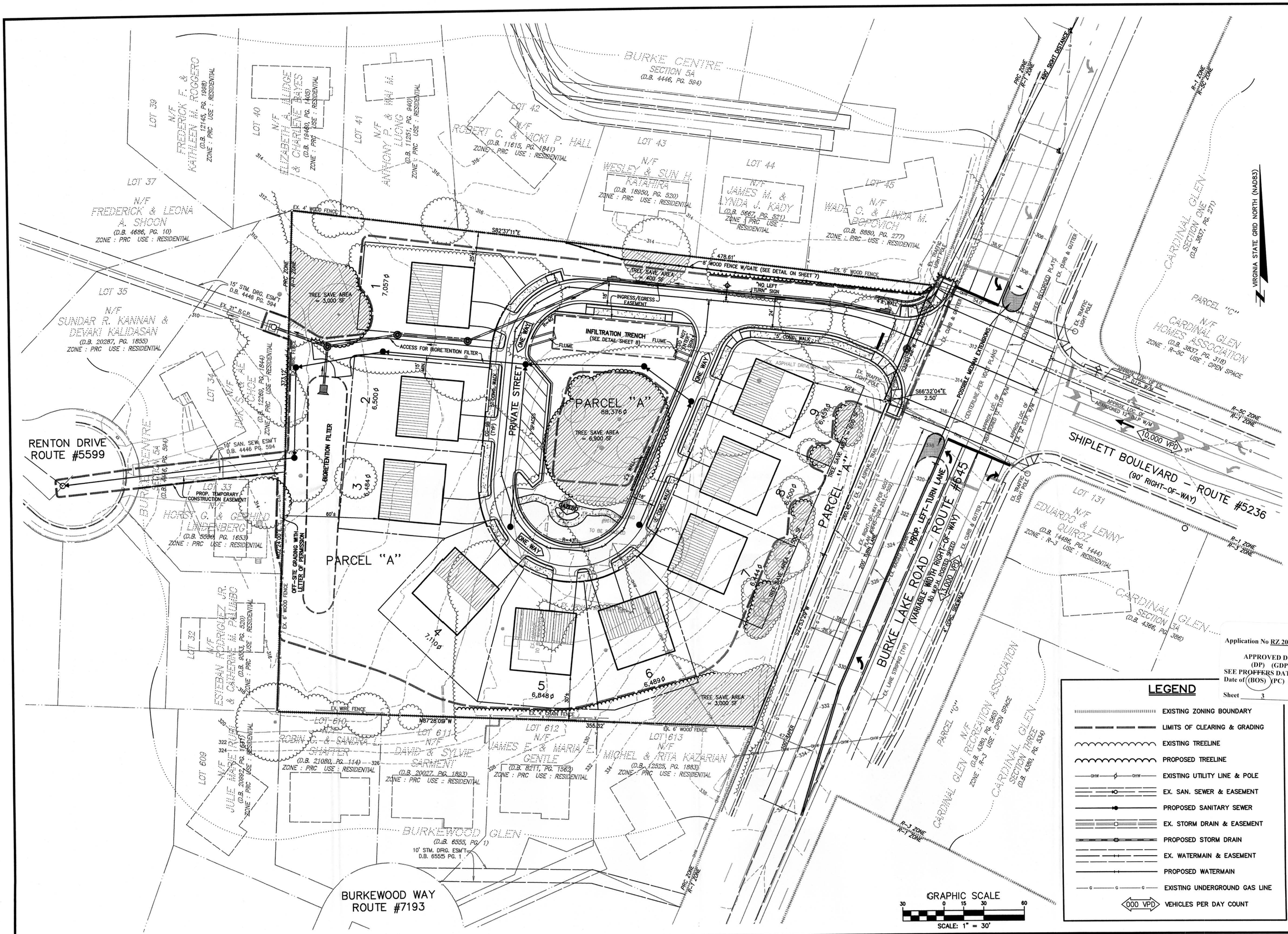

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED ~~10-28-2010~~
Date of (BOS) (PC) approval 11-16-2010

Sheet 3 of 9

LEGEND

- EXISTING ZONING BOUNDARY
- LIMITS OF CLEARING & GRADING
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING UTILITY LINE & POLE
- EX. SAN. SEWER & EASEMENT
- PROPOSED SANITARY SEWER
- EX. STORM DRAIN & EASEMENT
- PROPOSED STORM DRAIN
- EX. WATERMAIN & EASEMENT
- PROPOSED WATERMAIN
- EXISTING UNDERGROUND GAS LINE
- 000 VPD VEHICLES PER DAY COUNT

NO.	DATE	DESCRIPTION	REVISIONS	BY	APPRO.	DATE
4.	10-15-10	REVISED FENCE LOCATION (KJV)				
3.	9-27-10	REVISED LIMITS OF CLEARING LIMITS (KJV)				
2.	8-25-10	REVISED LAYOUT, UTILITIES & CLEARING LIMITS (KJV)				
1.	8-6-10	REVISED LAYOUT, CLEARING LIMITS, ADDED GAZEBO (KJV)				

CPJ Associates
Charles P. Johnson & Associates, Inc.
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS SURVEYORS
3959 PENDER DRIVE SUITE 210 FAIRFAX, VIRGINIA 22030 (703)385-7555
SILVER SPRING, MD FAX(703)273-8595

COMMONWEALTH OF VIRGINIA PAUL B. JOHNSON Lic. No. 018450 PROFESSIONAL ENGINEER 10/15/10

CONCEPTUAL / FINAL DEVELOPMENT PLAN

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

DESIGN	DRAFT	APPROVED	DATE	SCALE
KJV	KJV	HMF	FEB. 2010	HORIZ: 1" = 30' VERT: —

SHEET 3 OF 9

PRJ NO: 08-536

TYPE: CDP/FDP

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Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) ((CDP)) (FDP)
SEE PROFFERS DATED ~~10-28-2010~~
Date of ((BOS)) (PC) approval 11-16-2010

Sheet 4 of 9

TreesPlease®
P. O. Box 1025 Haymarket, Virginia 20168 703-927-2048
http://www.TreesPlease.com e-mail Ed@TreesPlease.com

Cover Type		Primary Species	Understory Species	Comments	Successional Stage	Condition	Area
A	Suburban Landscape	*Ilex opaca*, *Picea* spp., *Pinus strobus*, *Prunus serrulata*	Turfgrass and groundcover; some invasive exotics	Old farmstead landscape and Christmas trees nearing abandonment.	Sub-climax	Good mostly	46,450 SF
B	Bottomland Forest	*Prunus serotina*, *Robinia pseudoacacia*, *Juglans nigra*	Low to no maintenance grass; invasive exotics, brambles.	Old farmstead nearing abandonment.	Sub-climax	Fair to good	18,270 SF
C	Maintained Grassland	N/A	Low maintenance grass.	Lawn and fields around old farmstead nearing abandonment.	N/A	N/A	70,130 SF
D	Primarily Invasives	*Morus alba*, *Albizia julibrissin*	*Forsythia x intermedia*, brambles, *Hedera helix*, *Lonicera japonica*	Taken over by invasive exotics.	N/A	N/A	7,650 SF
	Developed Land	N/A	N/A		N/A	N/A	5,766 SF
				Total Area			148,266 SF

