



**APPLICATION ACCEPTED:** August 22, 2014  
**PLANNING COMMISSION:** October 1, 2015  
**BOARD OF SUPERVISORS:** Not Yet Scheduled

# County of Fairfax, Virginia

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**September 17, 2015**

## **STAFF REPORT**

**APPLICATION SE 2014-MV-058**

**MOUNT VERNON DISTRICT**



**APPLICANT:** Morning Star Day Care

**ZONING:** R-2: Residential, Two Dwelling Units/Acre  
HC: Highway Corridor Overlay District

**PARCEL:** 101-3 ((1)) 95

**LOCATION:** 8628 Woodlawn Court

**SITE ACREAGE:** 1 acre (43,560 square feet)

**PLAN MAP:** Residential; 2-3 du/ac

**SPECIAL EXCEPTION CATEGORY:** Category 3: Quasi-Public Uses  
Use 10: Child Care Center (Sect. 9-309)

**PROPOSAL:** To demolish the existing dwelling and construct a child care center for up to 160 children

### **STAFF RECOMMENDATIONS:**

Staff recommends approval of SE 2014-MV-058, subject to the proposed conditions contained in Appendix 1.

Staff recommends approval of a waiver of Par. 2 of Sect. 9-309 of the Zoning Ordinance to permit a child care center for 160 children to be located along a local street.

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**Nick Rogers, AICP**

**Excellence \* Innovation \* Stewardship  
Integrity \* Teamwork \* Public Service**

**Department of Planning and Zoning**  
Zoning Evaluation Division  
12055 Government Center Parkway, Suite 801  
Fairfax, Virginia 22035-5509  
Phone 703-324-1290 FAX 703-324-3924  
[www.fairfaxcounty.gov/dpz](http://www.fairfaxcounty.gov/dpz)



Staff recommends approval of a modification of the transitional screening and barrier requirements along the eastern property boundary in favor of that shown on the SE Plat.

Staff recommends approval of a deviation from the required tree preservation target of 30% to 10.7% as shown on the SE Plat.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this application does not interfere with, abrogate or annul any easements, covenants, or other agreements between parties, as they may apply to the property subject to this application

For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.



Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 48 hours advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

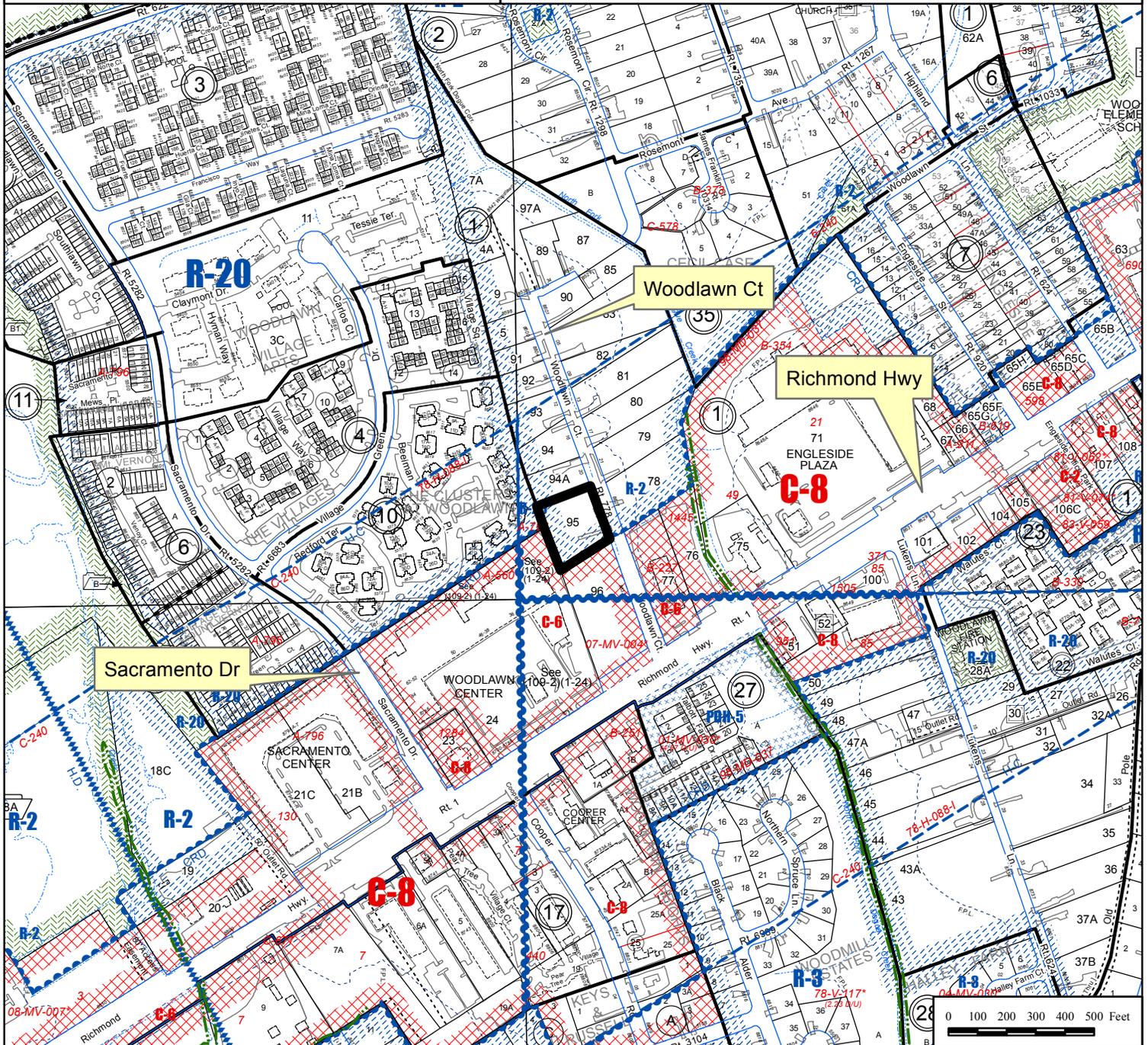
# Special Exception

SE 2014-MV-058



Applicant: MORNING STAR DAY CARE  
Accepted: 08/22/2014  
Proposed: CHILD CARE CENTER  
Area: 1 AC OF LAND; DISTRICT - MOUNT VERNON  
Zoning Dist Sect: 03-0204  
Located: 8628 WOODLAWN COURT, ALEXANDRIA, VA 22309

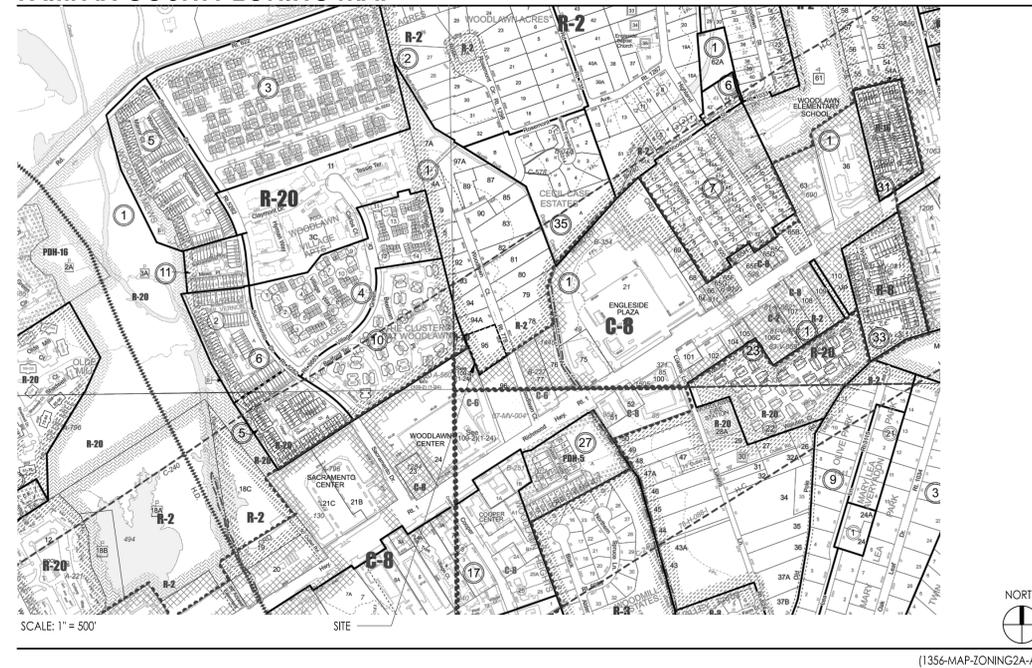
Zoning: R-2  
Plan Area: 4,  
Overlay Dist: HC  
Map Ref Num: 101-3- /01/ /0095



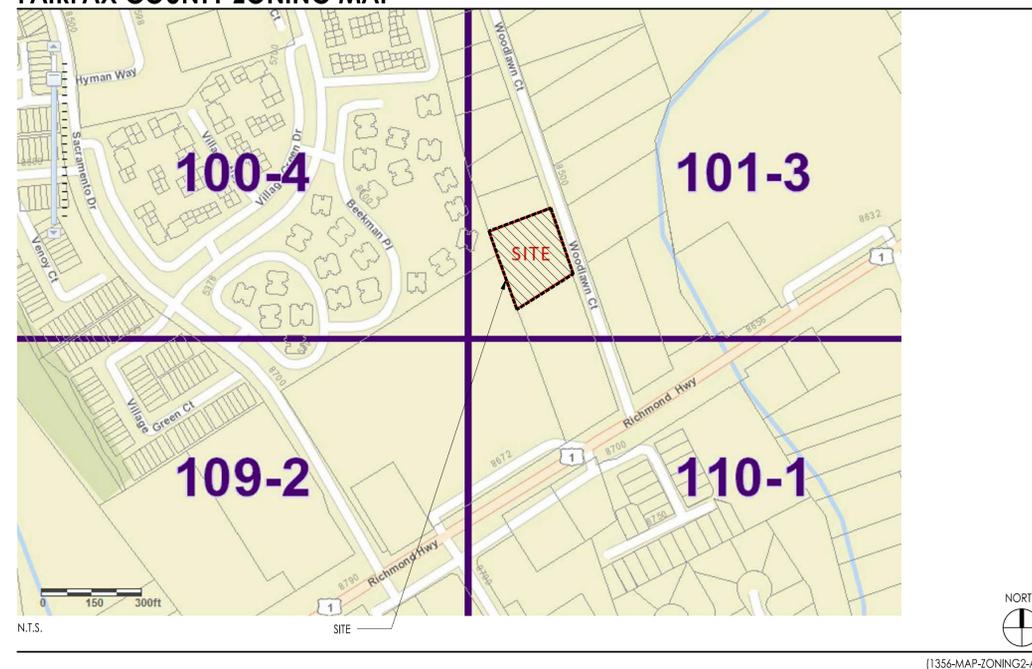
# SPECIAL EXCEPTION PLAT

8628 WOODLAWN COURT  
ALEXANDRIA, VA 22309

FAIRFAX COUNTY ZONING MAP



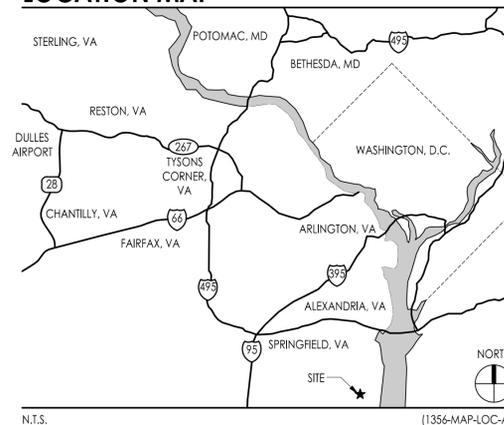
FAIRFAX COUNTY ZONING MAP



CONTEXT MAP



LOCATION MAP



DRAWING LIST

- GENERAL:  
CS1.1 COVER SHEET, NOTES & MAPS  
CS1.2 SITE PLAN & CODE ANALYSIS
- LANDSCAPE:  
L1.0 EXISTING VEGETATION MAP  
L2.0 TREE CONSERVATION PLAN  
L3.0 TREE CONSERVATION PLAN  
L4.0 LANDSCAPE PLAN
- CIVIL:  
C1.0 GRADING PLAN  
C2.0 OUTFALL & SWM  
C3.0 SWM/BMP ENERGY BALANCE CALCULATION  
C4.0 BMP COMPUTATION  
C4A BMP COMPUTATION  
C5.0 BMP COMPUTATION  
C6.0 BMP DESIGN, RAIN GARDEN & COMPUTATION
- ARCHITECTURAL:  
A1.0 SCHEMATIC FLOOR PLANS

SPECIAL EXCEPTION 01/17/2014  
CHECKLIST COMMENTS 06/11/2014  
CHECKLIST COMMENTS 07/17/2014  
CHECKLIST COMMENTS 08/04/2014  
COUNTY REV. 12/12/2014  
COUNTY REV. 04/10/2015  
COUNTY REV. 06/05/2015

DATE REV ISSUED FOR

SEAL

**GENE EDGECOMBE  
VMS, LLC DEVELOPERS**

5579 HARRINGTON FALLS LANE  
ALEXANDRIA, VA  
PH: 703.780.8884

**MORNING STAR  
CHILDREN'S DAY  
CARE**

8628 WOODLAWN COURT  
ALEXANDRIA, VA 22309

PROJECT NUMBER 1356

COVER SHEET, NOTES & MAPS

**CS1.1**

# CODE ANALYSIS

|  |   |  |
|--|---|--|
| <b>APPLICANT</b><br>GENE EDGEcombe<br>VMS, LLC DEVELOPERS<br>5579 HARRINGTON FALLS LANE<br>ALEXANDRIA, VA<br>PHONE: 703.780.8886 | <b>APPLICABLE CODES:</b><br>2009 VUSBC<br>2009 IBC<br>2009 SFPC<br>2009 IPC<br>2009 IMC<br>2009 IFGC<br>2009 IECC<br>2008 NEC<br>ICC/ANSI A117.1 (ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES)<br>ALL STATEWIDE AND LOCAL AMENDMENTS | (VIRGINIA UNIFORM STATEWIDE BUILDING CODE)<br>(INTERNATIONAL BUILDING CODE)<br>(STATEWIDE FIRE PREVENTION CODE)<br>(INTERNATIONAL PLUMBING CODE)<br>(INTERNATIONAL MECHANICAL CODE)<br>(INTERNATIONAL FUEL GAS CODE)<br>(INTERNATIONAL ENERGY CONSERVATION CODE)<br>(NATIONAL ELECTRICAL CODE)<br>ICC/ANSI A117.1 (ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES)<br>ALL STATEWIDE AND LOCAL AMENDMENTS |
|--|---|--|

|  |  |  |
|--|--|--|
| <b>ARCHITECT</b><br>LEE MCALLISTER<br>MCALLISTER ARCHITECTS<br>1435 POWHATAN STREET<br>ALEXANDRIA, VA 22314<br>PHONE: 703.519.8623 | <b>CIVIL ENGINEER</b><br>HAMID TEHRANI<br>SDE, INC.<br>7777 LEESBURG PIKE, SUITE 305N<br>FALLS CHURCH, VA 22043<br>PHONE: 703.556.0800 | <b>PROPOSED SCOPE OF WORK:-</b><br>REQUEST FOR SPECIAL EXCEPTION FOR A CHILD CARE CENTER IN A RESIDENTIAL ZONED LOT. DEMOLITION OF ALL EXISTING STRUCTURES AND PAVED AREAS. NEW CONSTRUCTION OF A TWO STORY WITH CELLAR DAY CARE FACILITY. |
|--|--|--|

| GENERAL SITE | ITEM                 | ALLOWABLE OR EXISTING | PROPOSED | COMMENTS                        |
|--------------|----------------------|-----------------------|----------|---------------------------------|
|              | TOTAL SITE AREA      | 43,560 SF             | -        | NO CHANGE TO LOT SIZE           |
|              | ZONING               | R-2                   | -        | NO CHANGE TO ZONING             |
|              | MAP REFERENCE NUMBER | 101-3-/01 / /0095     | -        | -                               |
|              | ZONING DIST. SECTION | 9-309                 | -        | CHILD CARE CENTER/ NURSERY SCHL |

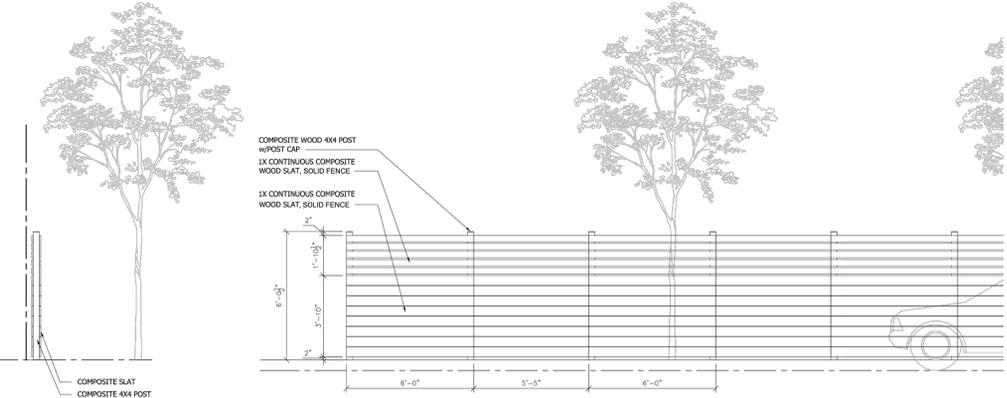
| GENERAL BUILDING | ITEM                               | REQUIREMENT OR ALLOWABLE | IBC REFERENCE       | COMMENTS          |
|------------------|------------------------------------|--------------------------|---------------------|-------------------|
|                  | USE OR OCCUPANCY                   | I-4                      | SECTION 303.1       | NON SEPARATED     |
|                  | TYPE OF CONSTRUCTION               | IIIA                     | SECTION 602.2       | FULLY SPRINKLERED |
|                  | FIRE SUPPRESSION SYSTEM            | REQUIRED                 | SECTION 903.2.1.2   | PROVIDED          |
|                  | FIRE PROTECTIVE SIGNALING SYSTEM   | REQUIRED                 | SECTION 907.2.1     | PROVIDED          |
|                  | NUMBER OF EXITS REQUIRED PER STORY | 2                        | TABLE 1015.1/1019.1 | 2 PROVIDED        |

| TABLE 503 ELEMENT  | ITEM                                | ALLOWABLE  | PROPOSED   | IBC REFERENCE | COMMENTS            |
|--|-------------------------------------|------------|------------|---------------|---------------------|
| HEIGHT AND AREA LIMITATIONS OF BUILDINGS - I-4 (INSTITUTIONAL GROUP) |                                     |            |            |               |                     |
|  | NUMBER OF STORIES                   | 3          | 2          | TABLE 503     | CELLAR NOT INCLUDED |
|  | HEIGHT LIMITATIONS                  | 35'-0"     | 30'-0"     | TABLE 503     | -                   |
|  | ALLOWABLE FLOOR AREA PER I-4 GROUP  | 23,500 GSF | 8,703 GSF* | TABLE 503     | SEE NOTE BELOW      |
|  | ALLOWABLE FLOOR AREA PER MAX F.A.R. | 8,710 SF   | 8,703 GSF* | -             | SEE NOTE BELOW      |

\* NOTE: CELLAR NOT INCLUDED IN F.A.R. PER FAIRFAX COUNTY ZONING ORDINANCE ARTICLE 20. CELLAR DEFINED AS THE PORTION OF A BUILDING PARTLY UNDERGROUND, HAVING ONE-HALF (1/2) OR MORE THAN ONE-HALF (1/2) OF ITS CLEAR HEIGHT BELOW THE GRADE PLANE. FLOOR AREA, GROSS: GROSS FLOOR AREA SHALL NOT INCLUDE CELLARS.

(1356/CODE-A)

NOTE:  
NEW COMPOSITE WOOD FENCE SHALL BE A MINIMUM OF 6'-0" HIGH AND CONSTRUCTED SO THAT IT CREATES A SOLID BARRIER TO PROVIDE EFFECTIVE TRANSITIONAL SCREENING AS REQUIRED PER CODE.