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NO.	DATE	REVISION	BY	APPRO	DATE
1.	8-25-10	REVISED TREE COVER CHART (KJV)			
2.	8-6-10	REVISED TREE COVER CHART (KJV)			

DESCRIPTION

Charles P. Johnson & Associates
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS
3959 POWDER DRIVE SUITE 210 FAIRFAX, VA
SILVER SPRING, MD

COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER PAUL B. JOHNSON Lic. No. 018450 9.22.10

EXISTING VEGETATION MAP

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

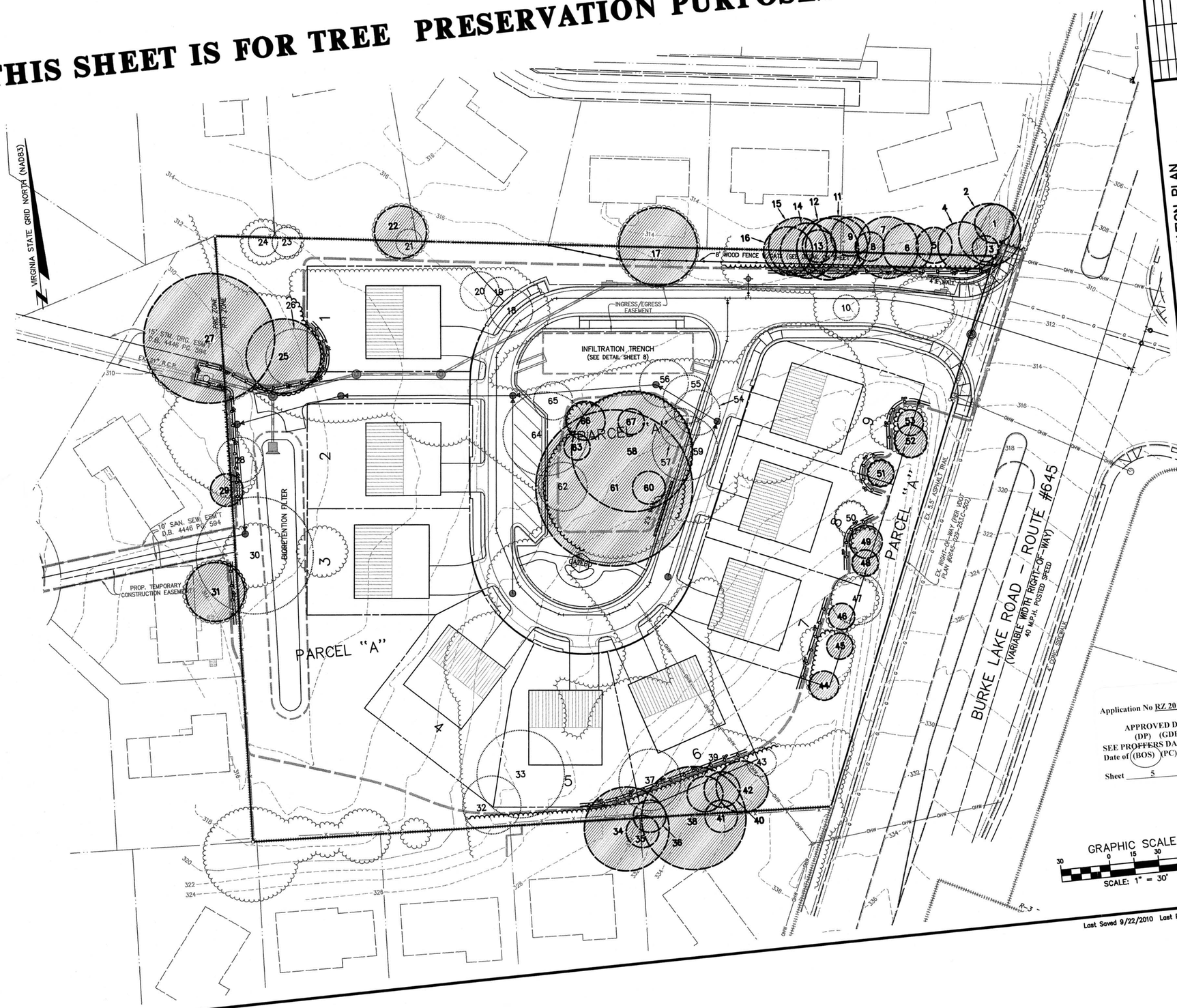
DESIGN KJV | DRAFT KJV | APPROVED HMF | DATE JAN. 2010

SHEET 4

PRJ NO: 08

TYPE: CDP

THIS SHEET IS FOR TREE PRESERVATION PURPOSES ONLY



LEGEND

- TREE TO BE SAVED
- CRITICAL ROOT ZONE
- TREE TO BE REMOVED
- ROOT PRUNING
- TREE PROTECTION OR SUPER SILT FENCE

NO.	DATE	REVISION PRIOR TO APPROVAL (KJV)
4.	10-15-10	CHANGED TREES TO BE SAVED/REMOVED (KJV)
3.	9-22-10	NEW SHEET (KJV)

CPJ Associates
Charles P. Johnson & Associates
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS
3959 FENDER DRIVE, SUITE 210 FAIRFAX, VIRGINIA 22030
SILVER SPRING, MD

TREE PRESERVATION PLAN

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
10.15.10
PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY	APPROV.	DATE
		REVISIONS			

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
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Sheet 5 of 9

DESIGN	DRAFT	SHEET
KJV	KJV	5
APPROVED	DATE	
HMF	SEPT. 2010	

PRJ NO: 08-5
TYPE: CDP/FD

Last Saved 9/22/2010 Last Plotted 10/15/2010 10:06 AM Sheet N:\08536\DWG\

Appendix
Development Tree Inventory
Bryce Estates
Fairfax County, Virginia
August 30, 2010

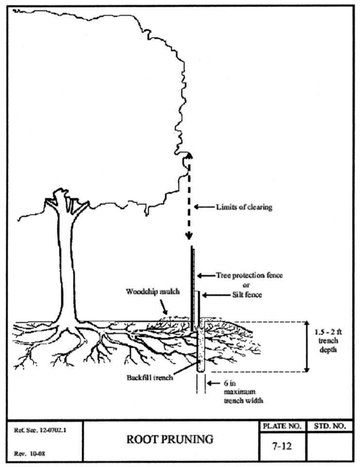
Prepared by
Edward P. Milhous
TreesPlease®