**2 NEW COMPOSITE FENCE DETAIL**  
1/4" = 1'-0"

(1356/EE01-1)

**1 ARCHITECTURAL SITE PLAN**  
1/16"=1'-0"

**KEY**

- NEW 6'-0" HT. COMPOSITE FENCE
- NEW 3'-6" HT. CHAIN LINK FENCE
- EXISTING 6'-0" HT. CHAIN LINK FENCE

**SEAL**

**DATE REV ISSUED FOR**

**DATE** \_\_\_\_\_ **REV** \_\_\_\_\_ **ISSUED FOR** \_\_\_\_\_

**PROJECT NUMBER 1356**

**SHEET #** PROJECT SHEET TITLE

**McAllister ARCHITECTS, P.C.**  
1435 POWHATAN STREET  
ALEXANDRIA, VA 22314  
703.519.8623  
703.519.0102 FAX  
EMAIL@MCA-ARCH.COM

**CIVIL ENGINEER:**  
**SUBURBAN DEVELOPMENT ENGINEERING, INC**  
7777 LEESBURG PIKE, SUITE 305N  
FALLS CHURCH, VA 22043  
PHONE: (703) 556-0800  
WWW.SDENR.US

**LANDSCAPE ARCHITECT:**  
**WM. O'KELLY RUSSELL, RLA**  
PLANNING, LANDSCAPE ARCHITECTURE, ARBORICULTURE  
17485 TRIPOLI BLVD., DUMFRIES, VA 22026  
PHONE: (703) 221-3381  
WMO\_KELLYRUSSELL@HOTMAIL.COM

SPECIAL EXCEPTION 01/17/2014  
CHECKLIST COMMENTS 06/11/2014  
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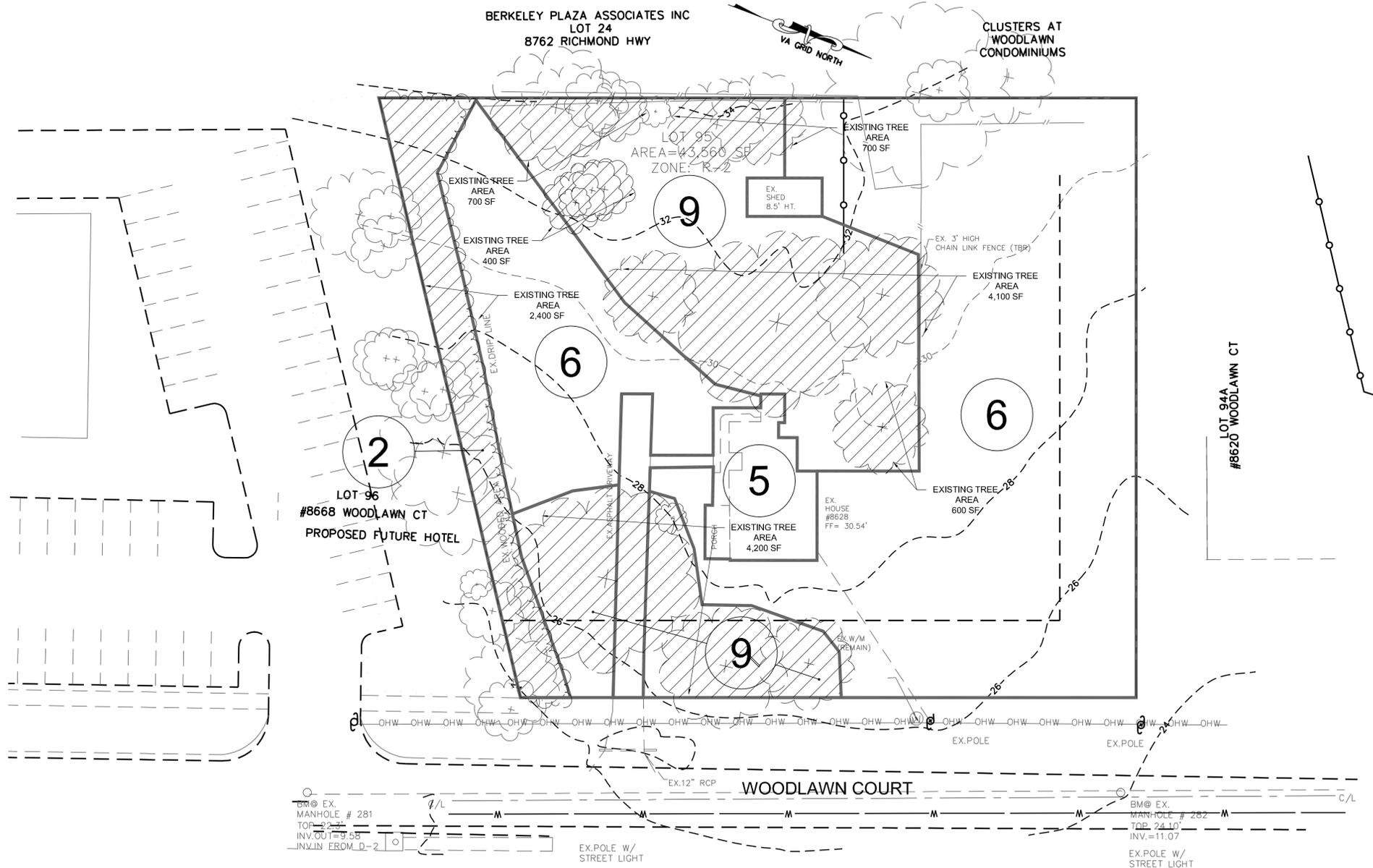
**MORNING STAR CHILDREN'S DAY CARE**  
8628 WOODLAWN COURT  
ALEXANDRIA, VA 22309

**PROJECT NUMBER 1356**

**SITE PLAN & CODE ANALYSIS**

**CS1.2**

(1356/DD PLANS-M)

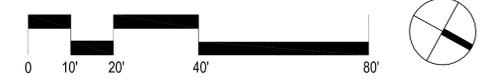


EXISTING VEGETATION MAP

SCALE: 1" = 20'-0"

| EVM SUMMARY TABLE |                                     |                                      |           |         |          |  |
|-------------------|-------------------------------------|--------------------------------------|-----------|---------|----------|--|
| Cover Type        | Primary Species                     | Successional Stage                   | Condition | Acreage | Comments |  |
| 2                 | Early Successional Forest Community | Red Maple, Sweetgum and Black Cherry | Juvenile  | Fair    | 0.06 ac. | Areas of early successional tree canopy dominated by juvenile pioneer species, 4-10" DBH such as Virginia pine, red cedar, tulip poplar, black locust, box elder and sweetgum. |
| 5                 | Developed Land                      | N/A                                  | N/A       | N/A     | 0.06 ac. | Areas of constructed features including driveway.  |
| 6                 | Maintained Grasslands               | N/A                                  | N/A       | N/A     | 0.64 ac. | Areas of lawn and landscaping.   |
| 9                 | Landscaped tree canopy              | White Pine, Oaks and Maple           | N/A       | Fair    | 0.24 ac. | Areas of tree canopy established through the planting of nursery stock trees.  |
| Total acreage     |                                     |                                      |           |         | 1.00 ac. |  |

\*DBH = Diameter at Breast Height (measured 4.5 feet above the ground)



LEGEND:

- EXISTING TREES 12" OR GREATER
- FOREST COVER TYPE
- EXISTING TREE CANOPY



PREPARED BY:  
Wm. O'Kelly Russell  
ISA Certified Arborist, No. 5009A  
7/30/15

| No. | DATE    | DESCRIPTION                 | REV. BY | APPROVED | DATE |
|-----|---------|-----------------------------|---------|----------|------|
| 1   | 7-20-15 | REVISED PER COUNTY COMMENTS |         |          |      |

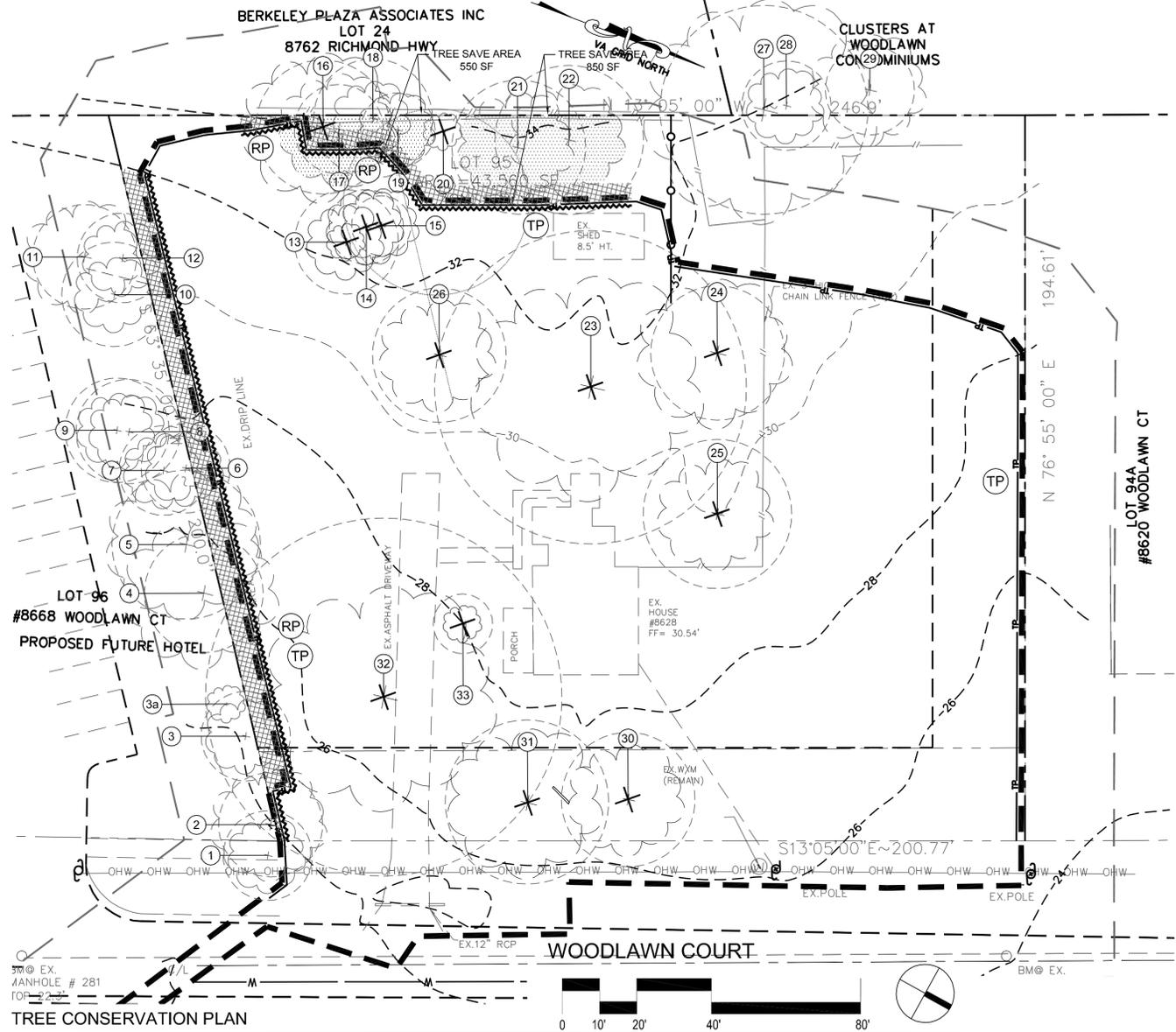
PLAN DATE  
7-20-15

**Wm. O'Kelly Russell, RLA**  
 Planning • Landscape Architecture • Arboriculture  
 17465 Tipton Blvd., Dumfries, VA 22026 (703) 221-3381  
 wmo\_okekellyrussell@hotmail.com



EXISTING VEGETATION MAP  
 MORNING STAR DAY CARE, SE 2014-MV-058  
 8628 WOODLAWN CT  
 MOUNT VERNON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA  
 SCALE: 1"=20'  
 DATE: 3-23-15  
 C.I. 2

SHEET  
L1  
OF  
5  
FILE No.



SCALE: 1" = 20'-0"

| TREE INVENTORY |               |       |                   |             |           |                 |               |              |            |                            |            |       |                                     |                          |                                   |
|----------------|---------------|-------|-------------------|-------------|-----------|-----------------|---------------|--------------|------------|----------------------------|------------|-------|-------------------------------------|--------------------------|-----------------------------------|
| Plan#          | Species       | Size  | Typical Root Zone |             | Condition | Canopy Position | Crown Density | Crown Spread | Activities |                            |            |       | Problems/Comments                   | Action to be taken       |                                   |
|                |               |       | DBH               | Radius (ft) |           |                 |               |              | %          | Average Canopy Spread (ft) | Root Prune | Mulch |                                     |                          | Fertilize                         |
| 1              | Black Cherry  | (2)6  | 12                | 40          |           | dominant        | 50            | 20           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 2              | Sweetgum      | 14    | 14                | 40          |           | dominant        | 50            | 30           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 3              | Green Ash     | 12    | 12                | 50          |           | dominant        | 50            | 50           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 4              | Red Maple     | 12    | 12                | 50          |           | dominant        | 50            | 40           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 5              | Red Maple     | 16    | 16                | 50          |           | dominant        | 50            | 40           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 6              | Mulberry      | 20    | 20                | 65          |           | dominant        | 50            | 20           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 7              | Sweetgum      | 12    | 12                | 65          |           | dominant        | 70            | 30           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 8              | Green Ash     | (2)10 | 20                | 65          |           | dominant        | 70            | 30           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 9              | Green Ash     | 14    | 14                | 65          |           | dominant        | 70            | 30           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 10             | Red Cedar     | 14    | 14                | 70          |           | dominant        | 75            | 20           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 11             | Sweetgum      | 14    | 14                | 70          |           | dominant        | 80            | 30           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 12             | Virginia Pine | 12    | 12                | 60          |           | dominant        | 70            | 20           | X          | X                          |            |       |                                     | Off-site                 | Root prune and mulch on-site only |
| 13             | White Pine    | 14    | 14                | 75          |           | dominant        | 75            | 20           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 14             | White Pine    | 10    | 10                | 65          |           | dominant        | 75            | 20           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 15             | White Pine    | 8     | 8                 | 65          |           | dominant        | 75            | 20           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 16             | Green Ash     | 18    | 18                | 70          |           | dominant        | 75            | 40           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 17             | Black Cherry  | 12    | 12                | 70          |           | dominant        | 75            | 30           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 18             | Green Ash     | 10    | 10                | 80          |           | dominant        | 75            | 20           | X          | X                          | X          |       | Fair condition                      | Crown clean branches >2" |                                   |
| 19             | Red Cedar     | 10    | 10                | 70          |           | intermediate    | 75            | 20           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 20             | Snag          | 24    |                   | 0           |           |                 |               |              |            |                            |            | X     | Dead, hazard                        | Remove                   |                                   |
| 21             | White Pine    | 18    | 18                | 60          |           | dominant        | 75            | 30           | X          | X                          |            |       | Fair condition                      | To remain                |                                   |
| 22             | White pine    | 20    | 20                | 50          |           | dominant        | 60            | 30           | X          | X                          |            |       | Wind damage, main leader broken     | To remain                |                                   |
| 23             | Green Ash     | 42    | 42                | 50          |           | dominant        | 75            | 60           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 24             | Pin Oak       | 18    | 18                | 70          |           | dominant        | 75            | 40           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 25             | Silver Maple  | 24    | 24                | 60          |           | suppressed      | 65            | 30           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 26             | Red Cedar     | 18    | 18                | 60          |           | dominant        | 80            | 30           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 27             | Red Oak       | 28    | 28                | 85          |           | dominant        | 80            | 60           |            |                            |            |       | Off-site                            | To remain                |                                   |
| 28             | Black Cherry  | 12    | 12                | 50          |           | dominant        | 85            | 20           |            |                            |            |       | Off-site                            | To remain                |                                   |
| 29             | Black Cherry  | 12    | 12                | 70          |           | intermediate    | 75            | 30           |            |                            |            |       | Off-site                            | To remain                |                                   |
| 30             | White Pine    | 18    | 18                | 85          |           | dominant        | 85            | 30           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 31             | White Pine    | 22    | 22                | 80          |           | dominant        | 85            | 40           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 32             | Green Ash     | 48    | 48                | 70          |           | dominant        | 80            | 60           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |
| 33             | Crape Myrtle  | (5)2  | 10                | 75          |           | suppressed      | 75            | 15           |            |                            |            | X     | Conflict with proposed construction | Remove                   |                                   |

**LEGEND:**

- EXISTING TREE
- TREE CANOPY CREDIT
- TREE TO BE REMOVED
- TREE ID
- CRITICAL ROOT ZONE
- 25' BEYOND LCG
- LIMITS OF C&G
- TREE PROTECTION
- ROOT PRUNING
- AREA TO BE MULCHED

PREPARED BY:  
Wm. O'Kelly Russell  
ISA Certified Arborist, MA-5009A  
7/30/15

| No. | DATE    | DESCRIPTION                 | REV. BY | APPROVED | DATE |
|-----|---------|-----------------------------|---------|----------|------|
| 2   | 7-20-15 | REVISED PER COUNTY COMMENTS |         |          |      |
| 1   | 6-1-15  | REVISED PER COUNTY COMMENTS |         |          |      |

**Wm. O'Kelly Russell, RLA**  
 Planning • Landscape Architecture • Arboriculture  
 17485 Tripoli Blvd., Dumfries, VA 22026 (703) 221-3381  
 wmo\_okekellyrussell@hotmail.com



**TREE CONSERVATION PLAN**  
 MORNING STAR DAY CARE, SE 2014-MV-058  
 8628 WOODLAWN CT  
 MOUNT VERNON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

DATE: 3-23-15  
 SCALE: 1"=20'  
 SHEET 2 OF 5  
 FILE No.

**TREE CANOPY COVER REQUIREMENTS**

|  |                     |
|--|---------------------|
| GROSS SITE AREA                              | 43,560 SF (1.00 AC) |
| - PUBLIC R.O.W. AREA (DEDUCTION)             | 0 SF (0.00 AC)      |
| = ADJUSTED GROSS SITE AREA                   | 43,560 SF (1.00 AC) |
| ZONING:                                      | R-2                 |
| TREE CANOPY COVER REQUIRED (43,560 SF X 30%) | 13,068 SF           |
| TOTAL TREE CANOPY COVER REQUIRED             | 13,068 SF           |
| TREE CANOPY COVER PROVIDED:                  |                     |
| LANDSCAPE PROVIDED                           | 13,074 SF           |
| TREE SAVE AREA (1,400 SF x 1.0)              | 1,400 SF            |
| TOTAL  | 14,474 SF           |

**TRANSITIONAL SCREENING YARDS**

|  |                          |
|--|--------------------------|
| *Yard - A (TYPE 1) Length = 131 LF Width = 25' Area = 3,275 SF |                          |
| Adjacent Use: Single Family Detached                           |                          |
| Qty Req'd  | Qty Prov'd               |
| 10 Yr. Canopy Coverage 75% (2,457 SF)                          | 78% (2,575 SF)           |
| Deciduous Tree (LD) 30% Max.                                   | 3 Trees (15%)            |
| Evergreen Tree (LE&ME) 70% Min.                                | 17 Trees (85%)           |
| Shrubs 40 (3/10 LF)  | 51 Shrubs                |
| Barrier D,E or F   | 42" Chain-link Fence     |
| Yard - B (TYPE 1) Length = 170 LF Width = 25' Area = 4,234 SF  |                          |
| Adjacent Use: Single Family Detached                           |                          |
| Qty Req'd  | Qty Prov'd               |
| 10 Yr. Canopy Coverage 75% (3,176 SF)                          | 75% (3,200 SF)           |
| Deciduous Tree (LD) 30% Max.                                   | 4 Trees (14%)            |
| Evergreen Tree (LE&ME) 70% Min.                                | 25 Trees (86%)           |
| Shrubs 51 (3/10 LF)  | 52 Shrubs                |
| Barrier D,E or F   | 6" Solid Composite Fence |
| Yard - C Length = 54 LF  |                          |
| Adjacent Use: Multifamily Family                               |                          |
| Qty Req'd  | Qty Prov'd               |
| Any Type Tree (AT) 2 (1 Tree/50 LF)                            | 2 Trees                  |
| Barrier (1) 6" Tree/50 LF                                      | 2 Trees                  |

\* NOTE: THE APPLICANT REQUESTS A MODIFICATION FOR THE TRANSITIONAL SCREEN REQUIREMENT OF YARD-A. THE APPLICANT HAS PROVIDED A WRITTEN REQUEST TO THE UFMD DIRECTOR.

**TRANSITIONAL SCREENING YARDS**

| YARD A - PLANT LIST   | Screen Yard | 10-Yr Tree Canopy | 10-Yr Tree Canopy |
|---|-------------|-------------------|-------------------|
| Key Qty Botanical Name Common Name Use Size Type Spacing Remarks  | Sub-Total   |                   |                   |
| <b>OVERSTORY TREES</b>  |             |                   |                   |
| UA 3 Ulmus americana 'Valley Forge' 'Valley Forge' Elm LD 3-3.5" Cal. B & B As Shown Single stem 250 SF |             |                   | 750 SF            |
| <b>EVERGREEN TREES</b>  |             |                   |                   |
| CO 3 Chamaecyparis obtusa Hinoki false cypress LE 10-12' ht. B & B As Shown Full to ground 125 SF       |             |                   | 375 SF            |
| IO 8 Ilex opaca American Holly ME 10-12' ht. B & B As Shown Full to ground 125 SF                       |             |                   | 1,000 SF          |
| PG 6 Picea glauca White spruce LE 10-12' ht. B & B As Shown Full to ground 125 SF                       |             |                   | 450 SF            |
| <b>SHRUBS</b>   |             |                   |                   |
| IG 15 Ilex glabra 'Nigera' 'Nigera' Inkberry 18-24" ht. 3 Gal. As Shown Full, dense                     |             |                   |                   |
| LB 15 Lindera benzoin Spicebush 24-36" ht. B & B As Shown Full, dense                                   |             |                   |                   |
| VU 21 Viburnum utile 'Conoy' 'Conoy' Viburnum 24-36" ht. B & B As Shown Full, dense                     |             |                   |                   |
|   |             | Total -           | 2,575 SF          |

(NOTE: A MODIFICATION TO THE TRANSITIONAL SCREEN YARD 'A' HAS BEEN REQUESTED TO DEDUCT THE ENTRANCE AREA FROM THE YARD)

| YARD B - PLANT LIST  | Screen Yard | 10-Yr Tree Canopy | 10-Yr Tree Canopy |
|--|-------------|-------------------|-------------------|
| Key Qty Botanical Name Common Name Use Size Type Spacing Remarks   | Sub-Total   |                   |                   |
| <b>OVERSTORY TREES</b>   |             |                   |                   |
| QB 4 Quercus bicolor Swamp white oak LD 3-3.5" Cal. B & B As Shown Single stem 250 SF                            |             |                   | 1,000 SF          |
| <b>EVERGREEN TREES</b>   |             |                   |                   |
| CO 6 Chamaecyparis obtusa Hinoki false cypress LE 10-12' ht. B & B As Shown Full to ground 125 SF                |             |                   | 750 SF            |
| IO 5 Ilex opaca American Holly ME 10-12' ht. B & B As Shown Full to ground 125 SF                                |             |                   | 625 SF            |
| PG 3 Picea glauca White spruce LE 10-12' ht. B & B As Shown Full to ground 125 SF                                |             |                   | 375 SF            |
| TO 6 Thuja occidentalis 'Nigra' Dark Green American arborvitae ME 10-12' ht. B & B As Shown Full to ground 75 SF |             |                   | 450 SF            |
| <b>SHRUBS</b>  |             |                   |                   |
| IG 15 Ilex glabra 'Nigera' 'Nigera' Inkberry 18-24" ht. 3 Gal. As Shown Full, dense                              |             |                   |                   |
| IV 14 Itea virginica 'Little Henry' Dwarf Virginia Sweetspire 18-24" ht. 3 Gal. As Shown Full, dense             |             |                   |                   |
| VP 9 Viburnum prunifolium Black Haw 24-36" ht. B & B As Shown Full, dense  |             |                   |                   |
| VU 14 Viburnum utile 'Conoy' 'Conoy' Viburnum 24-36" ht. B & B As Shown Full, dense                              |             |                   |                   |
|  |             | Total -           | 3,200 SF          |

| YARD C - PLANT LIST   | Screen Yard | 10-Yr Tree Canopy | 10-Yr Tree Canopy |
|---|-------------|-------------------|-------------------|
| Key Qty Botanical Name Common Name Use Size Type Spacing Remarks                      | Sub-Total   |                   |                   |
| <b>UNDERSTORY TREES</b>   |             |                   |                   |
| CC 2 Cercis canadensis Eastern Redbud 1-1.5" Cal. B & B As Shown Full to ground 75 SF |             |                   | 150 SF            |

**RAIN GARDEN**

| LID - PLANT LIST  | Screen Yard | 10-Yr Tree Canopy | 10-Yr Tree Canopy |
|---|-------------|-------------------|-------------------|
| Key Qty Botanical Name Common Name Use Size Type Spacing Remarks                                    | Sub-Total   |                   |                   |
| <b>UNDERSTORY TREES</b>   |             |                   |                   |
| MV 2 Magnolia virginiana Sweetbay Magnolia 1-1.5" Cal. B & B As Shown Full to ground 75 SF          |             |                   | 150 SF            |
| <b>SHRUBS</b>   |             |                   |                   |
| IV 6 Itea virginica 'Little Henry' Dwarf Virginia Sweetspire 18-24" ht. 3 Gal. As Shown Full, dense |             |                   |                   |
| LB 5 Lindera benzoin Spicebush 24-36" ht. B & B As Shown Full, dense                                |             |                   |                   |

**TREE PRESERVATION NARRATIVE**

**SCOPE OF WORK**

ALL TREE PRESERVATION WORK SHALL BE PERFORMED BY A TREE SERVICE CONTRACTOR LICENSED TO DO BUSINESS THAT SPECIALIZES IN TREE PRESERVATION WORK WITH A RECORD OF SATISFACTORY PERFORMANCE ON PROJECTS OF SIMILAR SIZE AND TYPE.