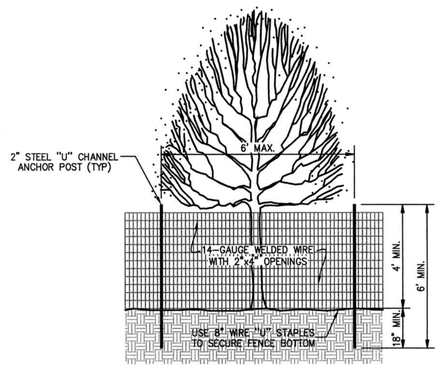
ASCA RCA® #350 ISA #MA-0004A MD TE #458

Tree #	Name	Size	Condition	Comment	Recommendation
1	eastern white pine	12	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
2	eastern white pine	19	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
3	Canadian hemlock	8	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good. Assorted vines are attached to this tree's trunk.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
4	Canadian hemlock	15	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
5	Norway spruce	11	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
6	Leyland cypress	10/10/9	.59	**Off the site;** this tree is owned by someone else. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is fair/good. Canker diseases are evident. This tree has a weak structure. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
7	Leyland cypress	19	.59	**Off the site;** this tree is owned by someone else. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is fair/good. Canker diseases are evident. This tree has a weak structure. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
8	Leyland cypress	9	.59	**Off the site;** this tree is owned by someone else. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is fair/good. Canker diseases are evident. This tree has a weak structure. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
9	cryptomeria	10/9	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
10	mimosa	8/5/4/4	.75	This tree would*not* be desirable in a new setting. This tree has no chance of surviving construction. One of the worst invasive exotics, it is an undesirable tree.	Do not save this tree... remove it when clearing.
11	eastern white pine	19	.72	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good. Waste fill dirt was piled near this tree.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
12	eastern white pine	19	.67	**Off the site;** this tree is owned by someone else. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is fair/good. Waste fill dirt was piled near this tree. Plastic burlap was left on the root ball. **Caution.** This tree is a moderate risk to fall or break.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
13	eastern white pine	10	.67	**Off the site;** this tree is owned by someone else. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is fair/good. Waste fill dirt was piled near this tree. Plastic burlap was left on the root ball. **Caution.** This tree is a moderate risk to fall or break.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
14	eastern white pine	17	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
15	eastern white pine	18	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
16	eastern white pine	15	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
17	white mulberry	24	.67	It appears this tree is **jointly-owned** with neighbors. This tree would *not* be desirable in a new setting. Its chance of surviving planned construction is good. Included bark is evident. This is a ***severe*** problem for this tree! **Danger!** This tree poses a significant risk of failure.	This tree is to be saved.
18	black walnut	13	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction. *Obscured hazard:* This tree's trunk is hidden by vines.	Do not save this tree... remove it when clearing.
19	black cherry	9	.38	This tree would *not* be desirable in a new setting. This tree has no chance of surviving construction. Dead branches are a major problem in this tree's crown.	Do not save this tree... remove it when clearing.
20	black cherry	9/8	.5	This tree would *not* be desirable in a new setting. This tree has no chance of surviving construction. Dead branches in this tree's crown are a minor problem.	Do not save this tree... remove it when clearing.
21	black locust	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good. Black locusts are okay when small, but are not long-lived.	This tree is to be saved.
22	eastern redcedar	16	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
23	black walnut	9	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good. Assorted vines are attached to this tree's trunk.	Do not save this tree... remove it when clearing.
24	black cherry	9	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good. Assorted vines are attached to this tree's trunk.	Do not save this tree... remove it when clearing.
25	red maple	23	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good. Assorted vines are attached to this tree's trunk.	This tree is to be saved. Cut vines at ground level; prevent regrowth on the tree.
26	black cherry	18	.56	This tree would *not* be desirable in a new setting. Its chance of surviving planned construction is fair/good. There is decay in the trunk and base of this tree. This is a serious problem for this tree.	Do not save this tree... remove it when clearing.
27	black cherry	40	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved. The tree's owner should have an arborist inspect the tree.
28	black walnut	14	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction. *Obscured hazard:* This tree's trunk is hidden by vines.	Do not save this tree... remove it when clearing.
29	silver maple	10	.75	It appears this tree is **jointly-owned** with neighbors. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is fair.	Do not remove **jointly-owned** trees without owner consent. Leave the tree standing unless you have permission to cut. This tree is to be saved.
30	black cherry	36	.66	Marginal: This tree *might* be desirable in a new setting. This tree has no chance of surviving construction. *Obscured hazard:* This tree's trunk is hidden by vines. This is a ***severe*** problem for this tree!	Do not save this tree... remove it when clearing.
31	saucer magnolia	10/9/9/8	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
32	sassafras	18	0	This tree would *not* be desirable in a new setting. This tree has no chance of surviving construction. This tree is dead.	Do not save this tree... remove it when clearing.
33	white mulberry	20/18	.69	This tree would *not* be desirable in a new setting. This tree has no chance of surviving construction. Included bark is evident. This tree leans excessively. One of the worst invasive exotics, it is an undesirable tree.	Do not save this tree... remove it when clearing.
34	tulip tree	26	.75	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
35	red maple	10/5	.72	**Off the site;** this tree is owned by someone else. This tree would be desirable in a new setting. Its chance of surviving planned construction is good. Included bark is evident. There being no access, this tree was checked from afar.	Do not remove **off-site** trees without owner consent. Leave the tree standing if you don't have permission to cut. This tree is to be saved.
36	black cherry	10	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.

Tree #	Name	Size	Condition	Comment	Recommendation
37	red oak	19	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction. *Obscured hazard:* This tree's trunk is hidden by English ivy.	Do not save this tree... remove it when clearing.
38	black cherry	25/19	.69	It appears this tree is **jointly-owned** with neighbors. Marginal: This tree *might* be desirable in a new setting. Its chance of surviving planned construction is good. This tree has failed structurally before; it is likely to again. Included bark is evident. There being no access, this tree was checked from afar.	Do not remove **jointly-owned** trees without owner consent. Leave the tree standing unless you have permission to cut. This tree is to be saved.
39	eastern white pine	11	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
40	eastern white pine	11	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
41	black cherry	10	.75	It appears this tree is **jointly-owned** with neighbors. This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	Do not remove **jointly-owned** trees without owner consent. Leave the tree standing unless you have permission to cut. This tree is to be saved.
42	eastern white pine	16	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
43	apple	9/8	.66	This tree would *not* be desirable in a new setting. This tree has no chance of surviving construction. There is decay in the trunk and base of this tree. Apple is not a very desirable species for a landscape.	Do not save this tree... remove it when clearing.
44	Norway spruce	9	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
45	Norway spruce	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
46	white spruce	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
47	white mulberry	7/8/6/6	.75	This tree would *not* be desirable in a new setting. Its chance of surviving planned construction is good. One of the worst invasive exotics, it is an undesirable tree.	Do not save this tree... remove it when clearing.
48	white spruce	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
49	Norway spruce	10	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
50	white spruce	10	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction.	Do not save this tree... remove it when clearing.
51	Norway spruce	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good.	This tree is to be saved.
52	Norway spruce	10	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved.
53	white spruce	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is fair/good.	This tree is to be saved.
54	Colorado spruce	14	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction. *Obscured hazard:* This tree's trunk is hidden by English ivy.	Do not save this tree... remove it when clearing.
55	Colorado spruce	15	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction. *Obscured hazard:* This tree's trunk is hidden by English ivy.	Do not save this tree... remove it when clearing.
56	Colorado spruce	15	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction.	Do not save this tree... remove it when clearing.
57	flowering dogwood	12	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is very poor.	Do not save this tree... remove it when clearing.
58	sugar maple	37	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is fair. Canker diseases are evident.	This tree is to be saved. Create a mulched bed around this tree; larger is better.
59	eastern white pine	20	0	This tree would *not* be desirable in a new setting. This tree has no chance of surviving construction. This tree is dead.	Do not save this tree... remove it when clearing.
60	American holly	10	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved. Create a mulched bed around this tree; larger is better.
61	eastern white pine	48	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is fair. *Obscured hazard:* This tree's trunk is hidden by vines.	This tree is to be saved. Cut vines at ground level; prevent regrowth on the tree. Create a mulched bed around this tree; larger is better.
62	crabapple	8/9/10	.63	This tree would *not* be desirable in a new setting. Its chance of surviving planned construction is fair/good. There is decay in the trunk of this tree. This is a ***severe*** problem for this tree!	Do not save this tree... remove it when clearing.
63	American holly	8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved. Create a mulched bed around this tree; larger is better.
64	saucer magnolia	26	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction.	Do not save this tree... remove it when clearing.
65	Colorado spruce	12	.75	This tree would be desirable in a new setting. This tree has no chance of surviving construction.	Do not save this tree... remove it when clearing.
66	American holly	7/7/8	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved. Create a mulched bed around this tree; larger is better.
67	American holly	8/4	.75	This tree would be desirable in a new setting. Its chance of surviving planned construction is good.	This tree is to be saved. Create a mulched bed around this tree; larger is better.