THE TREE SERVICE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT TO COMPLETE ALL OF THE TREE WORK AS SHOWN ON THE PLANS AND SPECIFICATIONS.

**STANDARDS**

ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST ANSI A300 STANDARDS.

THE TREE SERVICE CONTRACTOR MUST COMPLY WITH ALL APPROVED TREE PRESERVATION PLANS AND NOTES.

THE TREE SERVICE CONTRACTOR MUST COMPLY WITH ALL THE GENERAL INDUSTRY OSHA STANDARDS (29 CFR 1910).

**METHODOLOGY**

1. THE LIMITS OF CLEARING AND GRADING (LCG) SHALL BE ACCURATELY FLAGGED PRIOR TO A PRE-CONSTRUCTION MEETING BETWEEN THE TREE SERVICE CONSULTANT AND THE COUNTY ARBORIST. ALL TREES TO BE REMOVED ARE TO BE FLAGGED WITH RED AND WHITE STRIPED SURVEYOR'S RIBBON AT AN APPROXIMATE HEIGHT OF 5'-6'. ANY TREE TO RECEIVE LIMB OR CANOPY PRUNING ARE TO BE FLAGGED WITH BLUE AND WHITE STRIPED SURVEYOR'S TAPE. FINAL PLACEMENT OF LCG AND PROPOSED TREE WORK, SUBJECT TO REVIEW AND APPROVAL OF COUNTY URBAN FORESTER.

2. TREE PROTECTION FENCING TO BE INSTALLED ONCE THE LCG HAS BEEN ESTABLISHED. LOCATION OF TREE PROTECTION FENCING SUBJECT FINAL APPROVAL BY COUNTY URBAN FORESTER.

3. ROOT PRUNING WILL BE DONE IN CONJUNCTION WITH THE INSTALLATION TREE PRESERVATION FENCING. ALL ROOT PRUNING TRENCHES TO BE BACKFILLED IMMEDIATELY IN ONE CONTINUOUS OPERATION. AREAS OF ROOT PRUNING SHOULD BE MULCHED AS SHOWN ON PLAN.

4. PRIOR TO START OF ANY CLEARING OR GRADING, ALL TREE PROTECTION INSTALLED MUST BE APPROVED BY COUNTY URBAN FORESTER.

5. ALL TREE PRESERVATION WORK TO BE SUPERVISED BY A CERTIFIED ARBORIST, WHO WILL PROVIDE WEEKLY WRITTEN PROGRESS REPORTS TO THE COUNTY URBAN FORESTER. TILL THE TREE PROTECTION HAS BEEN INSTALLED, ONCE TREE PROTECTION MEASURES HAVE BEEN INSTALLED AND APPROVED, THE CERTIFIED CONSULTING ARBORIST WILL MONITOR AND PROVIDE MONTHLY WRITTEN REPORTS ON THE HEALTH AND STATUS OF THE TREE PROTECTION AREAS TILL COMPLETION OF THE PROJECT.

6. ALL TREE PRESERVATION MEASURES SHALL REMAIN IN PLACE TILL PERMISSION TO REMOVE IS GRANTED BY THE COUNTY URBAN FORESTER.

**Table 12.3 Tree Preservation Target Calculations and Statement**

|   |  |           |
|---|--|-----------|
| A | Pre-development area of existing tree canopy (from Existing Vegetation Map) =  | 13,100 SF |
| B | Percentage of gross site area covered by existing tree canopy =  | 30%       |
| C | Percentage of 10-year tree canopy required for site (see Table 12.4) =   | 30%       |
| D | Percentage of the 10-year tree canopy requirement that should be met through tree preservation =   | 30%       |
| E | Proposed percentage of canopy requirement that will be met through tree preservation =   | 43%       |
| F | Has the Tree Preservation Target minimum been met?   | NO        |
| G | If No for line F, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in § 12-0508.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is located. |           |
| H | If step G requires a narrative, it shall be prepared in accordance with § 12-0508.4  |           |
| I | Place this information prior to the 10-year Tree Canopy Calculations as per instructions in Table 12.10.   |           |

SHEET L3

**12-0000 TREE CONSERVATION**

**Table 12.10 10-year Tree Canopy Calculation Worksheet**

| Step   | Totals  | Reference   |
|--|---|---|
| <b>A. Tree Preservation Target and Statement</b> |   |   |
| A 1  | Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations | SEE TABLE 12.3<br>see § 12-0508.2 for list of required elements and worksheet                                     |
| <b>B. Tree Canopy Requirement</b>                |   |   |
| B1   | Identify gross site area =  | 43,560 SF § 12-0511.1A  |
| B2   | Subtract area dedicated to parks, road frontage, and  | 0 SF § 12-0511.1B   |
| B3   | Subtract area of exemptions =   | 0 SF § 12-0511.1C(1) through § 12-0511.1C(6)  |
| B4   | Adjusted gross site area (B1 - B2) =  | 43,560 SF   |
| B5   | Identify site's zoning and/or use   | R-2   |
| B6   | Percentage of 10-year tree canopy required =  | 30% § 12-0510.1 and Table 12.4  |
| B7   | Area of 10-year tree canopy required (B4 x B6) =  | 13,068 SF   |
| B8   | Modification of 10-year Tree Canopy Requirements requested?   | NO Yes or No  |
| B9   | If B8 is yes, then list plan sheet where modification request is located  | - Sheet number  |
| <b>C. Tree Preservation</b>                      |   |   |
| C1   | Tree Preservation Target Area =   | 3,921 SF  |
| C2   | Total canopy area meeting standards of § 12-0400 =  | 1,400 SF  |
| C3   | C2 x 1.25 =   | - § 12-0510.3B  |
| C4   | Total canopy area provided by unique or valuable forest or woodland communities =                                 | -   |
| C5   | C4 x 1.5 =  | - § 12-0510.3B(1)   |
| C6   | Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =                          | -   |
| C7   | C6 x 1.5 to 3.0 =   | - § 12-0510.3B(2)   |
| C8   | Canopy area of trees within Resource Protection Areas and 100-year floodplains =                                  | -   |
| C9   | C8 x 1.0 =  | - § 12-0510.3C(1)   |
| C10  | Total of C3, C5, C7 and C9 =  | 1,400 SF If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D |
| <b>D. Tree Planting</b>                          |   |   |
| D1   | Area of canopy to be met through tree planting (B7-C10) =   | 11,668 SF   |
| D2   | Area of canopy planted for air quality benefits =   | -   |
| D3   | D2 x 1.5 =  | - § 12-0510.4B(1)   |
| D4   | Area of canopy planted for energy conservation =  | -   |

|     |  |                              |
|-----|--|------------------------------|
| D5  | x 1.5 =  | - § 12-0510.4B(2)            |
| D6  | Area of canopy planted for water quality benefits =                          | -                            |
| D7  | D7 x 1.25 =  | - § 12-0510.4B(3)            |
| D8  | Area of canopy planted for wildlife benefits =                               | 3,875 SF                     |
| D9  | D8 x 1.5 =   | 5,812 SF § 12-0510.4B(4)     |
| D10 | Area of canopy provided by native trees =                                    | 1,700 SF                     |
| D11 | D10 x 1.5 =  | 2,550 SF § 12-0510.4B(5)     |
| D12 | Area of canopy provided by improved cultivars and varieties =                | 1,250 SF                     |
| D13 | D12 x 1.25 =   | 1,562 SF § 12-0510.4B(6)     |
| D14 | Area of canopy provided through tree seedlings =                             | -                            |
| D15 | Area of canopy provided through native shrubs =                              | -                            |
| D16 | D15 x 1.0 =  | - § 12-0510.4D(1)            |
| D17 | Percentage of D14 represented by D15 =                                       | - Must not exceed 33% of D14 |
| D18 | Total of canopy area provided through tree planting =                        | 13,524 SF                    |
| D19 | Is an off-site planting relief requested?                                    | NO Yes or No                 |
| D20 | Tree Bank or Tree Fund?  | NO § 12-0512                 |
| D21 | Canopy area requested to be provided through off-site banking or tree fund = | -                            |
| D22 | Amount to be deposited into the Tree Preservation and Planting Fund =        | -                            |

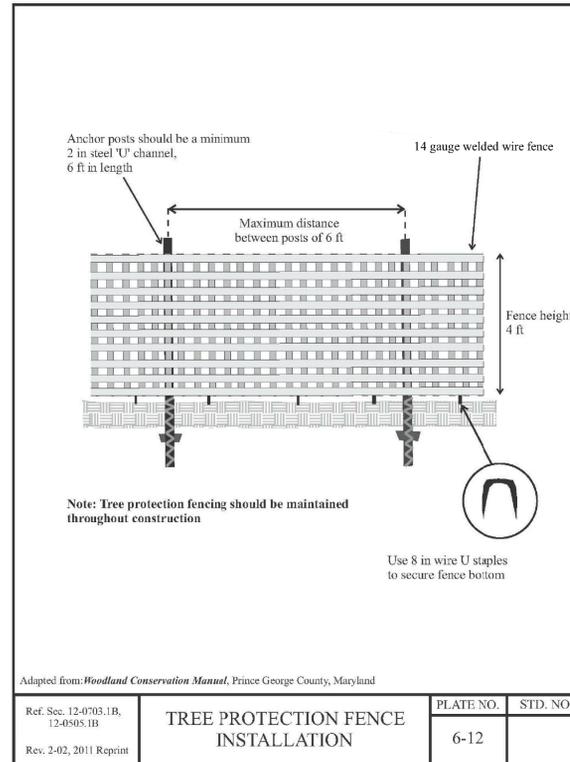
| <b>E. Total of 10-year Tree Canopy Provided</b> |  |  |
|---|--|--|
| E1  | Total of canopy area provided through tree preservation (C10) =  | 1,400 SF   |
| E2  | Total of canopy area provided through tree planting (D17) =      | 13,524 SF  |
| E3  | Total of canopy area provided through off-site mechanism (D19) = | -  |
| E4  | Total of 10-year Tree Canopy Provided = (E1+E2+E3)               | 14,924 SF  |
|   |  | Total of E1 through E3. Area should meet or exceed area required by B7 |

**REQUEST FOR DEVIATION FROM THE TREE PRESERVATION TARGET**

THE APPLICANT REQUESTS A WAIVER TO DEVIATE FROM THE REQUIRED TREE PRESERVATION TARGET DUE TO THE FOLLOWING:

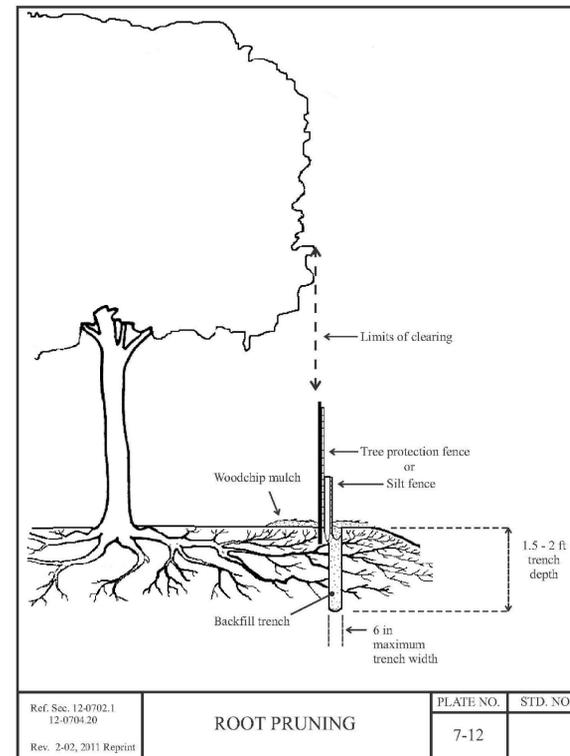
- MEETING THE TREE PRESERVATION TARGET WOULD PRECLUDE THE DEVELOPMENT OF USES OR DENSITIES OTHERWISE ALLOWED BY THE ZONING ORDINANCE (PFM12-0508.3A(1));
- MEETING THE TREE PRESERVATION TARGET WOULD REQUIRE THE PRESERVATION OF TREES THAT DO NOT MEET STANDARDS FOR HEALTH AND STRUCTURAL CONDITION AND OTHER VEGETATION AND RISK MANAGEMENT REQUIREMENTS OF § 12-0400 ET SEQ. (PFM 12-0508.3A(2));
- CONSTRUCTION ACTIVITIES COULD BE REASONABLY EXPECTED TO IMPACT EXISTING TREES OR FORESTED AREAS USED TO MEET THE TREE PRESERVATION TARGET TO THE EXTENT THESE WOULD NOT LIKELY SURVIVE IN A HEALTHY AND STRUCTURALLY SOUND MANNER FOR A MINIMUM OF 10-YEARS IN ACCORDANCE WITH THE POST-DEVELOPMENT STANDARDS FOR TREES AND FORESTED AREAS PROVIDED IN §§ 12-0403 AND 12-0404. (PFM 12-0508.3A(3))

**FAIRFAX COUNTY PUBLIC FACILITIES MANUAL**



|                                  |   |                |          |
|----------------------------------|---|----------------|----------|
| Ref. Sec. 12-0703.1B, 12-0505.1B | <b>TREE PROTECTION FENCE INSTALLATION</b> | PLATE NO. 6-12 | STD. NO. |
| Rev. 2-02, 2011 Reprint          |   |                |          |

**FAIRFAX COUNTY PUBLIC FACILITIES MANUAL**



|                                |                     |                |          |
|--------------------------------|---------------------|----------------|----------|
| Ref. Sec. 12-0702.1 12-0704-20 | <b>ROOT PRUNING</b> | PLATE NO. 7-12 | STD. NO. |
| Rev. 2-02, 2011 Reprint        |                     |                |          |

**TREE PRESERVATION NOTES:**

- THE LIMITS OF CLEARING AND GRADING SHALL BE ACCURATELY FLAGGED PRIOR TO ANY CONSTRUCTION ACTIVITY ON-SITE.
- ALL INDIVIDUAL TREES TO BE SAVED WILL BE TAGGED APPROPRIATELY WITH BRIGHTLY-COLORED SURVEYOR'S RIBBON AT A HEIGHT OF 5'-6'.
- TREE PROTECTION FENCE SHALL BE INSTALLED IN THE FIELD IN CONJUNCTION WITH THE COUNTY'S URBAN FORESTER. PROTECTION FENCE IS SUBJECT TO RELOCATION BASED UPON THE URBAN FORESTER'S REVIEW. FINAL APPROVAL BY THE URBAN FORESTER MUST BE OBTAINED PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITIES.
- TREE PROTECTION FENCE SHALL BE INSTALLED AT THE DRIPLINE OF THE TREES TO BE PRESERVED, OR AT THE LIMITS OF CLEARING AND GRADING, WHICHEVER IS A GREATER DISTANCE FROM THE TRUNK OF THE TREE TO BE PRESERVED. NOTE THAT THERE MAY BE TREES WHERE THE TREE PROTECTION FENCE MAY BE SLIGHTLY WITHIN THE DRIPLINE LIMITS. SEE THIS SHEET FOR DETAILS OF THE TREE PROTECTION TO BE UTILIZED.
- VEHICULAR TRAFFIC AND THE STOCKPILING OF ANY CONSTRUCTION MATERIALS, INCLUDING TOPSOIL STOCK PILES, IS PROHIBITED WITHIN THE DRIPLINE OF ANY TREES TO BE SAVED.
- ROOT PRUNING IS TO BE PERFORMED WHEREVER GRADES WILL BE ALTERED WITHIN THE ROOT ZONE OF A TREE TO BE PRESERVED. THE ENTIRE AREA OF ROOT PRUNING IS TO BE COMPLETED IN ONE OPERATION. ROOT PRUNING MACHINERY SHALL BE USED TO A DEPTH OF 18" IF A TRENCHER IS USED, THE TRENCH SHALL BE BACKFILLED IMMEDIATELY TO PREVENT ROOT DEHYDRATION. WHENEVER POSSIBLE, ROOT PRUNING TRENCHES SHOULD BE MULCHED WITH WOOD CHIPS OR MULCH TO A DEPTH OF FOUR INCHES.
- 1-2 INCHES OF MULCH SHALL BE SPREAD AT THE LIMITS OF CLEARING AND GRADING.
- MULCH AS GREAT AN AREA AS POSSIBLE AROUND TREE TO RETAIN MOISTURE, INCREASE FERTILITY OF SOIL, PROTECT ROOTS IN WINTER AND HASTEN ROOT REGENERATION.
- WATER TREES WELL DURING JUNE, JULY, AUGUST, AND SEPTEMBER.
- A PRIVATE CERTIFIED ARBORIST SHALL BE REQUIRED TO IMPLEMENT, OVERSEE, AND MONITOR SITE WORK AS IT AFFECTS TREES DURING THE LIFE OF THE PROJECT. MONITORING OF THE PRESERVED TREES SHALL BE CONDUCTED ON A WEEKLY BASIS DURING THE INITIAL PHASES OF CONSTRUCTION. THE GENERAL CONTRACTOR SHALL BE SUBJECT TO REQUIREMENTS OF THE COUNTY'S URBAN FORESTER AS IT RELATES TO PRESERVATION MEASURES.
- TREES BEING REMOVED SHALL NOT BE FELLED, PUSHED OR PULLED INTO TREES BEING RETAINED. WHEN TREES TO BE REMOVED ARE IN VERY CLOSE PROXIMITY TO TREES TO BE PRESERVED, THEY SHALL BE FELLED BY HAND, WITH A CHAIN SAW.
- EQUIPMENT OPERATORS SHALL NOT CLEAN ANY PART OF THEIR EQUIPMENT BY SLAMMING IT AGAINST THE TRUNKS OF TREES TO BE RETAINED.
- ROOTS EXPOSED BY TRENCHING SHALL NOT BE LEFT EXPOSED TO AIR. THEY SHALL BE COVERED WITH SOIL AS SOON AS POSSIBLE OR PROTECTED AND KEPT MOISTENED WITH WET BURLAP OR PEAT MOSS UNTIL THE TRENCH CAN BE FILLED.
- THE ENDS OF DAMAGED AND CUT ROOTS SHALL BE CUT OFF SMOOTHLY.
- ALL WORK SHALL CONFORM TO THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL AND THE APPROVED TREE PRESERVATION PLAN.
- SEE EROSION-SILTATION CONTROL PLANS FOR CONSTRUCTION SEQUENCING AND ADDITIONAL CONTROLS.
- FOR ALL TREES TO BE REMOVED, REMOVAL OF THE TREES SHALL BE DONE BY HAND WITH A CHAIN SAW, AND NO HEAVY MACHINERY SHALL BE LOCATED OUTSIDE OF THE LOD. TREES REMOVED WILL BE CUT TO APPROXIMATELY THE EXISTING GRADE.
- REMOVAL OF DEBRIS LOCATED OUTSIDE THE LIMITS OF DISTURBANCE (LOD), SHALL BE REMOVED IN A MANNER WHICH DOES NOT REQUIRE THE FOOT PRINT OF ANY MACHINERY USED, TO BE LOCATED OUTSIDE THE LOD. NO MACHINERY SHALL BE ALLOWED INTO TREESAVE AREAS WITHOUT PRIOR WRITTEN APPROVAL FROM THE FAIRFAX COUNTY URBAN FORESTER.

|                             |        |         |
|-----------------------------|--------|---------|
| PLAN DATE                   | 6-4-15 | 7-20-15 |
| REVISED PER COUNTY COMMENTS | 2      | 7-20-15 |
| REVISED PER COUNTY COMMENTS | 1      | 6-11-15 |
| DATE                        |        |         |
| REVISION APPROVED BY        |        |         |
| DESIGN REVIEW               |        |         |
| DATE                        |        |         |

**Wm. O'Kelly Russell, RLA**  
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 wmo\_okekellyrussell@hotmail.com

**WOR**

COMMONWEALTH OF VIRGINIA  
 Wm. O'Kelly Russell  
 Lic. No. 001014  
 7/20/15  
 Licensed Landscape Architect

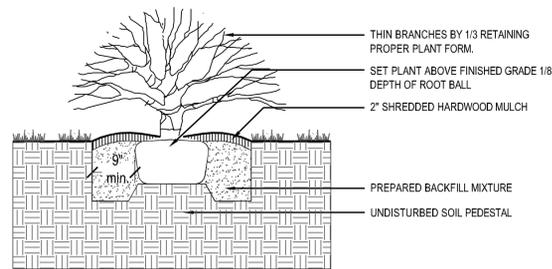
**TREE CONSERVATION PLAN**  
 MORNING STAR DAY CARE, SE 2014-MV-058  
 8628 WOODLAWN CT  
 MOUNT VERNON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA

DATE: 2-27-15  
 SCALE: 1"=20'  
 C.I. 2

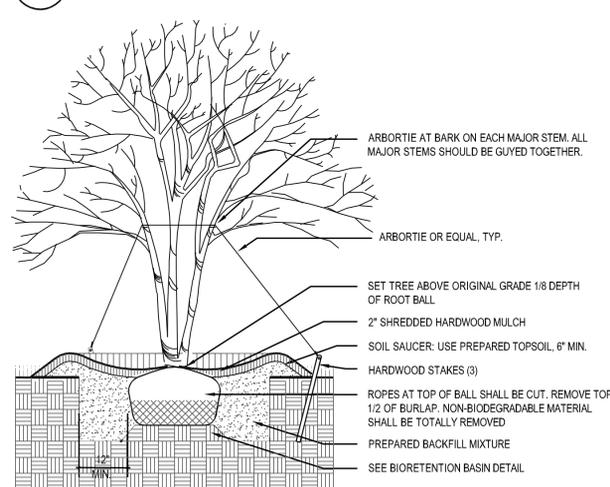
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 OF 5  
 FILE NO.

**SPECIFICATIONS FOR PLANTING**

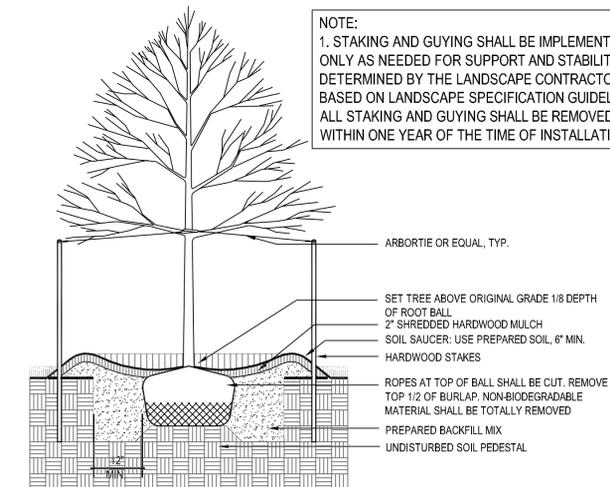
- CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND UTILITY LOCATIONS. THE PROJECT LANDSCAPE ARCHITECT PRIOR TO THE PLANTING MUST APPROVE ADJUSTMENTS TO LOCATIONS OF PLANT MATERIAL DUE TO FIELD CONDITIONS. ANY SUBSTITUTIONS IN PLANT MATERIAL AND SIZES SPECIFIED WILL NOT BE ACCEPTED, UNLESS APPROVED BY PROJECT LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY, LATEST EDITION, PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. ALL PLANTS MUST BE FREE FROM INJURY, INSECT INFESTATIONS AND DISEASE. ALL PLANT MATERIAL MUST BE INSPECTED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING. THE CONTRACTOR SHALL PHONE AT LEAST THREE (3) DAYS PRIOR TO INSTALLATION FOR INSPECTION OF THE MATERIAL AND FOR INSPECTION OF THE PLANTING OPERATION.
- ALL PLANT MATERIAL MUST BEAR ORIGINAL NURSERY TAGS INDICATING THE GENUS, SPECIES AND IF APPLICABLE, CULTIVARS AND VARIETY. ALL TAGS SHALL BE REMOVED AFTER THE PROJECT LANDSCAPE ARCHITECT HAS INSPECTED THE PLANT MATERIAL.
- TEST SOIL DRAINAGE BEFORE PLANTING. DIG A HOLE AS DEEP AS YOUR PLANTING HOLE AND FILL WITH WATER. IF WATER DRAINS AT A RATE LESS THAN ONE INCH PER HOUR, INSTALL DRAINAGE TO CARRY WATER AWAY FROM THE PLANTING HOLE BASE, OR MOVER OR RAISE THE PLANTING HOLE (BERM CONSTRUCTION).
- EXAMINE SOIL FOR COMPACTION BEFORE PLANTING. IF SOILS ARE COMPACTED IN AN AREA WHERE A GROUP OF PLANTS ARE TO BE INSTALLED, INCORPORATE SEVERAL INCHES OF A COMBINATION OF ORGANIC MATERIALS SUCH AS COMPOSTED YARD WASTE, FINELY SHREDDED PINE BARK MULCH (SUPERFINES) OR SHREDDED, COMPOSTED LEAF MULCH (LEAF-GRO) AND TILL TO A DEPTH OF TWELVE (12) TO EIGHTEEN (18) INCHES OVER THE ENTIRE AREA. DO NOT TILL IF PLANTING IS WITHIN A TREE PRESERVATION AREA. APPLY THE ORGANIC MATTER AT A RATE OF ONE-QUARTER ORGANIC MATTER TO THREE-QUARTERS EXISTING SOIL. DO NOT INCORPORATE SMALL QUANTITIES OF SAND - COMPACTION WILL INCREASE AND DRAINAGE DECREASES. FOR SINGLE TREE PLANTINGS, BACKFILL PLANTING HOLES WITH UNAMENDED SOIL. INCREASE THE WIDTH OF THE TOP OF THE PLANTING HOLE IN AREA WHERE SOIL HAS BEEN COMPACTED. DO NOT INCORPORATE ORGANIC MATTER SUCH AS PEAT MOSS INTO BACKFILL FOR INDIVIDUAL PLANTING HOLES.
- TREE PITS SHALL BE A MINIMUM OF TWO (2) AND A HALF (1/2) TIMES THE WIDTH OF THE ROOT BALL AND NO DEEPER THAN THE HEIGHT OF THE ROOT BALL. ON BALLED AND BURLAPPED TREES, REMOVE PINNING NAILS OR ROPE LACING, THEN CUT AWAY THE WRAPPING AND THEN BACKFILL. REMOVE THE TOP 12" OF THE WIRE BASKET. REMOVE ALL ROPE, WHETHER JUTE OR NYLON, FROM TRUNKS. FOR CONTAINER MATERIALS, REMOVE THE CONTAINER COMPLETELY. SELECT TREES GROWN IN CONTAINERS WITH VERTICAL RIBS OR A COPPER-TREATMENT ON THE INTERIOR WALL. THESE CONTAINER MODIFICATION AND TREATMENTS MINIMIZE CIRCLING ROOT FORMATION. IF ROOTS ARE CIRCLING AROUND THE ROOT BALL EXTERIOR OF CONTAINER PLANTS (TREES, SHRUBS OR PERENNIALS) CUT THROUGH THE ROOTS AND SOIL IN A FEW PLACES. CONTAINER TREE WITH MULTIPLE CIRCLING ROOTS WILL BE REJECTED. PLACE SHRUBS AND PERENNIALS AT THE SAME DEPTH THEY WERE IN THE CONTAINERS. FOR BARE ROOT PERENNIALS PLANT WITH THE SOIL EVEN WITH THE TOP OF THE CROWN. DIG THE HOLE WIDE ENOUGH TO ALLOW THE ROOTS TO SPREAD OUT IN THE SOIL. PUSH THE SOIL BACK INTO THE HOLE OVER THE ROOTS AND AROUND THE TOP OF THE PLANT.
- WHEN HALF OF THE BACKFILL HAS BEEN RETURNED TO THE PLANTING HOLE, WATER SHALL BE APPLIED TO PROVIDE SETTLEMENT AND ELIMINATE AIR POCKETS. THE TREE SHALL BE THOROUGHLY WATERED AGAIN AFTER THE REMAINING SOIL HAS BEEN PLACED IN THE PLANTING PIT. A THREE (3) TO FOUR (4) INCH DAM OF SOIL SHALL BE CONSTRUCTED AROUND THE PLANTING PIT.
- TWO (2) TO THREE (3) INCHES OF MULCH SHALL BE PLACED OVER THE TREE-PLANTING PIT, BUT SHALL BE KEPT THREE (3) TO FOUR (4) INCHES AWAY FROM THE TRUNK OF THE TREE OR CROWNS OF SHRUBS. DO NOT ALLOW MULCH TO TOUCH THE TRUNKS OF TREES OR CROWNS OF SHRUBS. USE MULCH THAT IS COMPATIBLE WITH THE TYPE OF PLANT USED. AVOID MULCH THAT HAS NOT BEEN NITROGEN COMPOSTED, AS THE PH OF THE SOIL COULD CHANGE AS THE MULCH DEGRADES. PINE BARK MULCH WILL NOT CHANGE THE PH OF THE SOIL AS IT DEGRADES. THIS IS THE BEST TYPE OF MULCH FOR USE WITH PERENNIALS. IN MULCHING PERENNIALS, USE NO MORE THAN 1-2". FOR MEDITERRANEAN TYPE OF PERENNIALS, SUCH AS LAVENDER, OR FOR PEONIES OR IRIS, USE NO MULCH AT ALL.
- TREES SHALL BE PLANTED AT THE HEIGHT OF THE SURROUNDING GRADE WITH ROOT FLARES VISIBLE. SHOULD SOIL HAVE BEEN PILED OVER THE ROOT FLARE DURING THE DIGGING PROCESS, THIS SOIL SHALL BE REMOVED SO THAT THE FLARE IS SLIGHTLY ABOVE GRADE.
- PRUNING AT THE TIME OF PLANTING SHALL BE DONE ONLY TO REMOVE BROKEN BRANCHES OR DOUBLE (CO DOMINANT) LEADERS.
- REMOVE TAGS AND LABELS FROM TREES AND SHRUBS TO PREVENT GIRDLING BRANCHES AND TRUNKS.
- STAKES SHALL BE USED ONLY IN AREA OF HIGH TRAFFIC OR HIGHLY WINDY LOCATIONS. A TREE-STAKING DIAGRAM SHOULD BE PROVIDED IF STAKING IS NECESSARY. STAKE FOR MAXIMUM OF ONE YEAR. ALLOW TREES A SLIGHT AMOUNT OF FLEX RATHER THAN HOLDING THEM RIGIDLY IN PLACE. USE GUYING OR ATTACHING THAT WON'T DAMAGE THE BARK. TO PREVENT TRUNK GIRDLING, REMOVE ALL GUYING MATERIAL AFTER ONE YEAR.
- IF GUYING WILL BE CARRIED OUT, THEN THE MATERIAL SHALL ONLY BE A WIDE FABRIC TAPE SUCH AS ARBORTIE OR EQUIVALENT, INSTALLED PER MANUFACTURERS INSTRUCTIONS.
- PLANTING SEASON - PLANTING SHALL BE DONE ONLY WITHIN THE FOLLOWING DATES:
  - DECIDUOUS TREES - MARCH 15 TO MAY 30 OR SEPTEMBER 15 TO DECEMBER 15 (OAKS AND BLACK GUM TO BE SPRING DUG AND PLANTED ONLY).
  - EVERGREEN TREES - MARCH 1 TO MAY 15 OR SEPTEMBER 15 TO NOVEMBER 15.
- ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE CONTRACTOR FOR ONE YEAR FROM THE DATE OF ACCEPTANCE TO BE IN GOOD, HEALTHY AND FLOURISHING CONDITION. IN THE EVENT THAT A PLANT DIES OR IN THE JUDGMENT OF THE PROJECT LANDSCAPE ARCHITECT, FAILS TO FLOURISH, THE CONTRACTOR SHALL REPLACE IN ACCORDANCE WITH THE ABOVE NOTED SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE PLANTS DURING THIS ONE-YEAR WARRANTY PERIOD. THIS MAINTENANCE SHALL INCLUDE PROVIDING WATER ON A WEEKLY BASIS WHEN NATURAL RAINFALL IS LESS THAN ONE INCH A WEEK. DRIP IRRIGATION SYSTEMS AND WATER RESERVOIR DEVICES CAN FACILITATE WATERING. ROOT BALLS OF TREES SHOULD BE SLOWLY AND THOROUGHLY SOAKED AT TIME OF WATERING. FOR PLANTING BEDS (I.E., TREES, SHRUBS AND PERENNIALS), WATER SLOWLY AND DEEPLY PUTTING DOWN 1"-2" OF WATER IN A 6-12 HOUR PERIOD. THIS SHOULD GIVE A PENETRATION OF 12-18" DEPTH.
- PLANT MATERIAL SHALL NOT BE STORED ON SITE FOR A PERIOD LONGER THAN 3 DAYS FROM THE TIME OF DELIVERY.
- ALL PLANT MATERIAL SHALL BE PROTECTED FROM DRYING DURING TRANSPORTATION AND DURING STORAGE ON SITE. ANY PLANT THAT IS NOT PLANTED ON THE DAY OF DELIVERY WILL BE PLACED IN A HOLDING AREA. THE TREE OR SHRUB WILL BE STORED VERTICALLY AND ITS ROOTS WILL BE COVERED WITH A MOISTURE HOLDING MEDIUM (WOOD CHIPS, SAW-DUST, ETC.) UNTIL PLANTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DISCREPANCIES BETWEEN THE PLANT LIST AND THE PLANTING PLAN.



**1 TYP. SHRUB PLANTING**  
N.T.S.



**2 UNDERSTORY TREE PLANTING**  
N.T.S.



**3 DECIDUOUS TREE PLANTING**  
N.T.S.

**NOTE:**  
1. STAKING AND GUYING SHALL BE IMPLEMENTED ONLY AS NEEDED FOR SUPPORT AND STABILITY AS DETERMINED BY THE LANDSCAPE CONTRACTOR BASED ON LANDSCAPE SPECIFICATION GUIDELINES. ALL STAKING AND GUYING SHALL BE REMOVED WITHIN ONE YEAR OF THE TIME OF INSTALLATION.

**INTERIOR PARKING LOT LANDSCAPING**

|   |           |
|---|-----------|
| PARKING LOT AREA                                    | 11,069 SF |
| INTERIOR LANDSCAPING REQUIRED (5%)                  | 553 SF    |
| TOTAL SHADE CANOPY PROVIDED                         |           |
| PROPOSED SHADE CANOPY TREES (3 TREES @ 200 SF EACH) | 600 SF    |
| TOTAL REQUIRED                                      | 553 SF    |
| TOTAL PROVIDED                                      | 600 SF    |

**PERIPHERAL PARKING LOT LANDSCAPING**

|   |          |
|---|----------|
| PARKING LOT ADJACENT TO LOT LINE        | 200 LF   |
| LANDSCAPING REQUIRED: 1 TREE PER 50 LF  |          |
| TOTAL REQUIRED                          | 4 TREES  |
| TOTAL PROVIDED                          | 12 TREES |
| PARKING LOT ADJACENT TO WOODLAWN CT.    | 70 LF    |
| LANDSCAPING REQUIRED : 1 TREE PER 50 LF |          |
| TOTAL REQUIRED                          | 2 TREES  |
| TOTAL PROVIDED                          | 2 TREES  |

**TREE CANOPY COVER REQUIREMENTS**

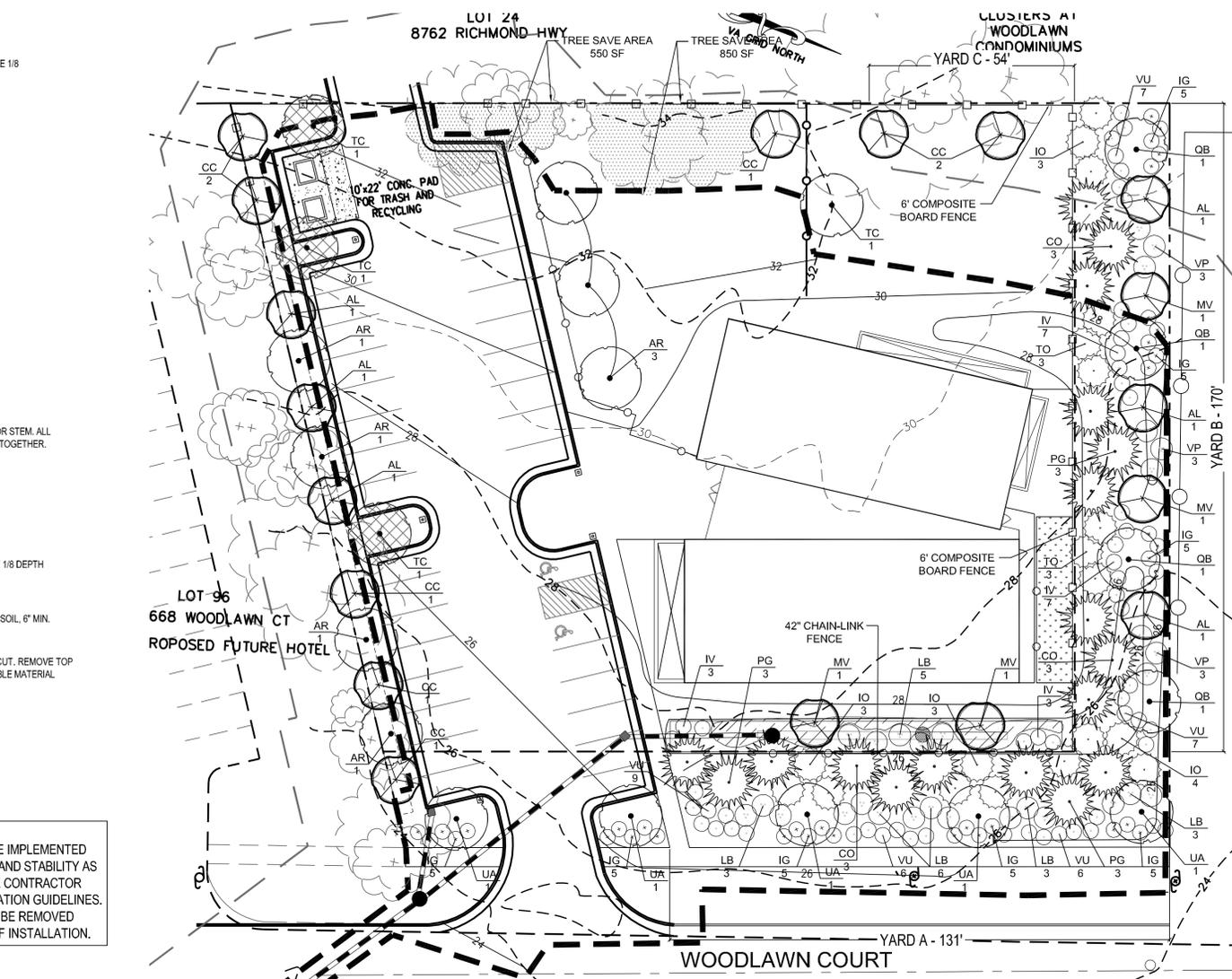
|  |                     |
|--|---------------------|
| GROSS SITE AREA                              | 43,560 SF (1.00 AC) |
| - PUBLIC R.O.W. AREA (DEDUCTION)             | 0 SF (0.00 AC)      |
| = ADJUSTED GROSS SITE AREA                   | 43,560 SF (1.00 AC) |
| ZONING:                                      | R-2                 |
| TREE CANOPY COVER REQUIRED (43,560 SF X 30%) | 13,068 SF           |
| TOTAL TREE CANOPY COVER REQUIRED             | 13,068 SF           |
| TREE CANOPY COVER PROVIDED:                  |                     |
| LANDSCAPE PROVIDED                           | 13,524 SF           |
| TREE SAVE AREA (1,400 SF x 1.0)              | 1,400 SF            |
| TOTAL  | 14,924 SF           |

**BIO-RETENTION PLANTING REQUIREMENTS**

|   |  |
|---|--|
| PROPOSED AREA                           | 800 SF (0.018 AC.)                             |
| TREES AND SHRUBS REQUIRED               | 800 SF x 10 PLANTS/ 1000 SF = 8 TREES & SHRUBS |
| OVERSTORY TREES PROVIDED @ 2-2.5" Cal.  | 0 TREES  |
| UNDERSTORY TREES PROVIDED @ 1-1.5" Cal. | 2 TREES  |
| SHRUBS PROVIDED @ 18-24" Ht.            | 11 SHRUBS                                      |

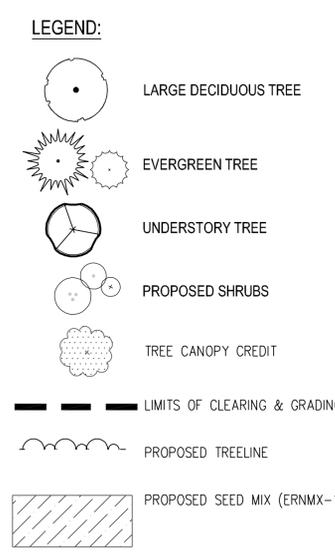
**TRANSITIONAL SCREENING YARDS**

SEE TABULATION ON SHEET L3 OF 4  
\* NOTE: THE APPLICANT REQUESTS A MODIFICATION FOR THE TRANSITIONAL SCREENING REQUIREMENT OF YARD-A. THE APPLICANT HAS PROVIDED A WRITTEN REQUEST TO THE UFMD DIRECTOR.