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL





NOTE : TREE PROTECTION FENCING SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION

TREE PROTECTION FENCE DETAIL

NOT TO SCALE

THIS SHEET IS FOR TREE PRESERVATION PURPOSES ONLY

Bryce Estates

Tree Preservation Activities

1. Prior to any construction activity, all individual trees and groups of trees shown to be preserved on the Tree Preservation Plan shall be protected by fencing a minimum of four feet in height, placed at the limits of clearing and grading, or as determined by Fairfax County Urban Forestry Division representatives during the pre-construction meeting. Tree protection fencing shall be one of the following:
   a. 14 gage steel welded wire "farm fence", on 6 foot steel posts driven into the ground 18 inches and placed not more than 10 feet apart
   b. super silt fence
   c. orange fence on 6 foot steel posts driven into the ground 18 inches and placed not more than 5 feet apart.
2. Silt fence or super silt fence, if required, may be installed in the root-pruning trench. If super silt fence is used, it may serve as tree preservation fencing. Other types of tree preservation fencing shall be placed between the area to be cleared and the root-pruning trench.
3. The tree protection fencing shall be made clearly visible to all construction personnel with signs posted every 25 feet on the fence stating in English and Spanish that it is a tree preservation area and no entry is permitted. The fencing shall be installed prior to any work being conducted on the site, including the demolition of any existing structures or fences.
4. All construction mobilization/activity, materials storage, and motorized equipment shall be prohibited beyond the limits of clearing and grading shown on the site plan and the Tree Preservation Plan unless previously approved by Fairfax County Urban Forestry Division.
5. Root Pruning: Root pruning shall be performed along the limits of clearing and grading as shown on the tree conservation plan prior to any other site disturbance. A trencher, stump grinder, or airtool-and-handsaw shall be used to a depth of 18 inches, cutting all roots larger than two inches in diameter. Immediately after root pruning, the trench shall be backfilled. Root-pruning trenches should be mulched with wood chips or mulch four inches deep. Root pruning shall be done prior to any site work or installation of siltation control measures unless authorized by Fairfax County Urban Forestry Division.
6. Clearing Operations: Trees to be removed shall be felled in such a manner as to preserve the trees that are to remain. Trees directly adjacent to but within the limits of clearing and grading shall be felled by hand, with a chain saw, and the stumps shall remain in place or shall be ground out. If, due to site constraints, the stumps must be grubbed out, this shall be done only after root pruning along the limits of clearing and grading has occurred, and shall be done in a manner that does not injure trees to be preserved.
7. Trees within the tree preservation areas, which are individually identified to be removed shall be felled by hand with a chain saw and the stumps shall remain in place. Such trees shall be felled in a manner that does not injure trees to be preserved. Trees to be removed from the tree preservation area shall be dropped into the area to be cleared, or pieced down. These trees shall be moved into the area to be cleared without injuring remaining vegetation.
8. Off-site and jointly owned trees should receive special attention; if possible, discuss the project with owners of such trees before starting work if their trees are affected by construction. Make all reasonable efforts to preserve off site and jointly owned trees.
9. Tree care procedures shall meet or exceed American National Standards Institute (ANSI) *Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance ANSI A300.*
10. All of the requirements of the Public Facilities Manual shall be met.
11. Demolition Operations: Buildings, concrete pads, and concrete or asphalt paths and driveways or roadways, debris and junk within or adjacent to tree preservation areas shall be removed in such a way that trees to be preserved are not damaged. Equipment shall at all times remain on concrete or wood-chip padded surfaces rather than positioning on soil or vegetation. Buildings near trees to be saved shall be pulled over, away from trees, using cables, rather than pushed over with equipment. Concrete and debris within tree preservation areas shall be pulled up and loaded onto equipment without the equipment leaving the concrete or wood-chip padded surfaces.
12. Information in these plan notes, tree inventory, and all plans related to trees refer only to trees that are within 25 feet of the LOC, and on the development site within 150 feet of the limits of clearing and grading; no other trees were examined.
13. Invasive exotic species, including tearthumb, English ivy, Japanese honeysuckle, and bittersweet, shall be suppressed using a combination of cutting, pulling, grubbing, selective and/or non-selective herbicides, and/or goats. Suppression shall be done under the supervision of professionals who can identify the target species and desirable species, so that non-target species shall be protected while control procedures are undertaken, to the extent practicable. Fairfax County Urban Forestry Division shall approve methodology in advance of implementation. Herbicides shall be selected by knowledgeable professionals from those recommended by Virginia Tech Extension or University of Maryland Extension, and shall be applied at times recommended by Virginia Tech Extension or University of Maryland Extension. Any pesticides shall be applied in accordance with label instructions and State Law, and shall be applied by a State licensed professional applicator. Suppression shall take place until bond release, and should be continued in perpetuity. At this site, the best method may be to cut invasives to the ground, and treat re-growth with appropriate herbicides.

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED ~~10-28-2010~~
Date of (BOS) (PC) approval 11-16-2010

Sheet 6 of 9

TREE PRESERVATION INVENTORY

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

NO.	DATE	DESCRIPTION	REVISIONS	BY	APPRVD	DATE
4.	10-15-10	CHANGED TREES TO BE SAVED/REMOVED (KJV)				
3.	9-22-10	NEW SHEET (KJV)				
NO.	DATE	REVISION PRIOR TO APPROVAL				

CPJ Associates
Charles P. Johnson & Associates, Inc.
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS SURVEYORS
3959 PENDER DRIVE SUITE 210 FAIRFAX, VIRGINIA 22030 (703)385-7555
SILVER SPRING, MD FAX(703)273-8595

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
10-15-10
PROFESSIONAL ENGINEER

DESIGN DRAFT
APPROVED
DATE SEPT. 2010
SCALE HORZ: --- VERT: ---

SHEET 6 OF 9

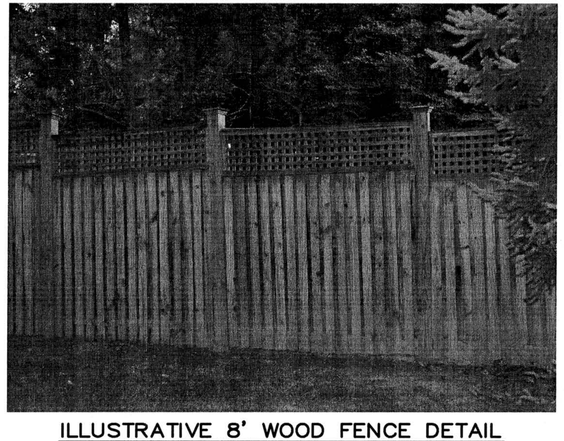
PRJ NO: 08-536
TYPE: CDP/FDP

Attached Xrefs: 00-F0500/00-0301/00-R0401/00-F0700

Last Saved 9/22/2010 Last Plotted 10/15/2010 10:05 AM Sheet N:\08536\DWG\00-F6801