**PROPOSED SEED MIX (ERNMX-180)**

- 38% River Oats, PA/VA Ecotype blend (Chasmanthium latifolium (Uniola latifolia), PA/VA Ecotype blend)
- 19% Virginia Wildrye, PA Ecotype (Elymus virginicus, PA Ecotype)
- 12% Redtop Panicgrass, Coastal Plain NC Ecotype (Panicum rigidulum (P. stipitatum), Coastal Plain NC Ecotype)
- 5% Purple Coneflower (Echinacea purpurea)
- 3% Blackeyed Susan, Coastal Plain NC Ecotype (Rudbeckia hirta, Coastal Plain NC Ecotype)
- 3% Ohio Spiderwort, PA Ecotype (Tradescantia ohioensis, PA Ecotype)
- 3% Smooth Blue Aster, NY Ecotype (Aster laevis (Symphyotrichum laevis), NY Ecotype)
- 2% Marsh (Dense) Blazing Star (Spiked Gayfeather), PA Ecotype (Liatris spicata, PA Ecotype)
- 2% Tall White Beardtongue, PA Ecotype (Penstemon digitalis, PA Ecotype)
- 2% Lanceleaf Coreopsis, Coastal Plain NC Ecotype (Coreopsis lanceolata, Coastal Plain NC Ecotype)
- 2% Partridge Pea, PA Ecotype (Chamaecrista fasciculata (Cassia f.), PA Ecotype)
- 2% Oxeye Sunflower, PA Ecotype (Helipopsis helianthoides, PA Ecotype)
- 2% Autumn Braggass, PA Ecotype (Agrostis perennans, PA Ecotype)
- 1% Swamp Milkweed, PA Ecotype (Asclepias incarnata, PA Ecotype)
- 1% Early Goldenrod, PA Ecotype (Solidago juncea, PA Ecotype)
- 1% Wild Senna, VA & WV Ecotype (Senna hebecarpa (Cassia h.), VA & WV Ecotype)
- 1% Blue False Indigo, Southern WV Ecotype (Baptisia australis, Southern WV Ecotype)
- 0.8% Wild Bergamot, PA Ecotype (Monarda fistulosa, PA Ecotype)
- 0.2% Slender Mountainmint (Pycnanthemum tenuifolium)
- Total: 100%**



**PLANT LIST**

| Key                     | Qty | Botanical Name                 | Common Name                    | Screen Yard Use | Size        | Type   | Spacing  | Remarks        | 10-Yr Tree Canopy Sub-Total | Credit Multiplier       | 10-Yr Tree Canopy |
|-------------------------|-----|--------------------------------|--------------------------------|-----------------|-------------|--------|----------|----------------|-----------------------------|-------------------------|-------------------|
| <b>OVERSTORY TREES</b>  |     |                                |                                |                 |             |        |          |                |                             |                         |                   |
| AR                      | 7   | Acer rubrum 'Red Sunset'       | 'Red Sunset' Maple             | LD              | 2-2.5" Cal. | B & B  | As Shown | Single stem    | 200 SF                      | 1.5 (\$ 12-0510.4B(4))  | 2100 SF           |
| QB                      | 4   | Quercus bicolor                | Swamp white oak                | LD              | 3-3.5" Cal. | B & B  | As Shown | Single stem    | 250 SF                      | 1.5 (\$ 12-0510.4B(4))  | 1500 SF           |
| UA                      | 5   | Ulmus americana 'Valley Forge' | 'Valley Forge' Elm             | LD              | 3-3.5" Cal. | B & B  | As Shown | Single stem    | 250 SF                      | 1.25 (\$ 12-0510.4B(6)) | 1562 SF           |
| TC                      | 4   | Tilia americana 'Legend'       | 'Legend' Linden                | LD              | 2-2.5" Cal. | B & B  | As Shown | Single stem    | 200 SF                      | 1.5 (\$ 12-0510.4B(5))  | 1200 SF           |
| <b>UNDERSTORY TREES</b> |     |                                |                                |                 |             |        |          |                |                             |                         |                   |
| AL                      | 6   | Amelanchier laevis             | Allegheny serviceberry         |                 | 1-1.5" Cal. | B & B  | As Shown | Full to ground | 75 SF                       | 1.5 (\$ 12-0510.4B(4))  | 675 SF            |
| CC                      | 8   | Cercis canadensis              | Eastern Redbud                 |                 | 1-1.5" Cal. | B & B  | As Shown | Full to ground | 75 SF                       | 1.5 (\$ 12-0510.4B(5))  | 900 SF            |
| MV                      | 4   | Magnolia virginiana            | Sweetbay Magnolia              |                 | 1-1.5" Cal. | B & B  | As Shown | Full to ground | 75 SF                       | 1.5 (\$ 12-0510.4B(5))  | 450 SF            |
| <b>EVERGREEN TREES</b>  |     |                                |                                |                 |             |        |          |                |                             |                         |                   |
| CO                      | 9   | Chamaecyparis obtusa           | Hinoki false cypress           | LE              | 10-12' ht.  | B & B  | As Shown | Full to ground | 125 SF                      | -                       | 1125 SF           |
| IO                      | 13  | Ilex opaca                     | American Holly                 | ME              | 10-12' ht.  | B & B  | As Shown | Full to ground | 125 SF                      | 1.5 (\$ 12-0510.4B(4))  | 2437 SF           |
| PG                      | 9   | Picea glauca                   | White spruce                   | LE              | 10-12' ht.  | B & B  | As Shown | Full to ground | 125 SF                      | -                       | 1125 SF           |
| TO                      | 6   | Thuja occidentalis 'Nigra'     | Dark Green American arborvitae | ME              | 10-12' ht.  | B & B  | As Shown | Full to ground | 75 SF                       | -                       | 450 SF            |
| <b>SHRUBS</b>           |     |                                |                                |                 |             |        |          |                |                             |                         |                   |
| IG                      | 40  | Ilex glabra 'Nigra'            | 'Nigra' Inkberry               |                 | 18-24" ht.  | 3 Gal. | As Shown | Full, dense    |                             |                         |                   |
| IV                      | 20  | Itea virginica 'Little Henry'  | Dwarf Virginia Sweetspire      |                 | 18-24" ht.  | 3 Gal. | As Shown | Full, dense    |                             |                         |                   |
| LB                      | 20  | Lindera benzoin                | Spicebush                      |                 | 24-36" ht.  | B & B  | As Shown | Full, dense    |                             |                         |                   |
| VP                      | 9   | Viburnum prunifolium           | Black Haw                      |                 | 24-36" ht.  | B & B  | As Shown | Full, dense    |                             |                         |                   |
| VU                      | 35  | Viburnum utile 'Conoy'         | 'Conoy' Viburnum               |                 | 24-36" ht.  | B & B  | As Shown | Full, dense    |                             |                         |                   |

NOTE: THIS PLAN IS FOR PLANTING PURPOSES ONLY!!!

Total - 13,524 SF

PREPARED BY:  
Wm. O'Kelly Russell  
ISA Certified Arborist, VA 500A  
7/20/15

**Wm. O'Kelly Russell, RLA**  
Planning - Landscape Architecture - Arboriculture  
17465 Tripath Blvd., Dumfries, VA 22026 (703) 221-3381  
wmo.okellyrussell@gmail.com

**WOR**

LANDSCAPE PLAN  
MORNING STAR DAY CARE, SE 2014-MV-058  
8628 WOODLAWN CT  
MOUNT VERNON DISTRICT  
FAIRFAX COUNTY, VIRGINIA

DATE: 3-13-15  
SCALE: 1"=20'  
SHEET L4 OF 5  
FILE No.

| NO. | DATE    | DESCRIPTION                 | REVIEW/ APPROVED |
|-----|---------|-----------------------------|------------------|
| 1   | 6-1-15  | REVISED PER COUNTY COMMENTS |                  |
| 2   | 7-20-15 | REVISED PER COUNTY COMMENTS |                  |

To: Department of Public Works and Environmental Services  
Office of Site Development Services  
Plan Control Section  
12055 Government Center Parkway  
Fairfax, Virginia 22035-5503

- FOR OSDS USE ONLY -

Waiver # \_\_\_\_\_ Logged in by: \_\_\_\_\_

Page 1 of \_\_\_\_\_ Fee Amount \_\_\_\_\_

Paid on \_\_\_\_/\_\_\_\_/\_\_\_\_ Receipt # \_\_\_\_\_

Logged to UFB on \_\_\_\_\_

**REQUEST FOR WAIVER/MODIFICATION OF THE PROVISIONS OF ARTICLE 13 OF THE FAIRFAX COUNTY ZONING ORDINANCE**

**COVER SHEET**

NOTE: a complete waiver/modification request must contain all of the following items:  
(4) copies of a complete application (this cover sheet and appropriate attachment)  
(4) sets of landscape plans with complete plant schedule and details  
(4) copies of the applicant's letter of justification

**WAIVER TYPE**

- transitional screening and/or barrier (USE ATTACHMENT A)  
 tree cover (USE ATTACHMENT B)  
 interior parking lot (USE ATTACHMENT C)

**SUBDIVISION PLANS ONLY:**

If tree cover waiver/modification request is for a subdivision plan, the notification requirements of County Code section 101-2-2(9) must be met. Include with this request (4) copies of the typical letter of notification that was sent to adjoining or affected property owners and include a list of the property owners notified. At a minimum the letter should include the County requirements and a description of the proposed waiver/modification to those requirements.

**1. APPLICATION INFORMATION (please print or type)**

PROJECT NAME Morning Star Daycare TAX MAP # 102 - 1 - (8 ) - (12) -  
SUPERVISORY DISTRICT Mount Vernon  
PROPERTY OWNER OR DEVELOPER VMS, LLC DEVELOPERS PHONE 703-780-8886  
ADDRESS 5579 HARRINGTON FALLS LANE ALEXANDRIA, VA  
AGENT FOR APPLICANT Wm. O'Kelly Russell PHONE 703-297-0455  
ADDRESS 17485 Tripoli Blvd., Dumfries VA 22026

**2. PROPOSED USE:** Child care **EXISTING USE:** Single Family detache **ZONING:** R-2

USE MATRIX CATEGORY NUMBER FOR PROPOSED USE: 4

SITE PLAN SUBMITTED: YES  NO  PLAN NUMBER (if applicable): SE 2014-MV-058

**3. ZONING ORDINANCE REFERENCE**

Section and paragraph under which modification or waiver is requested: 13-305(3)

**4. APPLICANT/AGENT SIGNATURE** Wm O'Kelly Russell DATE 7-20-15

**Wm. O'Kelly Russell, RLA**  
Planning • Landscape Architecture • Arboriculture

July 20, 2015

Mr. Keith Cline  
Director, Urban Forest Management Division  
Fairfax County DPWES  
12055 Government Center Parkway  
Suite 518  
Fairfax, VA 22035

Re: Morningstar Daycare  
8628 Woodlawn Court, Alexandria, VA 22309  
Fairfax County Tax Map #101-3 ((1)), Parcel 95  
Currently Zoned R-2, Approximately 1.00 Acres  
SE 2014-MV-058

Dear Mr. Cline:

We respectfully request a modification of the transitional screening and barrier requirements contained within Article 13-303(3)(A) and 13-304(4)(D-F) of the Fairfax County Zoning Ordinance along the Northeastern property line for the above referenced property.

The Applicant proposes to develop the subject property with a daycare facility and associated parking. As the adjacent Parcel 78, to the north-east is zoned R-2, the Screening Matrix requires a 25' transitional screening yard and a barrier consisting of a 42-48" chain link fence or 6' tall brick or wood fence is required. The Applicant notes that this parcel currently contains a single family dwelling. At this time, the Applicant is requesting a modification of Article 13-303(3)(B) and modify 13-304(4)(D-F) of the Zoning Ordinance.

As shown on the attached SE Plat, the Applicant is proposing an entrance and exit through the required transitional screening yard along the Northeastern property line. The Applicant seeks to reduce to required length of the transitional screen to allow for vehicle ingress and egress. The area taken out of the transitional screen will be treated as part of the peripheral parking lot landscaping. This will serve as the primary vehicle access for this property. The following serves as our justification for this modification and waiver:

- In accordance with Article 13-305(12), "The Director may waive or modify the barrier requirements where the topography of the lot providing the transitional screening and the lot being protected is such that a barrier would not be effective."

We believe that the above reason presents satisfactory evidence as to why the transitional screen requirements should be modified. If you have any additional questions or concerns, please do not hesitate to call me at 703-221-3381. Thank you for your consideration of this PFM deviation request.

Sincerely,

*Wm. O'Kelly Russell*

17485 Tripoli Blvd., Dumfries, VA 22026 • 703-221-3381

**ATTACHMENT A: TRANSITIONAL SCREENING AND/OR BARRIER WAIVER**  
NOTE: THIS FORM IS AN ATTACHMENT TO THE COVER SHEET

**1. Northeastern PROPERTY LINE:** Adjacent Use: Single Family SE OR SP Use? No Adjacent Zoning: R-2

**SCREENING REQUIRED:** None:  Screening yard required: Type 1  
NO. OF TREES: 14 large evergreens 1 medium evergreens  
5 large deciduous 40 small deciduous 40 evergreen shrubs

**SCREENING PROVIDED:** None:  Screening yard provided: Type 1  
NO. OF TREES: 9 large evergreens 8 medium evergreens  
3 large deciduous 51 small deciduous 51 evergreen shrubs

**BARRIER TYPE:** Existing: NO Required: D, E, or F Provided: D (42" CHAIN LINK FENCE)

**2. Northwestern PROPERTY LINE:** Adjacent Use: Residential SE OR SP Use? No Adjacent Zoning: R-2

**SCREENING REQUIRED:** None:  Screening yard required: Type 1  
NO. OF TREES: 11 large evergreens 1 medium evergreens  
4 large deciduous 51 small deciduous 51 evergreen shrubs

**SCREENING PROVIDED:** None:  Screening yard provided: Type 1  
NO. OF TREES: 9 large evergreens 11 medium evergreens  
4 large deciduous 52 small deciduous 52 evergreen shrubs

**BARRIER TYPE:** Existing: NO Required: D, E, or F Provided: F (6 HI SOLID BOARD FENCE)

**3. Southwest PROPERTY LINE:** Adjacent Use: Multi-family R2 SE OR SP Use? No Adjacent Zoning: R-20

**SCREENING REQUIRED:** None:  Screening yard required: None  
NO. OF TREES: 1 large evergreens 2 medium evergreens  
2 large deciduous 2 small deciduous 2 evergreen shrubs

**SCREENING PROVIDED:** None:  Screening yard provided: None  
NO. OF TREES: 2 large evergreens 2 medium evergreens  
2 large deciduous 2 small deciduous 2 evergreen shrubs

**BARRIER TYPE:** Existing: None Required: H Provided: H (2 Trees)

**4. Southeastern PROPERTY LINE:** Adjacent Use: Comm. Retail SE OR SP Use? No Adjacent Zoning: C-6

**SCREENING REQUIRED:** None:  Screening yard required: None  
NO. OF TREES: 1 large evergreens 1 medium evergreens  
1 large deciduous 1 small deciduous 1 evergreen shrubs

**SCREENING PROVIDED:** None:  Screening yard provided: None  
NO. OF TREES: 1 large evergreens 1 medium evergreens  
1 large deciduous 1 small deciduous 1 evergreen shrubs

**BARRIER TYPE:** Existing: None Required: None Provided: None

NOTE: Use additional copies of Attachment A as needed to describe every property line.

osd67 (1/99)



PREPARED BY:  
WM. O'KELLY RUSSELL  
ISA Certified Arborist, MA 5020A

*Wm O'Kelly Russell*  
7/20/15

**Wm. O'Kelly Russell, RLA**  
Planning • Landscape Architecture • Arboriculture  
17485 Tripoli Blvd., Dumfries, VA 22026 • (703) 221-3381

July 20, 2014

Mr. Keith W Cline, Director  
Fairfax County Urban Forest Management  
12055 Government Center Parkway, 5<sup>th</sup> Floor  
Fairfax, VA 22035

Re: Morningstar Daycare  
Fairfax County Parcel #102-1 ((8)), Parcel 12  
Currently Zoned R-2, Approximately 1.00 Acres  
Plan #SE 2014-MV-058

Dear Mr. Cline,

Wm. O'Kelly Russell (WOR) has prepared a Tree Conservation Plan as part of a Special Exception Plan (SE 2014-MV-058) for the development of the subject property with a new child daycare and associated infrastructure. The subject property currently has one (1) single-family dwelling.

The Applicant has retained WOR to complete an Existing Vegetation Map, Tree Inventory and Condition Analysis for the above referenced property in accordance with Section 12 of the Public Facilities Manual (PFM). Copies of this information are provided herein.

In accordance with Section 12-0508.3A(1)(2)(3), WOR is respectfully requesting permission to deviate from the Tree Preservation Target requirements. Currently, the subject property is approximately 30% covered by existing tree canopy. Upon development, 30% of the subject property shall be required as tree canopy. Of the required 30% tree canopy, 30% of this should be provided via preservation. At this time, the Applicant is proposing 1,400 square feet of preservation. The tree preservation target cannot be met on site due to the poor condition and species of existing vegetation, and the fact that construction activities could be reasonably expected to impact existing vegetation, as further discussed below. The following serves as our justification for this request:

- Of the thirty-three (33) trees inventoried in accordance with the PFM, only eighteen (18) are located on the subject property. Six (6) of the eighteen (18) inventoried onsite trees are located outside of the proposed limits of clearing. Eighteen (18) of the eighteen (18) inventoried onsite trees are in fair to good condition. In accordance with the PFM (12-0403.2), trees designated for preservation shall be in fair to excellent condition at time of plan submission. The two (2) of the trees that are in good condition will need to be removed. Due to their close proximity to the proposed parking area and building footprint, trees #30 and #31 will need to be removed.

Further, a few of the trees on site have varying degrees of problems, which will impact their structural integrity and will lead to further decline meeting the definition of "poor condition". In accordance with the PFM (12-0403.2A), trees designated for preservation should have a high degree of structural integrity. In accordance with Section 12-0508.3A(1), deviations from the Tree Preservation Target are permitted if meeting the Tree Preservation Target would preclude the development of uses or densities otherwise allowed by the Zoning Ordinance. Further, in accordance with Section 12-0508.3A(2), deviations from the Tree Preservation Target are

permitted if meeting the tree preservation target would require the preservation of trees that do not meet the standards for health and structural condition. These trees should not be preserved and are recommended for removal. Further, in accordance with Section 12-0508.3A(3), deviations from the Tree Preservation Target are permitted if construction activities could be reasonably expected to impact existing trees or forested areas used to meet the tree preservation target to the extent they would not likely survive in a healthy manner for a minimum of ten (10) years. WOR notes that developing the subject property using conventional R-2 zoning standards

Mr. Keith W. Cline, Director  
Fairfax County Urban Forest Management

Re: Morningstar Daycare  
Fairfax County Parcel #102-1 ((8)), Parcel 12  
Currently Zoned R-2, Approximately 1.00 Acres  
Plan #SE 2014-MV-058

July 24, 2015  
Page 2 of 2

requires construction of a commercial street entrance and parking lot, as well as a SWM facility, all of which results in the majority of the site being cleared for construction. The proposed construction will negatively impact these fair quality trees.

- The subject property does not contain any "champion", "heritage", "specimen", "memorial" or "street" trees as designated in Chapter 120 of the County Code.
- In order to meet Tree Canopy requirements, the Applicant will plant quality, native and proven desirable species on site including but not limited to American Holly, Red Maple, Redbud, Cherry, Swamp Oak, "Legend" Linden, "Valley Forge" Elm, Allegheny Serviceberry and Sweetbay Magnolia. In total, the Applicant is proposing 13,524 square feet of new vegetation, 1,400 square feet of tree save, resulting in tree cover of 14,924 square feet or 33%. This will result in meeting the 30% Tree Canopy Requirements as required by the PFM. In addition, these plantings provide opportunity for energy conservation and screening.

For the reasons stated above, we respectfully request your approval of a deviation from the Tree Preservation Target.

Sincerely,

*Wm O'Kelly Russell*

Wm. O'Kelly Russell  
Landscape Architect and Arborist

| PLAN DATE | DATE | DESCRIPTION | REVIEW/ APPROVED | DATE |
|-----------|------|-------------|------------------|------|
|           |      |             |                  |      |
|           |      |             |                  |      |
|           |      |             |                  |      |

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

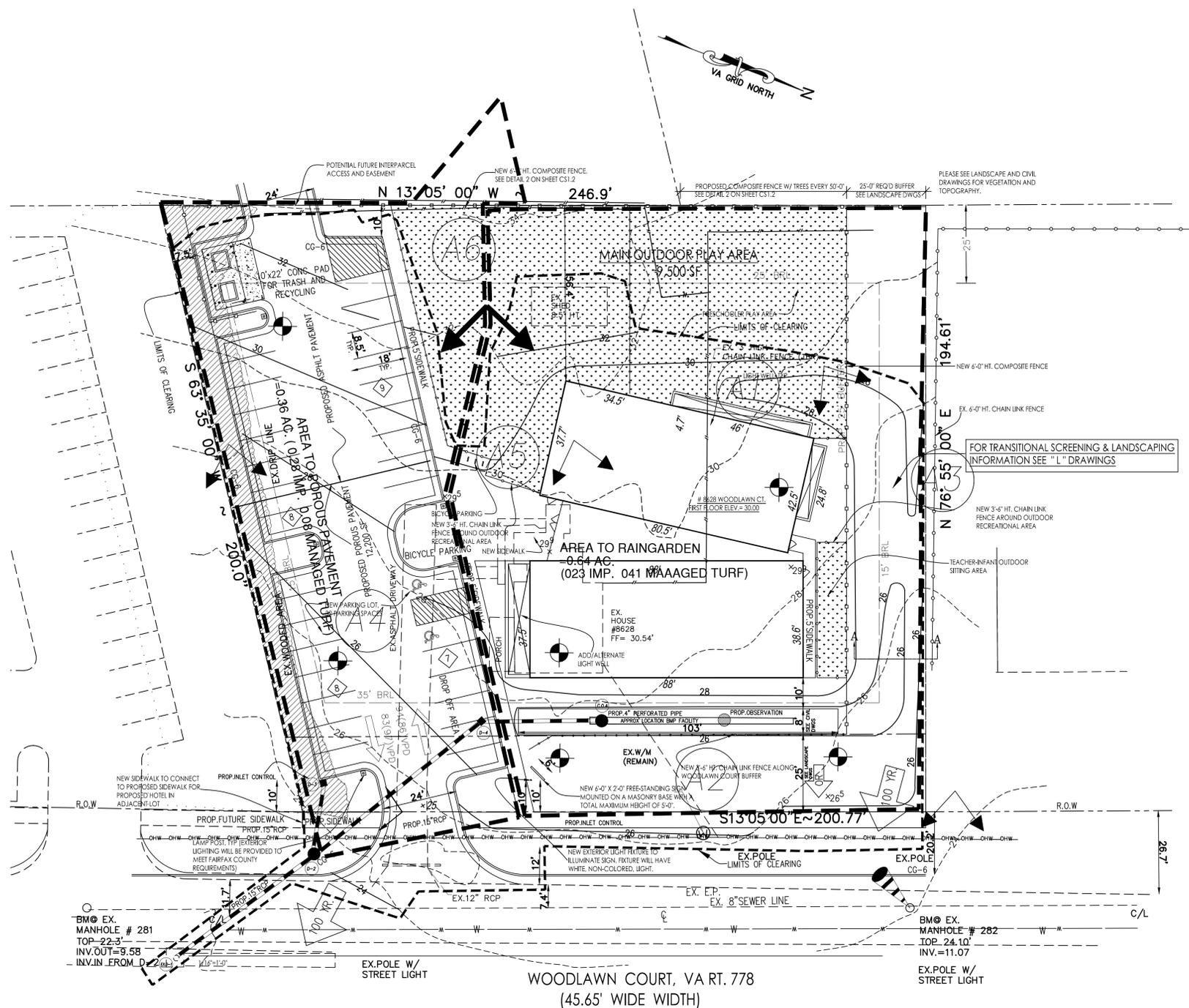
**Wm. O'Kelly Russell, RLA**  
Planning • Landscape Architecture • Arboriculture  
17485 Tripoli Blvd., Dumfries, VA 22026 • (703) 221-3381  
wm.okellyrussell@gmail.com



WAIVER AND MODIFICATION REQUESTS  
 MORNING STAR DAY CARE, SE 2014-MV-058  
 8628 WOODLAWN CT  
 MOUNT VERNON DISTRICT  
 FAIRFAX COUNTY, VIRGINIA  
 SCALE: 1"=20'  
 C.I. 2  
 DATE: 7-20-15

SHEET  
L5  
OF  
5  
FILE No.