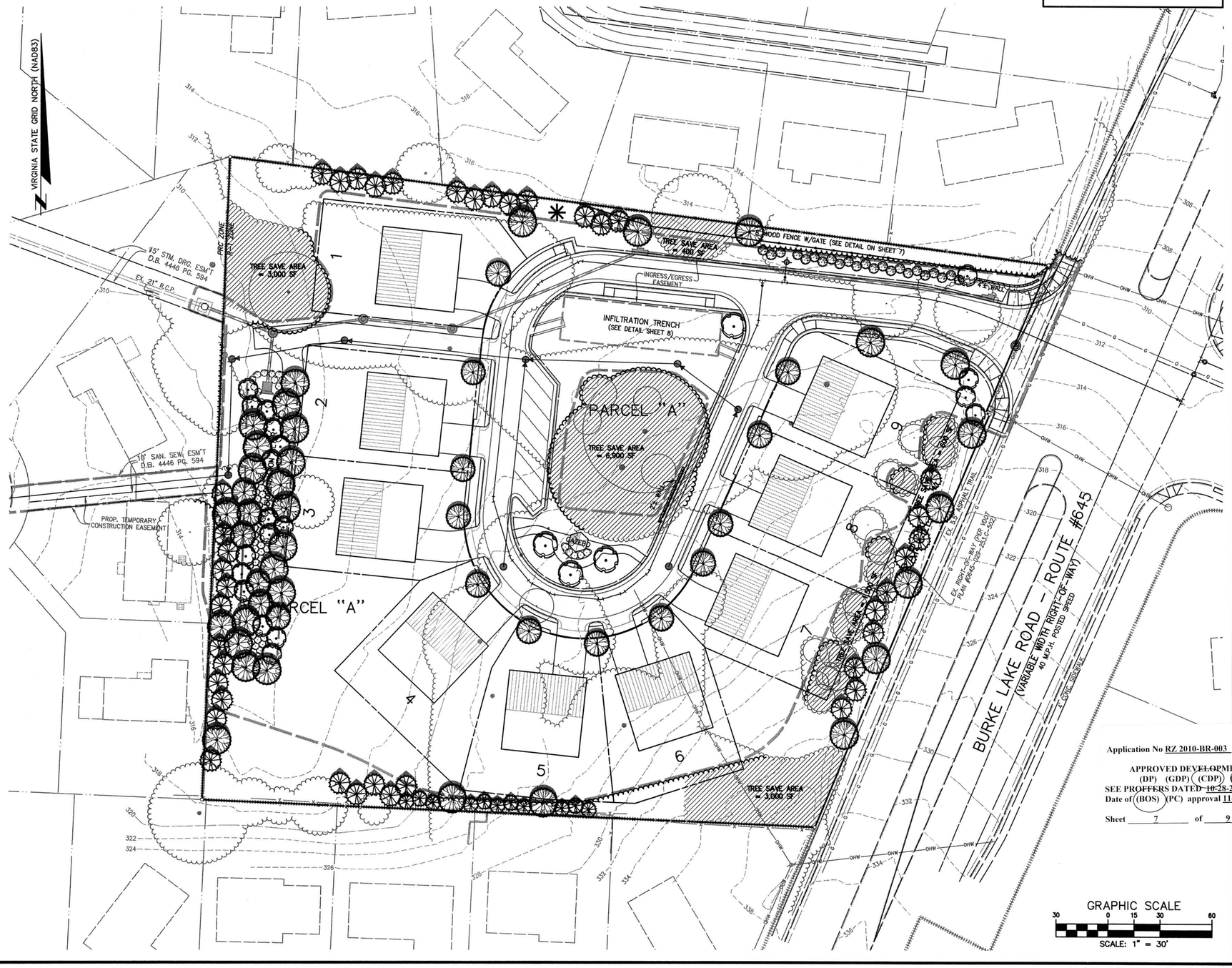
Table 12.12 10-YEAR TREE CANOPY CALCULATION WORKSHEET

A. Tree Preservation Target Calculations and Statement (Table 12.3)			
A	Pre-development area of existing tree canopy	64,720	SF
B	Percentage of gross site area covered by existing tree canopy	44	%
C	Percentage of 10-year canopy required for site	25	%
D	***Percentage of 10-year canopy requirement that should be met through tree preservation***	***43.7***	**%**
E	***Proposed percentage of canopy requirement that will be met through tree preservation***	***51.9***	**%**
F	Has the Tree Preservation Target minimum been met?	YES	
G	If no, provide sheet number where deviation request is located	N/A	
B. Tree Canopy Requirement			
1	Identify gross site area	148,266	SF
2	Subtract area dedicated to road frontage and parks	0	SF
3	Subtract area of exemptions	0	SF
4	***Adjusted gross site area (B1 - B2 - B3)***	***148,266***	***SF***
5	Identify site's zoning and/or use	PDH-3	
6	***Perentage of 10-year canopy required***	***25***	**%**
7	***Area of 10-year canopy required (B4 x B6)***	***37,067***	***SF***
8	Is a modification of canopy requirements being requested?	NO	
9	If B8 is yes, provide sheet number where modification request is located	N/A	
C. Tree Preservation			
1	***Tree Preservation Target Area***	***16,180***	***SF***
2	Total canopy area meeting standards of §12-0200	15,400	SF
3	x 1.25	19,250	SF
4	Total canopy area of unique or valuable forest or woodland communities	0	SF
5	x 1.50	0	SF
6	Total canopy area of Heritage, Memorial, Specimen or Street Trees	0	SF
7	x 1.5 to 3.0	0	SF
8	Canopy area of trees within Resource Protection Areas and 100-year floodplains	0	SF
9	x 1.0	0	SF
10	***Total of C3, C5, C7, and C9***	***19,250***	***SF***
D. Tree Planting			
1	***Area of canopy to be met through tree planting (B7 - C10)***	***17,817***	SF
2	Area of canopy to be planted for air quality benefits	4,200	SF
3	x 1.50	6,300	SF
4	Area of canopy to be planted for energy conservation	0	SF
5	x 1.50	0	SF
6	Area of canopy to be planted for water quality benefits	0	SF
7	x 1.25	0	SF
8	Area of canopy to be planted for wildlife benefits	8,100	SF
9	x 1.50	12,150	SF
10	Area of canopy provided by native trees	0	SF
11	x 1.50	0	SF
12	Area of canopy provided by improved cultivars and varieties	0	SF
13	25% credit	0	SF
14	Area of canopy provided through other trees	3,650	SF
	x 1.0	3,650	SF
15	Area of canopy provided through tree seedlings	0	SF
	x 1.0	0	SF
16	Area of canopy provided through native shrubs or woody seed mix	0	SF
	x 1.0	0	SF
17	Percentage of line D15 represented by line D16 (must not exceed 33% of D15)	0	%
18	***Total of canopy area to be provided through tree planting***	***22,100***	***SF***
19	Is offsite planting relief requested?	NO	
20	Tree Bank or Tree Fund?	N/A	
21	Canopy area requested to be provided through offsite banking or tree fund	0	SF
22	Amount to be deposited into the Tree Preservation and Planting Fund	0	
E. Total of 10-year Tree Canopy Provided			
1	Total canopy area provided through tree preservation (C10)	19,250	SF
2	Total canopy area provided through tree planting (D17)	22,100	SF
3	Total canopy area provided through offsite mechanism (D19)	N/A	SF
4	***Total 10-year tree canopy provided***	***41,350***	***SF***
	Total 10-year tree canopy provided (% of net site area)	***28***	**%**



ILLUSTRATIVE 8' WOOD FENCE DETAIL

NOT TO SCALE



Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 10-28-2010
Date of (BOS) (PC) approval 11-16-2010

Sheet 7 of 9

NO.	DATE	REVISION	BY	APPROV.	DATE
4.	10-15-10	ADDED FENCE DETAIL; REVISED LANDSCAPING (KJV)			
3.	9-22-10	REVISED LANDSCAPING & TREE COVER CALCULATIONS, REMOVED DEVIATION REQUEST (KJV)			
2.	8-25-10	REVISED LANDSCAPING & TREE COVER CALCULATIONS (KJV)			
1.	8-6-10	REVISED LANDSCAPING & TREE COVER CALCULATIONS (KJV)			

DESCRIPTION — REVISIONS

CPJ Associates

Charles P. Johnson & Associates, Inc.
PLANNERS ENGINEERS LANDSCAPE ARCHITECTS SURVEYORS
3959 PENDER DRIVE SUITE 210 FAIRFAX, VIRGINIA 22030 (703)385-7555
SILVER SPRING, MD FAX(703)273-8595

COMMONWEALTH OF VIRGINIA PAUL B. JOHNSON Lic. No. 018450 10-15-10 PROFESSIONAL ENGINEER

CONCEPTUAL LANDSCAPE PLAN

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

DESIGN KJV | DRAFT KJV | APPROVED HMF | DATE JAN. 2010 | SCALE HORIZ. 1" = 30' VERT. ---

SHEET 7 OF 9

PRJ NO: 08-536

TYPE: CDP/FDP

Attached Xrefs: 00-F0500/00-R0301/00-R0401/00-F0700

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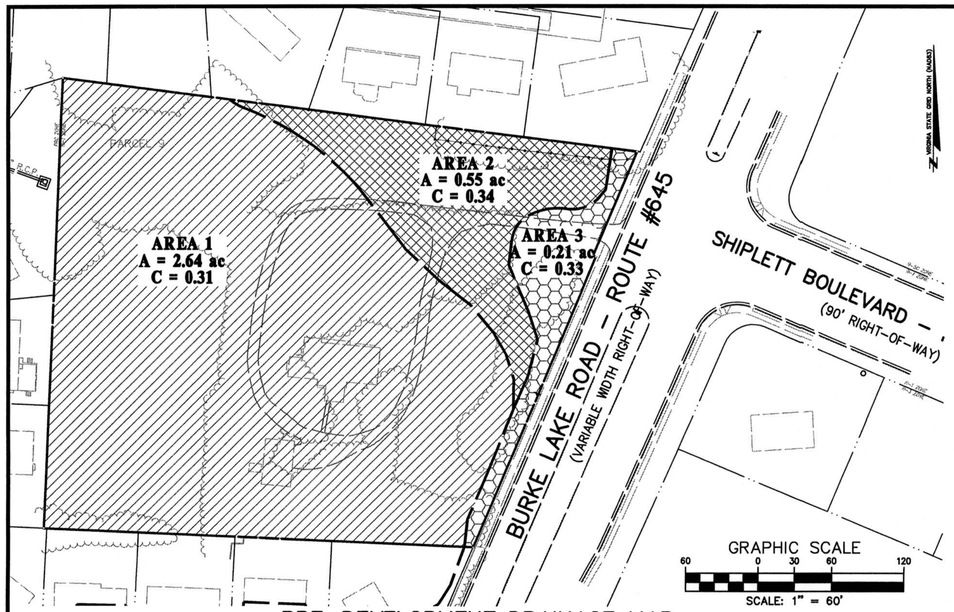
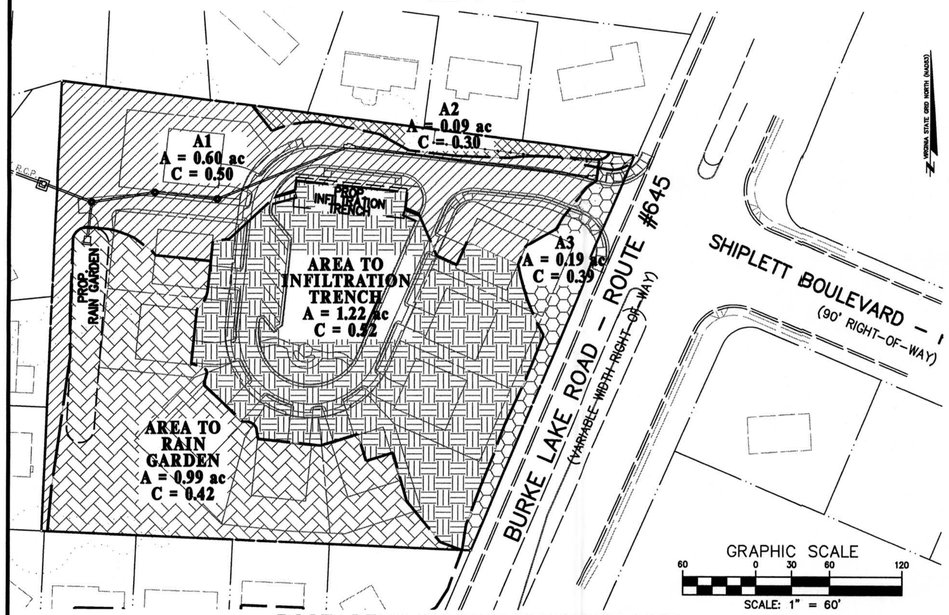


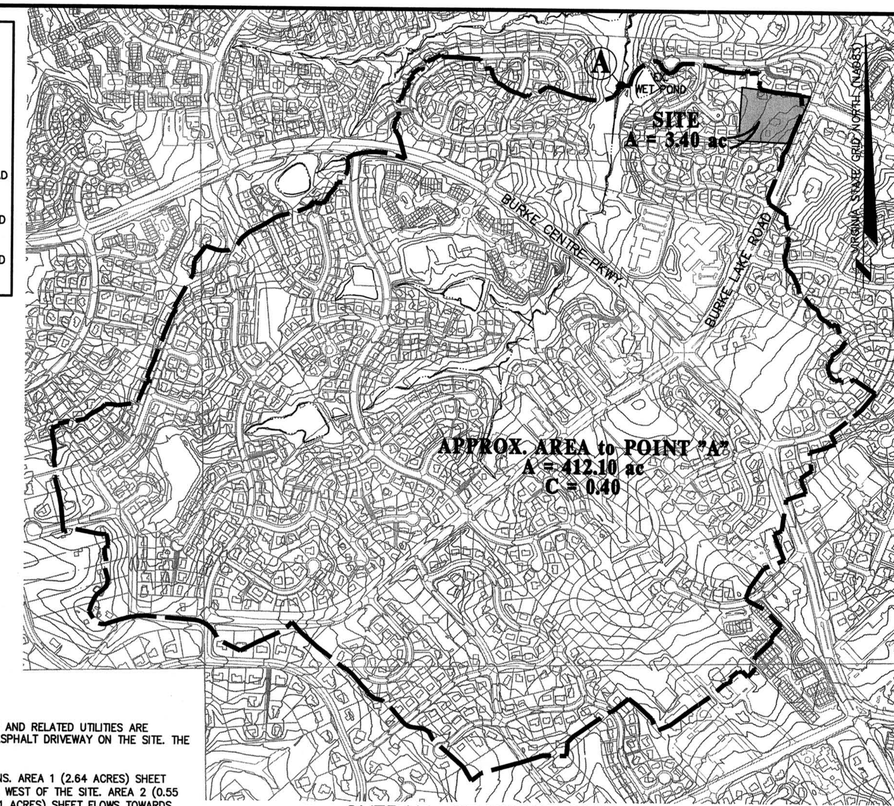
PRE-DEVELOPMENT DRAINAGE MAP
SCALE : 1" = 60'