**OUTFALL NARRATIVE**

THIS SITE IS FOR CONSTRUCTION OF A DAY CARE ON A 1.0 ACRE OF LAND. PART OF THE SITE DRAINS AS SHEET FLOW TOWARDS EAST SIDE OF THE PROPERTY ON A PROPOSED POROUS PAVEMENT PARKING AREA. THE OTHER PART OF THE SITE AT THE NORTH SIDE DIRECTED TO A PROPOSED RAIN GARDEN. THE RUNOFF FROM THE SITE WILL BE STORED AND TREATED BY THE RAIN GARDEN AND POROUS PAVEMENT AND RELEASED THROUGH PERFORATED PIPES AND CONTROL STRUCTURES TO THE EXISTING CURB DROP INLET STRUCTURE ACROSS THE WOOD LAWN COURT AND DIRECTED TO DOGUE CREEK LOCATED DOWNSTREAM FROM PROPERTY WHERE THE DRAINAGE AREA OF THE RECEIVING WATER COURSE EXCEEDS 100 TIMES THE AREA OF THAT PORTION OF THE PROPERTY THAT DRAINS TO IT. THEREFORE IN THE OPINION OF THE ENGINEER THE ADEQUATE OUTFALL FROM THE POINT OF VIEW AND CHANNEL PROTECTION AND FLOOD PROTECTION EXISTS FOR THIS DEVELOPMENT.

TOTAL SITE AREA = 1.00 ACRE SF

EXISTING IMPERVIOUS AREA = 0.07 AC  
(EXISTING HOUSE, DRIVEWAY, SHED)

PROPOSED IMPERVIOUS AREA = 0.51 AC  
(PROPOSED BUILDING, PARKING AREA, SIDEWALK)

PRE DEVELOPED C FACTOR=0.39  
 $Q2(PRE) = 1 \times 0.39 \times 5.45 = 2.13 \text{ CFS}$   
 $Q10(PRE) = 1 \times 0.39 \times 7.27 = 2.84 \text{ CFS}$

POST DEVELOPED C FACTOR=0.63  
 $Q2(POST) = 1 \times 0.63 \times 5.45 = 3.43 \text{ CFS}$   
 $Q10(POST) = 1 \times 0.63 \times 7.27 = 4.58 \text{ CFS}$

INCREASED IN RUN OFF:  
 $Q2 = 3.43 - 2.13 = 1.3 \text{ CFS}$   
 $Q10 = 4.58 - 2.84 = 1.74 \text{ CFS}$

THE TOTAL RUNOFF DURING CONSTRUCTION FOR THIS SITE IS AS FOLLOWS:

(DISTURBED AREA ONLY)  
 $Q(pre) = 0.39 \times 0.8 \times 5.45 = 1.70 \text{ CFS}$   
 $Q(construction) = 0.8 \times 0.6 \times 5.45 = 2.16 \text{ CFS}$

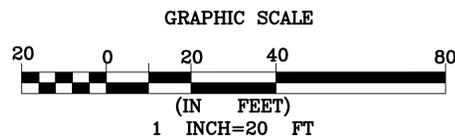
SUPER-SILT FENCE ALONG THE PERIMETER OF THE DISTURBED AREA WILL CONTROL RUNOFF AND RELEASE TO A SHEET FLOW CONDITION. IN OUR OPINION SINCE THE WATER LEAVING THE CONSTRUCTION AREA IS IN SHEET FLOW CONDITION AT NON EROSION VELOCITY, THERE ARE NO ADVERSE IMPACTS TO THE DOWNSTREAM PROPERTIES DUE TO THIS DEVELOPMENT AND THE OUTFALL IS ADEQUATE.

**DETENTION & BMP NARRATIVE**

RAIN GARDEN AND POROUS PAVEMENT PARKING AREA AS SHOWN ON THIS PLAN ARE PROPOSED TO MEET THE DETENTION AND BMP REQUIREMENTS. ALL THE BUILDING AREA AND ROOF LEADERS AS WELL AS PLAY AREA AT THE REAR OF THE BUILDING DIRECTED TO THE RAIN GARDEN AND STORED THE REMAINING PART OF THE SITE IS DRAINING TO THE POROUS PAVEMENT AREA. FULL DESIGN AND CALCULATION OF POROUS PAVEMENT AND RAINGARDEN ARE PROVIDED ON SHEET C.5 AND C.6

**OVERLAND RELIEF**

100 YR OVERLAND RELIEF IS PROVIDED AT THE TOE OF THE RAINGARDEN AT ELEVATION 226.5 AS SHOWN ON THE PLAN WITH ARROW. NO OPENING AT THE BUILDING SHOULD BE BELOW THIS ELEVATION.



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 ENGINEERS · PLANNERS · ARCHITECTS · LANDSCAPE ARCHITECTS · SURVEYORS  
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 FALLS CHURCH, VA 22043 PH: (703) 556-0800

MORNING STAR CHILDREN'S DAY CARE  
 8628 WOODLAWN COURT  
 ALEXANDRIA VA. 22309  
 MT VERNON DISTRICT FAIRFAX COUNTY

OUTFALL & SWM



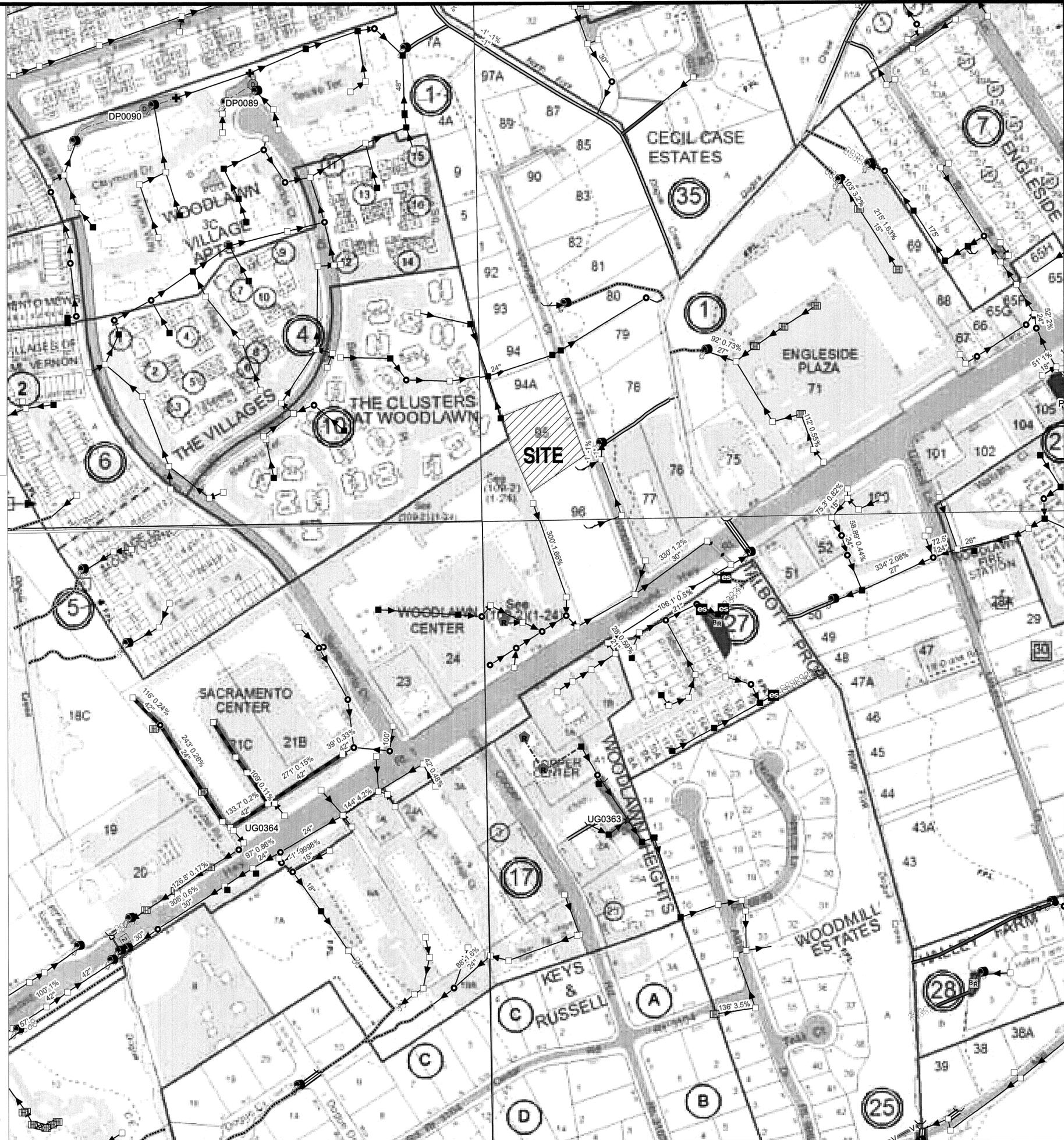
|                             |
|-----------------------------|
| DESIGNED BY:<br>SDE, INC.   |
| DRAWN BY: R.I               |
| CHECKED BY:<br>HAMID T., PE |
| SCALE: 1"=20'               |
| DATE: 06/10/2014            |
| PROJECT/FILE #              |
| SHEET NUMBER<br>C2.0        |

A. PRE DEVELOPMENT IMPERVIOUS AREA=3,049 SF  
 POST DEVELOPMENT IMPERVIOUS AREA=22,416 SF  
 INCREASED IN IMPERVIOUS AREA=19,167 SF  
 WATER QUALITY VOLUME REQUIREMENT, WQV=FROM SPREAD SHEET ON SHEET C.4  
 WQV=2,203 CF  
 WQV PROVIDED BY RAIN GARDEN & PROUS ASPHALT PAVEMENT<sup>93</sup>  
 $(1,200 * 2 * 0.4) + (6,200 * 2 * 0.4) = 5,800 > 2,203$  O.K

B. WATER QUANTITY REQUIREMENT  
 WATER QUANTITY VOLUME=(PROP. IMP.-EX. IMP.)\*(2.53/12)\*(0.9-0.25)  
 (1 YEAR-24 HR)  
 WATER QUANTITY VOLUME=(22,216-3049)\*(2.53/12)\*(0.9-0.25)=2,627 CFS  
 (1 YEAR-24 HR)  
 WATER QUANTITY VOLUME=(22,216-3,049)\*(5.1/12)\*(0.9-0.25)=5,295 CFS  
 (2 YEAR-24 HR)  
 WATER QUANTITY VOLUME=(22,216-3,049)\*(6.75/12)\*(0.9-0.25)=7,008 CFS  
 (10 YEAR-24 HR)  
 WATER QUANTITY VOLUME REDUCTION FROM BMP EXCEL SHEET ON C.4=1,225 CF  
 WATER QUANTITY VOLUME REQUIRED: 7,008-1,225=5,783 CF  
 WATER QUANTITY VOLUME (POROUS PAVEMENT)+WATER QUANTITY VOLUME (RAIN GARDEN)=  
 $(6,200 \text{ SF} * 2 * 0.4) + (1,200 \text{ SF} * 2 * 0.4) = 5,920 \text{ CF} > 5,783$  O.K

CROSS SECTION A-A

DRAINAGE AREA TO CROSS SECTION A-A: 28,579 SF + 7,841 SF  
 = 36,420 SF = 0.84 ACR.  
 $Q_{10} = C * I * A = 0.4 * 6.75 \text{ IN/HR} * 0.84 = 2.27 \text{ CFS}$   
 FROM OPEN CHANNEL FLOW CALCULATION ON THIS SHEET:  
 A 1' FT DEEP SWALE 1' WIDE @BOTTOM AND 5' WIDE @TOP  
 WITH SLOPE OF 2.4% CAN PASS 2.63 CFS > 2.27 CFS O.K



SCALE: 1"=150'

**SDE, INC.**

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MORNING STAR CHILDREN'S  
 DAY CARE

8628 WOODLAWN COURT  
 ALEXANDRIA VA. 22309

MT VERNON DISTRICT FAIRFAX COUNTY

SWM/BMP ENERGY  
 BALANCE CALCULATION



DESIGNED BY:  
 SDE, INC.

DRAWN BY: R.I

CHECKED BY:  
 HAMID T., PE

SCALE: 1"=20'

DATE: 06/10/2014

PROJECT/FILE #

SHEET NUMBER  
**C3.0**





| Material   | Specification  | Notes  |
|--|--|--|
| Filter Media Composition                         | Filter Media to contain: <ul style="list-style-type: none"> <li>85%-88% sand</li> <li>8%-12% soil fines</li> <li>3%-5% organic matter in the form of leaf compost</li> </ul>   | The volume of filter media based on 110% of the plan volume, to account for settling or compaction.  |
| Filter Media Testing                             | P-Index range = 10-30, OR Between 7 and 21 mg/kg of P in the soil media. CECs greater than 10  | The media must be procured from approved filter media vendors.   |
| Mulch Layer                                      | Use aged, shredded hardwood bark mulch   | Lay a 2 to 3 inch layer on the surface of the filter bed.  |
| Alternative Surface Cover                        | Use river stone or pea gravel, coir and jute matting, or turf cover.   | Lay a 2 to 3 inch layer of to suppress weed growth.  |
| Top Soil For Turf Cover                          | Loamy sand or sandy loam texture, with less than 5% clay content, pH corrected to between 6 and 7, and an organic matter content of at least 2%.   | 3 inch surface depth.  |
| Geotextile/Liner                                 | Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./sq. ft. (e.g., Geotex 351 or equivalent)   | Apply only to the sides and above the underdrain. For hotspots and certain karst sites only, use an appropriate liner on bottom.   |
| Choking Layer                                    | Lay a 2 to 4 inch layer of sand over a 2 inch layer of choker stone (typically #8 or #89 washed gravel), which is laid over the underdrain stone.  |  |
| Stone Jacket for Underdrain and/or Storage Layer | 1 inch stone should be double-washed and clean and free of all fines (e.g., VDOT #57 stone).   | 12 inches for the underdrain; 12 to 18 inches for the stone storage layer, if needed   |
| Underdrains, Cleanouts, and Observation Wells    | Use 6 inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center; position each underdrain on a 1% or 2% slope located no more than 20 feet from the next pipe.  | Lay the perforated pipe under the length of the bioretention cell, and install non-perforated pipe as needed to connect with the storm drain system. Install T's and Y's as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the T's and Y's.   |
| Plant Materials                                  | Plant one tree per 250 square feet (15 feet on-center, minimum 1 inch caliper). Shrubs a minimum of 30 inches high planted a minimum of 10 feet on-center. Plant ground cover plugs at 12 to 18 inches on-center; Plant container-grown plants at 18 to 24 inches on-center, depending on the initial plant size and how large it will grow. | Establish plant materials as specified in the landscaping plan and the recommended plant list. In general, plant spacing must be sufficient to ensure the plant material achieves 80% cover in the proposed planting areas within a 3-year period. If seed mixes are used, they should be from a qualified supplier, should be appropriate for stormwater basin applications, and should consist of native species (unless the seeding is to establish maintained turf). |

**SECTION 8: CONSTRUCTION**

**8.1. Construction Sequence**

**Construction Stage E&S Controls.** Micro-bioretention and small-scale bioretention areas should be fully protected by silt fence or construction fencing, particularly if they will rely on infiltration (i.e., have no underdrains). Ideally, bioretention should remain outside the limit of disturbance during construction to prevent soil compaction by heavy equipment. Bioretention basin locations may be used as small sediment traps or basins during construction. However, these must be accompanied by notes and graphic details on the E&S plan specifying that (1) the maximum excavation depth at the construction stage must be at least 1 foot above the post-construction installation, and (2) the facility must contain an underdrain. The plan must also show the proper procedures for converting the temporary sediment control practice to a permanent bioretention facility, including dewatering, cleanout and stabilization.

**8.2 Bioretention Installation**

The following is a typical construction sequence to properly install a bioretention basin (also see Figure 9.16). The construction sequence for micro-bioretention is more simplified. These steps may be modified to reflect different bioretention applications or expected site conditions:

**Step 1.** Construction of the bioretention area may only begin after the entire contributing drainage area has been stabilized with vegetation. It may be necessary to block certain curb or other inlets while the bioretention area is being constructed. The proposed site should be checked for existing utilities prior to any excavation.

**Step 2.** The designer and the installer should have a preconstruction meeting, checking the boundaries of the contributing drainage area and the actual inlet elevations to ensure they conform to original design. Since other contractors may be responsible for constructing portions of the site, it is quite common to find subtle differences in site grading, drainage and paving elevations that can produce hydraulically important differences for the proposed bioretention area. The designer should clearly communicate, in writing, any project changes determined during the preconstruction meeting to the installer and the plan review/inspection authority.

**Step 3.** Temporary E&S controls are needed during construction of the bioretention area to divert stormwater away from the bioretention area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the construction process.

**Step 4.** Any pre-treatment cells should be excavated first and then sealed to trap sediments.

**Step 5.** Excavators or backhoes should work from the sides to excavate the bioretention area to its appropriate design depth and dimensions. Excavating equipment should have scoops with adequate reach so they do not have to sit inside the footprint of the bioretention area. Contractors should use a cell construction approach in larger bioretention basins, whereby the basin is split into 500 to 1,000 sq. ft. temporary cells with a 10-15 foot earth bridge in between, so that cells can be excavated from the side.

**Step 6.** It may be necessary to rip the bottom soils to a depth of 6 to 12 inches to promote greater infiltration.

**Step 7.** Place geotextile fabric on the sides of the bioretention area with a 6-inch overlap on the sides. If a stone storage layer will be used, place the appropriate depth of #57 stone on the bottom, install the perforated underdrain pipe, pack #57 stone to 3 inches above the underdrain pipe, and add approximately 3 inches of choker stone/pea gravel as a filter between the underdrain and the soil media layer. If no stone storage layer is used, start with 6 inches of #57 stone on the bottom, and proceed with the layering as described above.

**Step 8.** Deliver the soil media from an approved vendor, and store it on an adjacent impervious area or plastic sheeting. Apply the media in 12-inch lifts until the desired top elevation of the

bioretention area is achieved. Wait a few days to check for settlement, and add additional media, as needed, to achieve the design elevation.

**Step 9.** Prepare planting holes for any trees and shrubs, install the vegetation, and water accordingly. Install any temporary irrigation.

**Step 10.** Place the surface cover in both cells (mulch, river stone or turf), depending on the design. If coir or jute matting will be used in lieu of mulch, the matting will need to be installed prior to planting (Step 9), and holes or slits will have to be cut in the matting to install the plants.

**Step 11.** Install the plant materials as shown in the landscaping plan, and water them during weeks of no rain for the first two months.

**Step 12.** Conduct the final construction inspection (see Section 9.2). Then log the GPS coordinates for each bioretention facility and submit them for entry into the local maintenance tracking database.

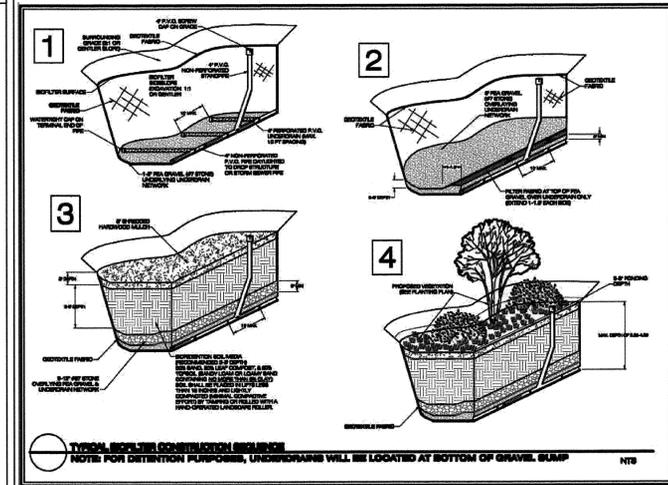


Figure 9.16. Typical Biofilter Construction Sequence

**SECTION 9: MAINTENANCE**

**9.1. Maintenance Agreements**

Section 4 VAC 50-60-124 of the regulations specifies the circumstances under which a maintenance agreement to be executed between the owner and the local program. This section sets forth inspection requirements, compliance procedures if maintenance is neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

For bioretention, maintenance agreements must contain recommended maintenance tasks and a copy of an annual inspection checklist. When micro-scale bioretention practices are applied on private residential lots, homeowners will need to be educated regarding their routine maintenance needs. A deed restriction, drainage easement or other mechanism enforceable by the qualifying local program must be in place to help ensure that rain gardens and bioretention filters are maintained and not converted or disturbed, as well as to pass the knowledge along to any subsequent owners. The mechanism should, if possible, grant authority for local agencies to access the property for inspection or corrective action.

**9.2. First Year Maintenance Operations**

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

- Initial inspections.** For the first 6 months following construction, the site should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- Spot Reseeding.** Inspectors should look for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- Fertilization.** One-time, spot fertilization may be needed for initial plantings.
- Watering.** Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- Remove and replace dead plants.** Since up to 10% of the plant stock may die off in the first year, construction contracts should include a care and replacement warranty to ensure that vegetation is properly established and survives during the first growing season following construction. The typical thresholds below which replacement is required are 85% survival of plant material and 100% survival of trees.

**BIORETENTION W/UNDER DRAINAGE PIPE LEVEL 1 DESIGN**

DESIGN SPECIFICATION # 9  
 MIN.FILTER MEDIA :24"  
 TV=TREATED VOLUME=1216 CF(FROM SPREAD SHEET ON SHEET )  
 FROM TABLE 9.1(LEVEL 1 DESIGN)  
 MIN.FILTER MEDIA DEPTH=24"  
 MIN.GRAVEL DEPTH=6"  
 EQUIVALENT STORAGE DEPTH:  
 (0.25\*2.5)+(1\*0.4)+(0.5\*1)=1.52  
 SA=TV/EQUIVALENT STORAGE DEPTH)=  
 1216/1.52=800 SF  
 USE: 103\*8=824>800 O.K

**9.3. Maintenance Inspections**

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each bioretention area. The following is a list of some of the key maintenance problems to look for:

- Check to see if 75% to 90% cover (mulch plus vegetative cover) has been achieved in the bed, and measure the depth of the remaining mulch.
- Check for sediment buildup at curb cuts, gravel diaphragms or pavement edges that prevents flow from getting into the bed, and check for other signs of bypassing.
- Check for any winter- or salt-killed vegetation, and replace it with hardier species.
- Note presence of accumulated sand, sediment and trash in the pre-treatment cell or filter beds, and remove it.
- Inspect bioretention side slopes and grass filter strips for evidence of any rill or gully erosion, and repair it.
- Check the bioretention bed for evidence of mulch flotation, excessive ponding, dead plants or concentrated flows, and take appropriate remedial action.
- Check inflow points for clogging, and remove any sediment.
- Look for any bare soil or sediment sources in the contributing drainage area, and stabilize them immediately.
- Check for clogged or slow-draining soil media, a crust formed on the top layer, inappropriate soil media, or other causes of insufficient filtering time, and restore proper filtration characteristics.

Example maintenance inspection checklists for Bioretention areas can be accessed in Appendix C of Chapter 9 of the Virginia Stormwater Management Handbook (2010) or at the Center for Watershed Protection website at:

[http://www.cwp.org/Resource\\_Library/Controlling\\_Runoff\\_and\\_Discharges/sm.htm](http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/sm.htm)  
 (scroll to Tool6: Plan Review, BMP Construction, and Maintenance Checklists)

**9.4. Routine and Non-Routine Maintenance Tasks**

Maintenance of bioretention areas should be integrated into routine landscape maintenance tasks. If landscaping contractors will be expected to perform maintenance, their contracts should contain specifics on unique bioretention landscaping needs, such as maintaining elevation differences needed for ponding, proper mulching, sediment and trash removal, and limited use of fertilizers and pesticides. A customized maintenance schedule must be prepared for each bioretention facility, since the maintenance tasks will differ depending on the scale of bioretention, the landscaping template chosen, and the type of surface cover. A generalized summary of common maintenance tasks and their frequency is provided in Table 9.7.

The most common non-routine maintenance problem involves standing water. If water remains on the surface for more than 48 hours after a storm, adjustments to the grading may be needed or underdrain repairs may be needed. The surface of the filter bed should also be checked for accumulated sediment or a fine crust that builds up after the first several storm events. There are several methods that can be used to rehabilitate the filter (try the easiest things first, as listed below):

- Open the underdrain observation well or cleanout and pour in water to verify that the underdrains are functioning and not clogged or otherwise in need of repair. The purpose of this check is to see if there is standing water all the way down through the soil. If there is standing water on top, but not in the underdrain, then there is a clogged soil layer. If the underdrain and stand pipe indicates standing water, then the underdrain must be clogged and will need to be snaked.
- Remove accumulated sediment and till 2 to 3 inches of sand into the upper 8 to 12 inches of soil.
- Install sand wicks from 3 inches below the surface to the underdrain layer. This reduces the average concentration of fines in the media bed and promotes quicker drawdown times. Sand wicks can be installed by excavating or augering (using a tree auger or similar tool) down to the gravel storage zone to create vertical columns which are then filled with a clean open-graded coarse sand material (ASTM C-33 concrete sand or similar approved sand mix for bioretention media). A sufficient number of wick drains of sufficient dimension should be installed to meet the design dewatering time for the facility.
- Remove and replace some or all of the soil media.

Table 9.7. Suggested Annual Maintenance Activities for Bioretention

| Maintenance Tasks   | Frequency                   |
|---|-----------------------------|
| Mowing of grass filter strips and bioretention turf cover             | At least 4 times a year     |
| Spot weeding, erosion repair, trash removal, and mulch raking         | Twice during growing season |
| Add reinforcement planting to maintain desired the vegetation density | As needed                   |
| Remove invasive plants using recommended control methods              | As needed                   |
| Stabilize the contributing drainage area to prevent erosion           | As needed                   |
| Spring inspection and cleanup   | Annually                    |
| Supplement mulch to maintain a 3 inch layer                           | Annually                    |
| Prune trees and shrubs  | Annually                    |
| Remove sediment in pre-treatment cells and inflow points              | Once every 2 to 3 years     |
| Replace the mulch layer   | Every 3 years               |

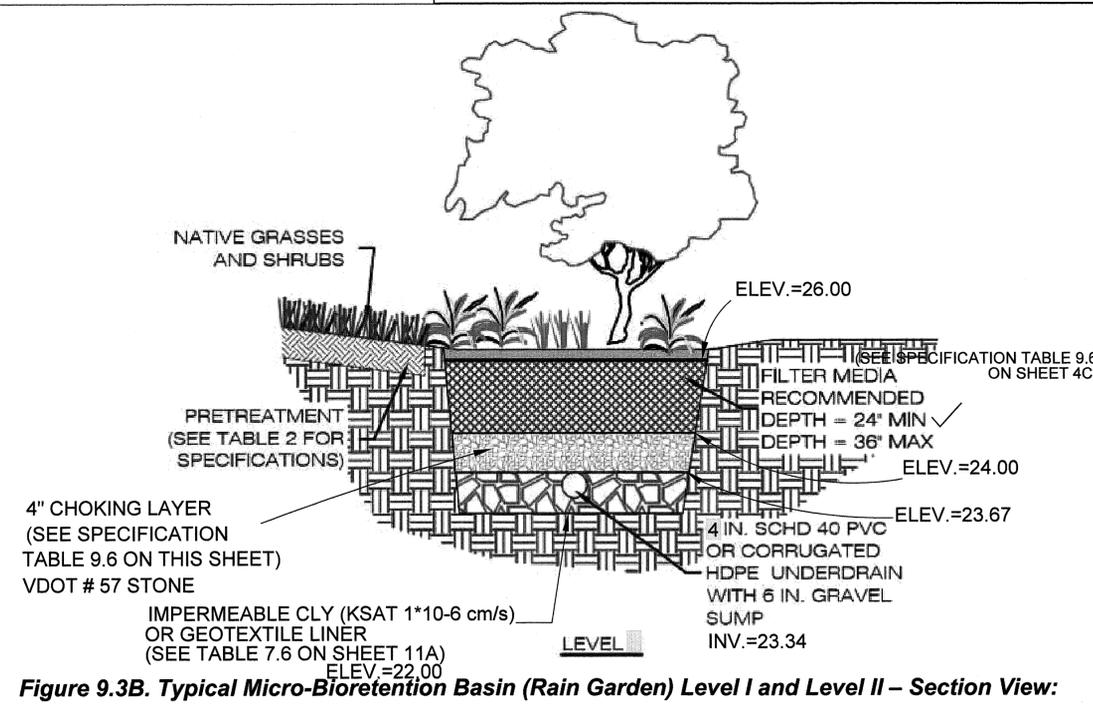
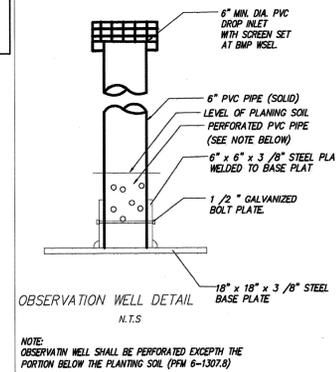


Figure 9.3B. Typical Micro-Bioretention Basin (Rain Garden) Level I and Level II – Section View:

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**BMP PLAN**  
**BIORETENTION RAINGARDEN**  
 8628 WOODLAWN COURT  
 ALEXANDRIA VA. 22309  
**MT VERNON DISTRICT FAIRFAX COUNTY**

**BMP COMPUTATION**



DESIGNED BY: SDE, INC.  
 DRAWN BY: R.I  
 CHECKED BY: HAMID T., PE  
 SCALE: N/S  
 DATE: 06/10/2014  
 PROJECT/FILE #  
 SHEET NUMBER  
**C5.0**

**POROUS PAVEMENT W/UNDERDRAIN PIPE SYSTEM DESIGN  
(VA SWM HAND BOOK)**

DRAINAGE AREA OF POROUS PAVEMENT : 21,344 SF  
 TOTAL IMPERVIOUS AREA TREATED : 17,860 SF  
 RAIN FALL DEPTH = 4.61" 10 YR,24 HR STORM  
 FIELD TESTED INFILTRATION RATE:(POOR SOIL,NO INFILTRATION)  
 PROSITY OF VDOT STONE  $V_r=0.4$   
 UNDER DRAIN PIPE : 4" PVC  
 $Q_u=$ OUT FLOW THROUGH THE UNDER DRAIN PIPE:  
 $Q_u=K \cdot m$   
 $K=$ H CONDUCTIVITY FOR THE RESERVOIR LAYER  
 (FT/DAY-ASSUME 100 FT/DAY)  
 $m=$ UNDER DRAIN PIPE SLOPE  
 $Q_u=100 \cdot 0.0025 = 0.25$   
 $d_p=$ DEPTH OF THE RESERVOIR LAYER  
 $d_p=\{(d_c \cdot R)+P-(1/2 \cdot t_f)-(q_u \cdot t_c)\} / V_r$   
 $d_c=$ DEPTH OF RUNOFF FROM CONTRIBUTING DRAINAGE AREA= $6"=0.5'$   
 $R=$ THE RATIO OF CONTRIBUTING DRAINAGE AREA TO THE PERMEABLE PAVEMENT SURFACE= $1$   
 $P=$ RAIN FALL DEPTH FOR TREATMENT VOLUME= $4.61"/12=0.38$   
 $t_f=$ FIELD VERIFIED INFILTRATION RATE= $0$ (NO INFILTRATION)  
 $t_f=$ THE TIME TO FILL THE RESERVOIR LAYER(DAY)= $0.083$   
 $V_r=$ THE VOID RATIO FOR THE RESERVOIR LAYER= $0.4$   
 $q_u=$ OUTFLOW THROUGH UNDERDRAIN(FT/DAY)= $1$   
 $d_p=\{(0.5 \cdot 1)+0.38-(0 \cdot 0.083)-(1 \cdot 0.083)\} / 0.4=0.797/0.4=1.99'$   
 PROVIDED ASPHALT POROUS PAVEMENT: 2" SURFACE ,24" SUBGRADE VDOT #57 STONE WITH UNDER DRAIN PIPE SYSTEM.

**NOTES:**

1. THE BMP FACILITY AND THEIR APPURTENANT STRUCTURES MUST BE PRIVATELY MAINTAINED AND A PRIVATE MAINTENANCE AGREEMENT WITH THE COUNTY WILL BE EXECUTED PRIOR TO THE ISSUANCE OF THE PERMIT.
2. THE RAINGARDEN SHALL BE PROTECTED FROM DISTURBANCE DURING THE MAJOR CONSTRUCTION ACTIVITY.
3. THE BMP WILL BE CONSTRUCTED AFTER ALL THE SITE WORK AS BEEN COMPLETED AND FINAL STABILIZATION MEASURES HAVE BEEN IMPLEMENTED. BIOTENTION BASIN IS LOCATED IN NRCS SOIL TYPE 4B . FOR INFILTRATION TEST RESULT,SEE SHEET

**VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT**

**SECTION 4: TYPICAL DETAILS**

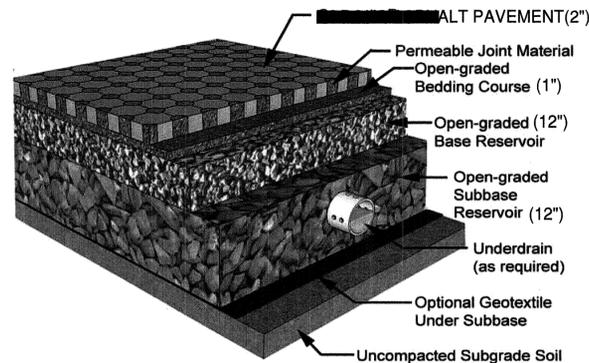


Figure 7.2. Typical Detail (Source: Smith, 2009)  
(SEE POROUS ASPHALT SPECIFICATION ON THIS SHEET)

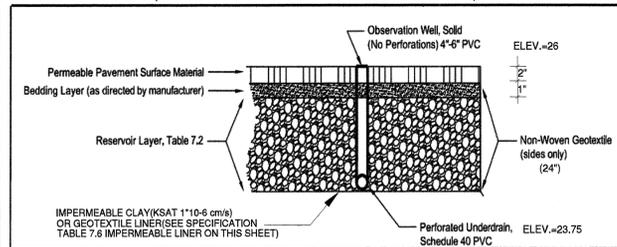


Figure 7.3. Typical Section Permeable Pavement Level 1

**VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT**

- 10-ton roller. One or two passes of the roller are required for proper compaction. More rolling could cause a reduction in the porosity of the pavement.
- 3. The mixing plant must provide certification of the aggregate mix, abrasion loss factor, and asphalt content in the mix. Test the asphalt mix for its resistance to stripping by water using ASTM 1664. If the estimated coating area is not above 95%, additional anti-stripping agents must be added to the mix.
- 4. Transport the mix to the site in a clean vehicle with smooth dump beds sprayed with a non-petroleum release agent. The mix shall be covered during transportation to control cooling.
- 5. Test the full permeability of the pavement surface by application of clean water at a rate of at least five gallons per minute over the entire surface. All water must infiltrate directly, without puddle formation or surface runoff.
- 6. Inspect the facility 18 to 30 hours after a significant rainfall (greater than 1/2 inch) or artificial flooding, to determine that the facility is draining properly.

**8.2. Permeable Pavement Construction Sequence**

The following is a typical construction sequence to properly install permeable pavement, which may need to be modified to depending on whether Porous Asphalt (PA), Pervious Concrete (PC) or Interlocking Paver (IP) designs are employed.

**Step 1.** Construction of the permeable pavement shall only begin after the entire contributing drainage area has been stabilized. The proposed site should be checked for existing utilities prior to any excavation. Do not install the system in rain or snow, and do not install frozen aggregate materials.

**Step 2.** As noted above, temporary erosion and sediment (E&S) controls are needed during installation to divert stormwater away from the permeable pavement area until it is completed. Special protection measures such as erosion control fabrics may be needed to protect vulnerable side slopes from erosion during the excavation process. The proposed permeable pavement area must be kept free from sediment during the entire construction process. Construction materials that are contaminated by sediments must be removed and replaced with clean materials.

**Step 3.** Where possible, excavators or backhoes should work from the sides to excavate the reservoir layer to its appropriate design depth and dimensions. For micro-scale and small-scale pavement applications, excavating equipment should have arms with adequate extension so they do not have to work inside the footprint of the permeable pavement area (to avoid compaction). Contractors can utilize a cell construction approach, whereby the proposed permeable pavement area is split into 500 to 1000 sq. ft. temporary cells with a 10 to 15 foot earth bridge in between,

**VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT**

so that cells can be excavated from the side. Excavated material should be placed away from the open excavation so as to not jeopardize the stability of the side walls.

**Step 4.** The native soils along the bottom and sides of the permeable pavement system should be scarified or tilled to a depth of 3 to 4 inches prior to the placement of the filter layer or filter fabric. In large scale paving applications with weak soils, the soil subgrade may need to be compacted to 95% of the Standard Proctor Density to achieve the desired load-bearing capacity. (NOTE: This effectively eliminates the infiltration function of the installation, and it must be addressed during hydrologic design.)

**Step 5.** The filter layer should be installed on the bottom of the reservoir layer, and where warranted, filter fabric can be placed on the sides.

**Step 6.** Provide a minimum of 2 inches of aggregate above and below the underdrains. The underdrains should slope down towards the outlet at a grade of 0.5% or steeper. The up-gradient end of underdrains in the reservoir layer should be capped. Where an underdrain pipe is connected to a structure, there shall be no perforations within 1 foot of the structure. Ensure that there are no perforations in clean-outs and observation wells within 1 foot of the surface.

**Step 7.** Spread 6-inch lifts of the appropriate clean, washed stone aggregate. Place at least 4 inches of additional aggregate above the underdrain, and then compact it using a vibratory roller in static mode until there is no visible movement of the aggregate. Do not crush the aggregate with the roller.

**Step 8.** Install overdrain if required and connect into outlet conveyance system.

**Step 9.** Install the desired depth of the bedding layer, depending on the type of pavement, as follows:

- **Pervious Concrete:** No bedding layer is used.
- **Porous Asphalt:** The bedding layer for porous asphalt pavement consists of 1 to 2 inches of clean, washed ASTM D 448 No.57 stone. The filter course must be leveled and pressed (choked) into the reservoir base with at least four (4) passes of a 10-ton steel drum static roller.
- **Interlocking Pavers:** The bedding layer for open-jointed pavement blocks should consist of 2 inches of washed ASTM D 448 No.8 stone.

**Step 10.** Paving materials shall be installed in accordance with manufacturer or industry specifications for the particular type of pavement.

- **Installation of Porous Asphalt.** The following has been excerpted from various documents, most notably Jackson (2007).
  1. Install porous asphalt pavement similarly to regular asphalt pavement. The pavement should be laid in a single lift over the filter course. The laying temperature should be between 230°F and 260°F, with a minimum air temperature of 50°F, to ensure that the surface does not stiffen before compaction.
  2. Complete compaction of the surface course when the surface is cool enough to resist a

**Table 7.6. Material Specifications for Underneath the Pavement Surface**

| Material                        | Specification   | Notes  |
|---------------------------------|---|--|
| <b>Bedding Layer</b>            | PC: None<br>PA: 2 in. of No. 57 stone<br>IP: 2 in. of No. 8 stone over 4 inches of No. 57 stone   | ASTM D448 size No. 8 stone (e.g. 3/8 to 3/16 inch in size). Should be washed and clean and free of all fines.  |
| <b>Reservoir Layer</b>          | PC: No. 57 stone<br>PA: No. 2 stone<br>IP: No. 2, 3, or 4 stone   | ASTM D448 size No. 57 stone (e.g. 1 1/2 to 1/2 inch in size); No. 2 Stone (e.g. 3 inch to 3/4 inch in size). Depth is based on the pavement structural and hydraulic requirements. Should be washed and clean and free of all fines. |
| <b>Underdrain</b>               | Use 4 to 6 inch diameter perforated PVC (AASHTO M 252) pipe, with 3/8-inch perforations at 6 inches on center; each underdrain installed at a minimum 0.5% slope located 20 feet or less from the next pipe (or equivalent corrugated HDPE may be used for smaller load-bearing applications). Perforated pipe installed for the full length of the permeable pavement cell, and non-perforated pipe, as needed, is used with the storm drain system. T's and Y's installed as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the T's and Y's. |  |
| <b>Filter Layer</b>             | The underlying native soils should be separated from the stone reservoir by a thin, 2 to 4 inch layer of choker stone (e.g. No. 8) covered by a 6 to 8 inch layer of coarse sand (e.g. ASTM C 33, gradation).   | The sand should be placed between the stone reservoir and the choker stone, which should be placed on top of the underlying native soils.  |
| <b>Filter Fabric (optional)</b> | Use an appropriate filter fabric for the particular application based on AASHTO M288-06. Filter Fabric should have a Flow Rate greater than 125 gpm/sq. ft. (ASTM D4491), and an Apparent Opening Size (AOS) equivalent to a US # 70 or # 80 sieve (ASTM D4751). The geotextile AOS selection is based on the percent passing the No. 200 sieve in "A" Soil subgrade, using FHWA or AASHTO selection criteria.  |  |
| <b>Impermeable Liner</b>        | Use a thirty mil (minimum) PVC Geomembrane liner covered by 8 to 12 oz./sq. yd. non-woven geotextile. NOTE: THIS IS USED ONLY FOR KARST REGIONS.  |  |
| <b>Observation Well</b>         | Use a perforated 4 to 6 inch vertical PVC pipe (AASHTO M 252) with a lockable cap, installed flush with the surface.  |  |

**8.3. Construction Inspection**

Inspections before, during and after construction are needed to ensure that permeable pavement is built in accordance with these specifications. Use a detailed inspection checklist that requires sign-offs by qualified individuals at critical stages of construction and to ensure that the contractor's interpretation of the plan is consistent with the designer's intent. The basic elements of a permeable pavement construction checklist are provided at the end of this specification.

Once the final construction inspection has been completed, log the GPS coordinates for each facility and submit them for entry into the local BMP maintenance tracking database.

It may be advisable to divert the runoff from the first few runoff-producing storms away from larger permeable pavement applications, particularly when up-graded conventional asphalt areas drain to the permeable pavement. This can help reduce the input of fine particles that are often produced shortly after conventional asphalt is laid down.

**SECTION 9: MAINTENANCE**

**9.1. Maintenance Agreements**

The Virginia Stormwater Management regulations (4 VAC 50-60) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is

**VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT**

neglected, notification of the local program upon transfer of ownership, and right-of-entry for local program personnel.