POST-DEVELOPMENT DRAINAGE MAP
SCALE : 1" = 60'

LEGEND

- A1 – ONSITE AREA TO EXISTING YARD INLET
- A2 – ONSITE AREA TO ADJACENT PROPER
- A3 – ONSITE AREA TO EXISTING BURKE LAKE ROAD (RTE #645)
- ONSITE AREA TO PROPOSED BIO-RETENTION FILTER
- ONSITE AREA TO PROPOSED INFILTRATION TRENCH



OVERALL DRAINAGE MAP
SCALE : 1" = 500'

OUTFALL NARRATIVE

THE PROPERTY CONSISTS OF 3.40 ACRES ON WHICH 9 SINGLE-FAMILY DETACHED UNITS AND RELATED UTILITIES ARE PROPOSED. THE EXISTING SITE IS FAIRLY WOODED. THERE IS AN EXISTING HOUSE AND ASPHALT DRIVEWAY ON THE SITE. THE SITE'S SLOPES VARY FROM 5% TO 7%.

THE SITE'S EXISTING STORMWATER RUNOFF SHEET FLOWS IN THREE DIFFERENT DIRECTIONS. AREA 1 (2.64 ACRES) SHEET FLOWS INTO AN EXISTING YARD INLET WHICH IS LOCATED ON ADJACENT LOT 34 TO THE WEST OF THE SITE. AREA 2 (0.55 ACRES) SHEET FLOWS TOWARDS THE NORTH ONTO ADJACENT PROPERTIES. AREA 3 (0.21 ACRES) SHEET FLOWS TOWARDS THE EAST INTO BURKE LAKE ROAD (ROUTE #645).

Pre-Development Condition

A1=	2.64 Ac.		C=	0.31					
Q2=	2.64	x	0.31	x	5.45	=	4.46	cfs	
Q10=	2.64	x	0.31	x	7.27	=	5.95	cfs	
A2=	0.55 Ac.		C=	0.34					
Q2=	0.55	x	0.34	x	5.45	=	1.02	cfs	
Q10=	0.55	x	0.34	x	7.27	=	1.36	cfs	
A3=	0.21 Ac.		C=	0.33					
Q2=	0.21	x	0.33	x	5.45	=	0.38	cfs	
Q10=	0.21	x	0.33	x	7.27	=	0.50	cfs	

TOTAL EXISTING FLOW FROM THE SITE

A =	3.40	Ac.	
Q2=	4.46+1.02+0.38 =	5.86	cfs
Q10=	5.95+1.36+0.50=	7.81	cfs

AFTER THE DEVELOPMENT THE DRAINAGE PATTERN WILL BE SIMILAR TO THE EXISTING DRAINAGE PATTERN. HOWEVER, APPROXIMATELY 0.99 ACRES OF THE SITE'S STORMWATER WILL SHEET FLOW INTO A PROPOSED ONSITE BIORETENTION FILTER AND 1.22 ACRES OF ONSITE AREA WILL DRAIN INTO AN INFILTRATION TRENCH. THE TOTAL PROPOSED RUNOFF AND SHEET FLOW ONTO ADJACENT LOTS FROM THE SITE WILL BE REDUCED DRAMATICALLY AND MOST OF THE STORM RUNOFF FROM THE SITE WILL BE DISCHARGED DIRECTLY INTO THE EXISTING CLOSED STORM SEWER SYSTEM ON THE ADJACENT SITE (SEE COMPS AND POST DEVELOPMENT DRAINAGE MAP THIS SHEET). THIS EXISTING STORM SEWER SYSTEM DISCHARGES RUNOFF INTO AN EXISTING WET POND TO THE WEST OF THE SITE. THIS EXISTING WET POND WILL DISCHARGE INTO POHICK CREEK AT POINT "A". AT THIS POINT THE SITE AREA IS MUCH SMALLER THAN THE 1% OF THE ENTIRE DRAINAGE AREA. THE EXISTING STORM SEWER SYSTEM HAS BEEN ANALYZED AND FOUND TO HAVE ADEQUATE CAPACITY TO CARRY THE PROPOSED FLOWS FROM THE SITE. IN ADDITION, SINCE THE PROPOSED FLOWS WILL BE LESS THAN THE EXISTING FLOWS, THE DOWNSTREAM EXISTING POND SHOULD HAVE ENOUGH CAPACITY FOR THE PROPOSED DEVELOPMENT. THE REMAINING AREA FROM THE SITE (0.19 ACRES) WILL CONTINUE TO SHEET FLOW ONTO BURKE LAKE ROAD (ROUTE #645), WITH ONLY A 0.02CFS AND 0.04CFS INCREASE IN SHEET FLOW FOR THE 2-YEAR AND 10-YEAR STORM, RESPECTIVELY, TO THE EAST OF THE SITE.

Post-Development Condition

A = 1.22 acres will infiltrate into the ground through an onsite infiltration trench

A1=	0.92 Ac.		C=	0.54					
Q2=	0.92	x	0.54	x	5.45	=	2.71	cfs	
Q10=	0.92	x	0.54	x	7.27	=	3.61	cfs	
A2=	0.09 Ac.		C=	0.30					
Q2=	0.09	x	0.3	x	5.45	=	0.15	cfs	
Q10=	0.09	x	0.3	x	7.27	=	0.20	cfs	
A3=	0.19 Ac.		C=	0.39					
Q2=	0.19	x	0.39	x	5.45	=	0.40	cfs	
Q10=	0.19	x	0.39	x	7.27	=	0.54	cfs	

The Bioretention Filter will release approximately 0.7 cfs for the 2-yr and 1.0 cfs for the 10-yr storms respectively. These release rates may change with final engineering design

TOTAL PROPOSED FLOW FROM THE SITE

A =	3.40	Ac.	
Q2=	2.71+0.15+0.40+0.7 =	3.96	cfs
Q10=	3.61+0.2+0.54+1.0=	5.35	cfs

THE OVERALL DRAINAGE MAP SHOWN ON THIS SHEET DEPICTS THE DRAINAGE AREA WHERE THE SITE OUTFALL INTERSECTS WITH THE EXISTING FLOODPLAIN FOR A TRIBUTARY OF POHICK CREEK. THE TOTAL SITE AREA (3.40 ACRES) AT POINT "A" IS LESS THAN 1% OF THE OVERALL DRAINAGE AREA (APPROXIMATELY 412.10 ACRES).

SINCE THE FLOWS FROM THE SITE WILL BE REDUCED, THE DEVELOPMENT WILL NOT HAVE AN ADVERSE IMPACT ON DOWNSTREAM PROPERTIES. IT IS THEREFORE THE ENGINEER'S OPINION THAT AN ADEQUATE OUTFALL EXISTS FOR THIS PROJECT.

BMP COMPUTATIONS

Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)	"C" (2)	Acres (3)
B1 - Onsite to Rain Garden	0.42	0.987
B2 - Onsite to Infiltration Trench	0.52	1.216
B3 - Onsite Uncontrolled	0.50	1.201
B4 - Offsite to Rain Garden	0.42	0.970

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designatior (1)	BMP Type (2)	Removal Eff. (%) (3)		Area Ratio (4)		"C" Factor Ratio (5)		Product (6)
B1	Rain Garden	50	X	0.29	X	0.87	=	12.67
B2	Infiltration Trench	65	X	0.36	X	1.07	=	24.89
B3	Offsite to Rain Gard	50	X	0.28	X	0.87	=	2.48
						(a) Total =		40.04

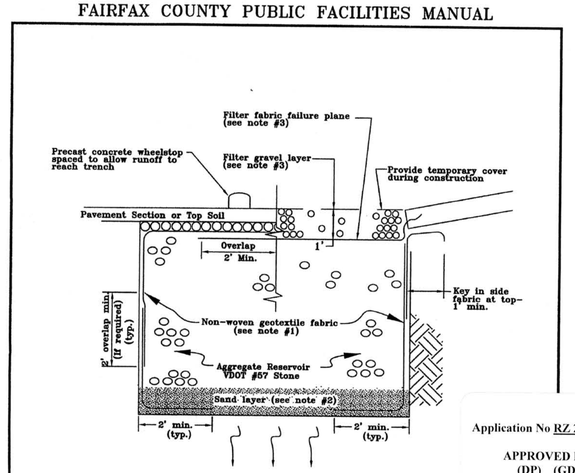
NOTE: These computations are preliminary and subject to change with final engineering plans.

STORMWATER MANAGEMENT AND BMP SUMMARY

STORMWATER MANAGEMENT WILL BE PROVIDED BY MEANS OF AN ONSITE BIORETENTION FILTER AND AN INFILTRATION TRENCH. THE FILTER AND TRENCH WILL REDUCE THE POST-DEVELOPMENT PEAK FLOWS FROM THE SITE TO LESS THAN THE PRE-DEVELOPMENT PEAK FLOWS.

ADDITIONALLY, THE BIO-RETENTION FILTER AND THE INFILTRATION TRENCH WILL PROVIDE APPROXIMATELY 40.04% BMPs, WHICH EXCEEDS THE REQUIRED 40% BMPs (SEE BMP COMPS THIS SHEET).

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



NOTES:

1. Use non-woven geotextile fabric with AOS of 70-100 US Sieve or 0.2 mm - 0.15 mm as determined by ASTM D4751 and a trapezoidal tear strength of 45 LB. or 0.2 kN as determined by ASTM D4533.
2. An 8-in. deep bottom sand layer (VDOT Fine Aggregate, Grading A or B) is required.
3. For an aggregate surface trench, filter fabric shall surround all of the aggregate fill material except the top one foot. A separate piece of fabric shall be used for the top layer to act as a failure plane. This top piece can then be removed and replaced upon clogging.
4. Geotextile fabric shall not be exposed to direct sunlight for more than 24 hours prior to installation.

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 10-28-2010
Date of (BOS) (PC) approval 11-16-2010

Sheet 8 of 9

Ref. Sec. 6-1303.7B, 6-1305.10J 6-1303	PERCOLATION TRENCH	PLATE NO. 41A-6	STD. NO.
Rev. 7-06			

NO.	DATE	REVISION	BY
2.	8-25-10	REVISED DRAINAGE DIVIDES; ADDED TRENCH DETAIL	MW
1.	8-6-10	REVISED DRAINAGE DIVIDES	MW

REVISIONS

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COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
9-22-10
PROFESSIONAL ENGINEER

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

OUTFALL ANALYSIS

DESIGN IA | DRAFT MW | APPROVED IA | DATE AUGUST, 2010 | SCALE HORIZ: AS SHOWN VERT: ---

SHEET 8 OF 9

PRJ NO: 08-536

TYPE: CDP/FDP

Attached Xrefs: 00-F0700/GIS/00-F0500/00-0301/00-R0401

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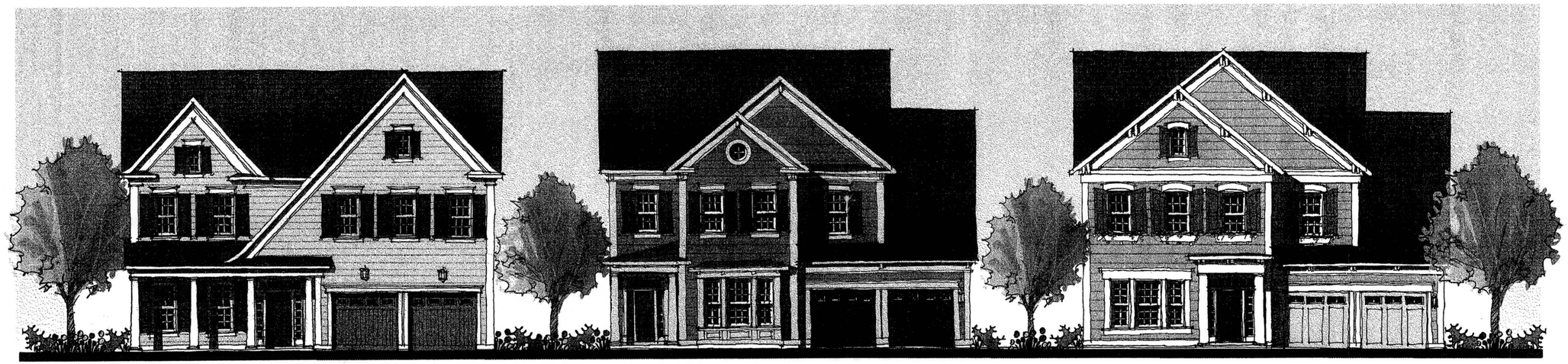

Application No RZ 2010-BR-003 Staff SZ

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 10-28-2010
Date of (BOS) (PC) approval 11-16-2010

Sheet 9 of 9

THIS SHEET IS FOR ILLUSTRATIVE PURPOSES ONLY

NO.	DATE	REVISION PRIOR TO APPROVAL
3.	9-22-10	NEW SHEET (KJV)

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ARCHITECTURAL ELEVATIONS

BRYCE ESTATES

BRADDOCK DISTRICT
FAIRFAX COUNTY, VIRGINIA

RZ 2010-BR-003

COMMONWEALTH OF VIRGINIA
PAUL B. JOHNSON
Lic. No. 018450
PROFESSIONAL ENGINEER
9.22.10

NO.	DESCRIPTION	REVIEW BY	APPROV.	DATE
	REVISIONS			

DESIGN KJV | DRAFT KJV | APPROVED HMF | DATE SEPT. 2010 | SCALE HORIZ:1" = 30' VERT: ---

SHEET 9 OF 9

PRJ NO: 08-536

TYPE: CDP/FDP

Attached Xrefs:

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