- All Permeable Pavement installations must be covered by a long term maintenance agreement and drainage easement consistent with the provisions of the VSMP regulations to allow inspection and maintenance.
- The maintenance agreements should note which conventional parking lot maintenance tasks must be avoided (e.g., sanding, re-sealing, re-surfacing, power-washing). Signs should be posted on larger parking lots to indicate their stormwater function and special maintenance requirements. When micro-scale or small-scale permeable pavement are installed on private residential lots, homeowners should be provided a simple document that explains the purpose of the Permeable Pavement and outlines (1) the routine maintenance needs, (2) the long-term maintenance plan, and (3) the basic parameters of the deed restriction, drainage easement or other mechanism enforceable by the VSMP Authority to help ensure that the permeable pavement system is maintained and functioning.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

**9.2. Maintenance Tasks**

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. Most installations work reasonably well year after year with little or no maintenance, whereas some have problems right from the start.

The following tasks must be avoided on all permeable pavements:

- sanding
- re-sealing
- re-surfacing
- power washing
- storage of snow piles containing sand
- storage of mulch or soil materials
- construction staging on unprotected pavement

A preventative maintenance task for large-scale applications involves regenerative air vacuum sweeping on a frequency consistent with the use and loadings encountered in the parking lot. Many consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Vacuum settings for large-scale interlocking paver applications should be calibrated so they do not pick up the stones between pavement blocks.

**Table 7-8. Recommended Maintenance Tasks for Permeable Pavement Practices.**

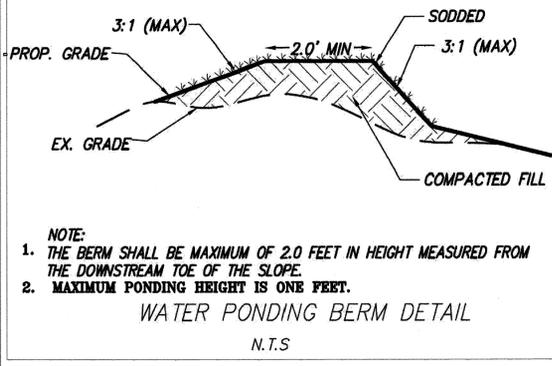
| Maintenance Task   | Frequency          |
|--|--------------------|
| For the first 6 months following construction, the practice and contributing drainage area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. | After installation |

**Table 7.7. Different Permeable Pavement Specifications**

| Material  | Specification                 | Notes                                     |
|-----------|-------------------------------|---|
| Permeable | Surface open area: 5% to 15%. | Must conform to ASTM C936 specifications. |

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| Material                              | Specification  | Notes  |
|---------------------------------------|--|--|
| <b>Interlocking Concrete Pavers</b>   | Thickness: 3.125 inches for vehicles. Compressive strength: 55 Mpa. Open void fill media: aggregate  | Reservoir layer required to support the structural load.   |
| <b>Concrete Grid Pavers</b>           | Open void content: 20% to 50%. Thickness: 3.5 inches. Compressive strength: 35 Mpa. Open void fill media: aggregate, topsoil and grass, coarse sand.               | Must conform to ASTM C 1319 specifications. Reservoir layer required to support the structural load.                                   |
| <b>Plastic Reinforced Grid Pavers</b> | Void content: depends on fill material. Compressive strength: varies, depending on fill material. Open void fill media: aggregate, topsoil and grass, coarse sand. | Reservoir layer required to support the structural load.   |
| <b>Pervious Concrete</b>              | Void content: 15% to 25%. Thickness: typically 4 to 8 inches. Compressive strength: 2.8 to 28 Mpa. Open void fill media: None                                      | May not require a reservoir layer to support the structural load, but a layer may be included to increase the storage or infiltration. |
| <b>Porous Asphalt</b>                 | Void content: 15% to 20%. Thickness: typically 3 to 7 in. (depending on traffic load). Open void fill media: None.   | Reservoir layer required to support the structural load.   |



**VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT**

| Maintenance Task  | Frequency  |
|---|--|
| Conduct any needed repairs or stabilization.  |  |
| Mow grass in grid paver applications  | At least 1 time every 1-2 months during the growing season |
| Stabilize the CDA to prevent erosion  | As needed  |
| Remove any soil or sediment deposited on pavement.                                    |  |
| Replace or repair any necessary pavement surface areas that are degrading or spalling |  |
| Vacuum pavement with a standard street sweeper to prevent clogging                    | 2-4 times per year (depending on use)                      |
| Conduct a maintenance inspection  | Annually   |
| Spot weeding of grass applications  |  |
| Remove any accumulated sediment in pre-treatment cells and inflow points              | Once every 2 to 3 years                                    |
| Conduct maintenance using a regenerative street sweeper                               |  |
| Replace any necessary joint material  | If clogged   |

<sup>1</sup> Required frequency of maintenance will depend on pavement use, traffic loads, and surrounding land use.

**9.3. Maintenance Inspections**

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each permeable pavement site, particularly at large-scale applications.

Maintenance of permeable pavement is driven by annual inspections that evaluate the condition and performance of the practice. Any permeable pavement installation with external drainage area (run-on) should be inspected more frequently during the first year (four seasons) to ensure that there are no unexpected contributing loads of sediment or pavement particulates from the contributing area. If so, extensive investigation should assess ways to limit the contributions, or the maintenance schedule should be adjusted to ensure the pavement does not become clogged.

The following are suggested routine annual maintenance inspection points for permeable pavements:

- The drawdown rate should be measured at the observation well for three (3) days following a storm event in excess of 1/2 inch in depth. If standing water is still observed in the well after three days, this is a clear sign that clogging is a problem.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Then, test sections by pouring water from a five gallon bucket to ensure they work.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Check inlets, pretreatment cells and any flow diversion structures for sediment buildup and structural damage. Note if any sediment needs to be removed.
- Inspect the condition of the observation well and make sure it is still capped.

**VA DEQ STORMWATER DESIGN SPECIFICATION NO. 7 PERMEABLE PAVEMENT**

- Generally inspect any contributing drainage area for any controllable sources of sediment or erosion.

An example maintenance inspection checklist for permeable pavement can be accessed in Appendix C of Chapter 9 of the Virginia Stormwater Management Handbook (2010). Based on inspection results, specific maintenance tasks will be triggered and scheduled to keep the facility in operating condition.

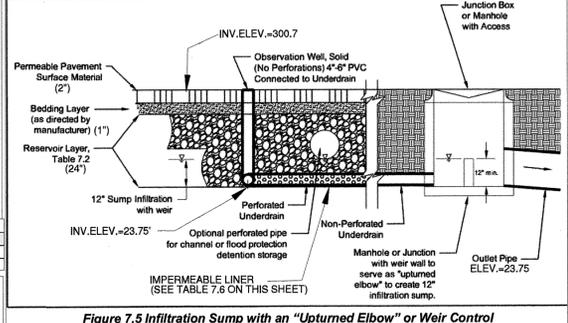


Figure 7.5 Infiltration Sump with an "Upturned Elbow" or Weir Control

**SDE, INC.**  
 ENGINEERS · PLANNERS · ARCHITECTS · LANDSCAPE ARCHITECTS · SURVEYORS  
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**BMP PLAN ASPHALT POROUS PAVEMENT**  
 8628 WOODLAWN COURT  
 ALEXANDRIA VA. 22309  
 MT VERNON DISTRICT FAIRFAX COUNTY

**BMP DESIGN RAIN GARDEN & COMPUTATION (POROUS PAVMT)**



DESIGNED BY: SDE, INC.

DRAWN BY: R.I

CHECKED BY: HAMID T., PE

SCALE: N/S

DATE: 06/10/2014

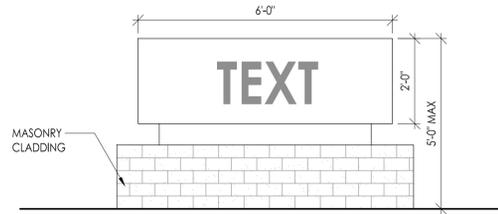
PROJECT/FILE #

SHEET NUMBER

**C6.0**



**9 PROPOSED ELEVATION - NORTH**  
1/8" = 1'-0" (1356/EE02-K)



**5 FREE STANDING SIGN**  
1/2" = 1'-0" (1356-EE03-G)

**CLASSROOM OCCUPANT MATRIX**

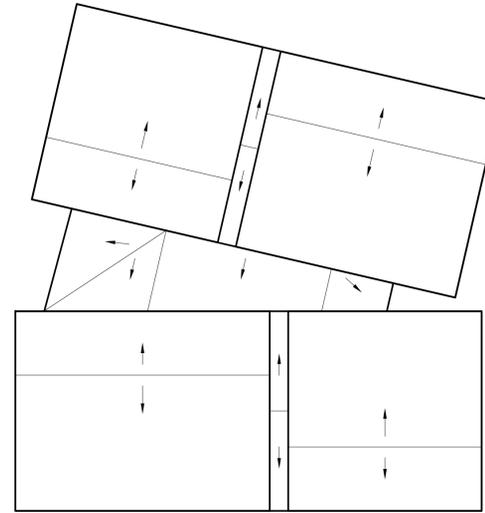
| AGE  | CLASS | TEACHER/CHILD RATIO | NUM. OF CHILDREN | NUM. OF TEACHERS |
|--|-------|---------------------|------------------|------------------|
| INFANTS<br>0-16 MONTHS   | 1     | 1:4                 | 12               | 3                |
|  | 2     |                     | 12               | 3                |
|  | 3     |                     | 8                | 2                |
|  | 4     |                     | 8                | 2                |
| TODDLERS<br>16 MO. - 2 YRS                                     | 5     | 1:5                 | 20               | 4                |
| POTENTIAL FUTURE CLASSRM EXPANSION<br>TODDLERS, 16 MO. - 2 YRS | 6     |                     | 20               | 4                |
| PRESCHOOL<br>3-5 YRS   | 7     | 1:10                | 20               | 2                |
| POTENTIAL FUTURE CLASSRM EXPANSION<br>CHILDREN 5+ YRS          | 8     | 1:10                | 20               | 2                |
| TOTALS:  |       |                     | 120              | 22               |

NOTE:  
1. CLASSROOMS SIZED TO ACCOMMODATE A MINIMUM OF 35 SF PER CHILD.  
2. THE FACILITY CAN ACCOMMODATE 120 CHILDREN AT ONE TIME, BUT THIS NUMBER DOES NOT REFLECT THE TOTAL ENROLLMENT WHICH MAY BE HIGHER.

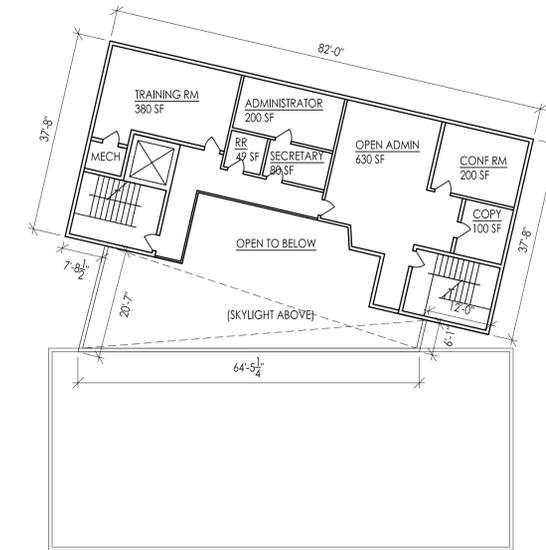
(1356-MATRIX-A)



**8 PROPOSED ELEVATION - WEST**  
1/8" = 1'-0" (1356/EE02-K)



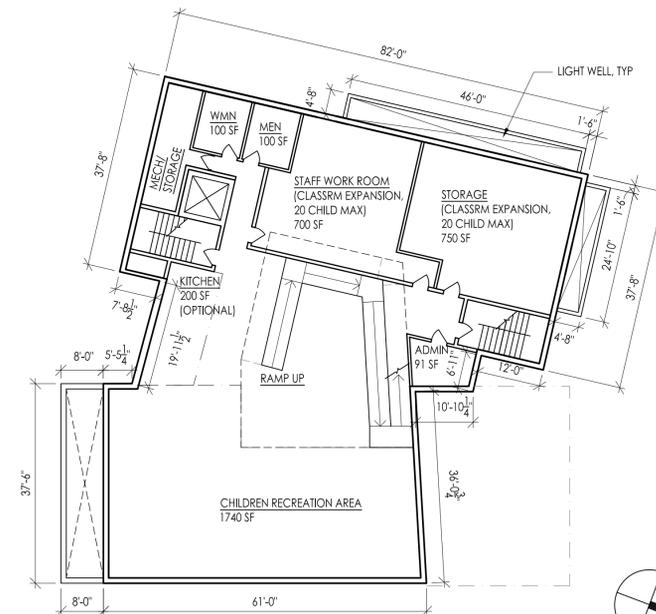
**4 SCHEMATIC ROOF PLAN**  
1/16"=1'-0" (MCA-ARCH/MCA-M)



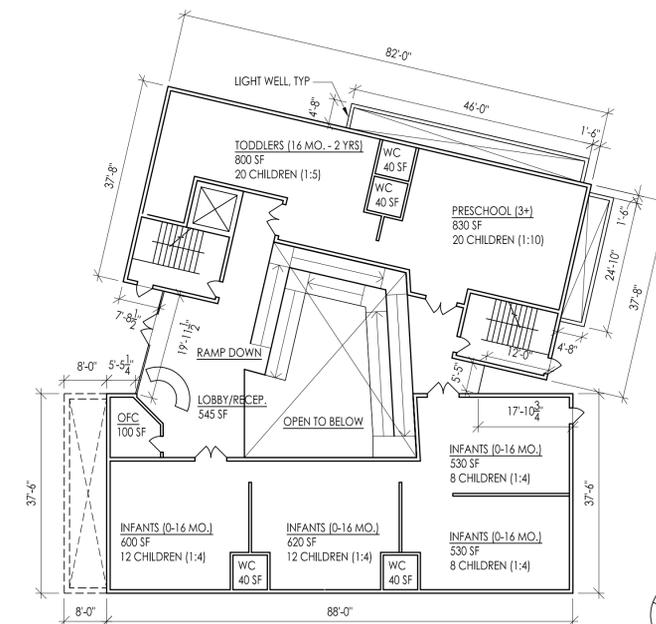
**3 SCHEMATIC SECOND FLOOR PLAN**  
1/16"=1'-0" (MCA-ARCH/MCA-M)



**7 PROPOSED ELEVATION - SOUTH**  
1/8" = 1'-0" (1356/EE02-K)



**2 SCHEMATIC CELLAR FLOOR PLAN**  
1/16"=1'-0" (MCA-ARCH/MCA-M)



**1 SCHEMATIC GROUND LEVEL FLOOR PLAN**  
1/16"=1'-0" (1356/DD PLANS-W)



**6 PROPOSED ELEVATION - EAST**  
1/8" = 1'-0" (1356/EE02-K)

## DESCRIPTION OF THE APPLICATION

The applicant, Morning Star Day Care, has requested the approval of a special exception to establish a child care center at 8628 Woodlawn Court. The Zoning Ordinance allows child care centers in R-2 Districts with the approval of a Special Exception from the Board of Supervisors.

The proposed 14,812 square foot child care center<sup>1</sup> would operate from 6:00am until 11:00pm, Monday through Friday. The applicant's request is to provide child care in two shifts:

- Shift 1: 6:00am - 2:00pm, with a maximum of 120 children
- Shift 2: 3:00pm - 11:00pm, with a maximum of 40 children

According to the statement of justification, parents dropping off their children would pull into parking spaces on site designated for pick-up and drop-off. Parents would be met by a child care employee at the sidewalk in front of the center to receive each child and sign them in. Parents would then return to their vehicle and exit the parking lot. The applicant projects that the average time a parent will be parked is 3 minutes. Parents picking up their children would use an identical process for parking, signing out their children from the sidewalk, and leaving the site. According to the applicant's statement of justification, child care center employees would monitor vehicular ingress/egress during peak pick-up and drop-off periods, roughly corresponding to 6:00am – 9:00am in the mornings and 2:00pm – 5:00pm in the afternoons. The applicant projects that a minimal number of parents would arrive between the two shifts from 2:00pm – 3:00pm for late pick-ups.

The child care center would employ a maximum of 22 teachers, with an average faculty of 19. The center would employ an additional three full-time support staff for a total of 25 employees.

The applicant would provide a total of 32 parking spaces on site. Sidewalks would be constructed along the property's frontage, which would connect to sidewalks to the immediate south scheduled for construction in the near future with an approved hotel. The applicant would provide approximately 9,600 square feet of on-site, outdoor recreation space.

---

<sup>1</sup> Of the proposed 14,812 square feet, 6,122 square feet would be within the cellar of the child care center. A *cellar* is defined by Article 20 of the Zoning Ordinance as "the portion of a building partly underground, having 50% or more than 50% of its clear height below the grade plan."

According to Sect. 3-207 of the Zoning Ordinance, the maximum floor area ratio for a nonresidential building in an R-2 District is 0.20. This equates to a maximum gross floor area of 8,712 square feet for the subject property of this Special Exception application. The applicant is able to propose a child care center that exceeds this maximum because Article 20's definition of *gross floor area* excludes the square footage devoted to cellar space.

The applicant has requested the following modifications:

- A modification of Paragraph 2 of Sect. 9-309 of the Zoning Ordinance to allow a child care center for 160 children along a local street;
- A modification of the transitional screening and barrier requirement along the eastern property boundary which borders Woodlawn Court; and,
- A deviation from the minimum tree preservation target.

Copies of the draft development conditions, the applicant's statement of justification, and the affidavit are included in Appendices 1, 2, and 3, respectively. A reduced copy of the applicant's SE Plat is included at the beginning of this staff report.

## LOCATION AND CHARACTER

The subject property lies approximately 450 feet north of Woodlawn Court's intersection with Richmond Highway. Currently, the property contains a 1,146 square foot single family detached dwelling constructed in 1935. An aerial view of the property and its surroundings are shown below in Figure 1.

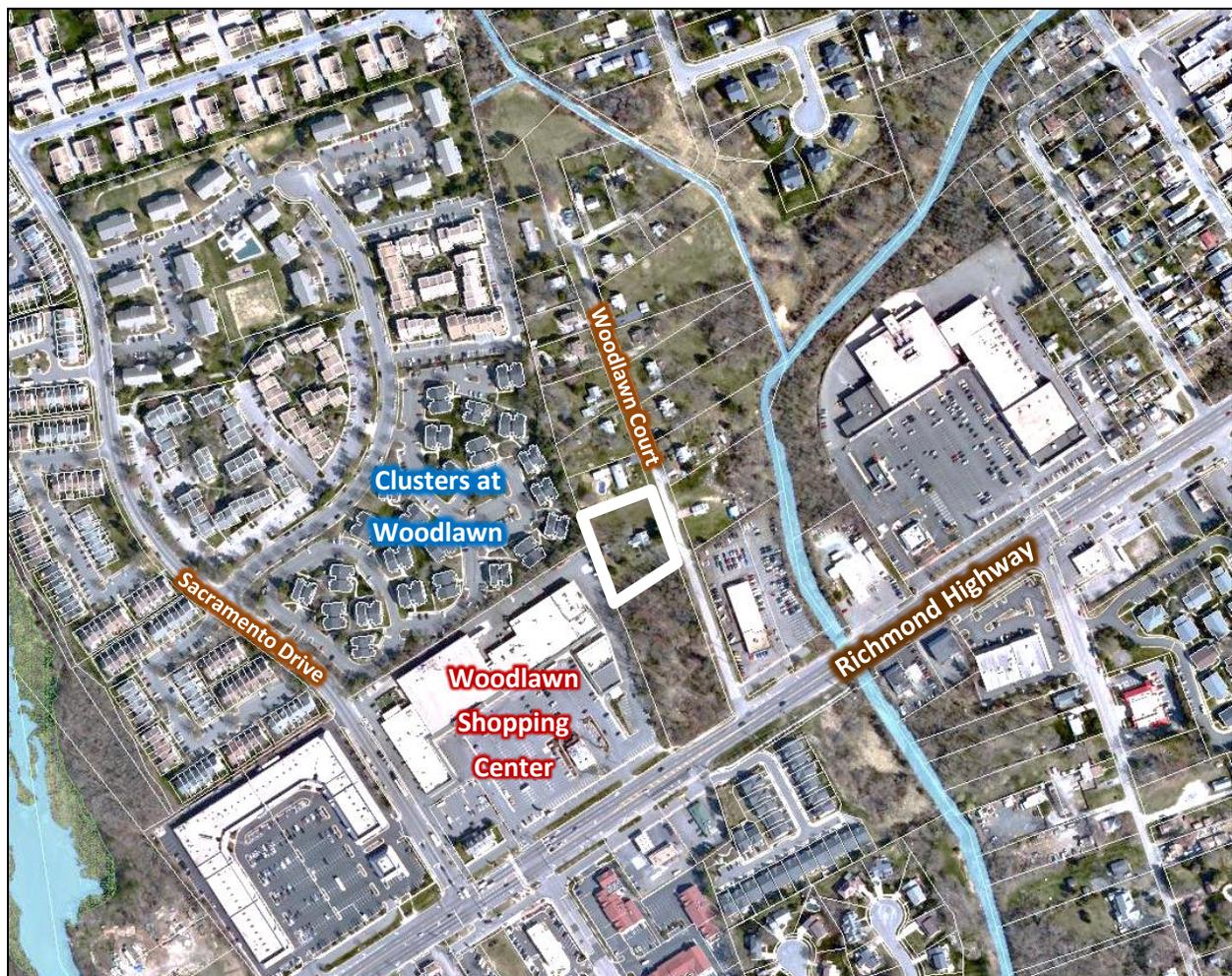


Figure 1: The subject property and surrounding vicinity (Source: Fairfax County DPZ GIS and 2013 aerial photography)

There are 18 single family detached dwellings along Woodlawn Court, all of which were generally constructed from 1935 to 1948. Woodlawn Court terminates in a cul-de-sac, and does not intersect with other roads besides Richmond Highway.

The subject property is bordered by Woodlawn Shopping Center, zoned C-6: Community Retail Commercial District, on its western boundary.

The property is also bordered on the northwestern boundary by the Clusters at Woodlawn community. This neighborhood consists of 192 multifamily residential condominiums zoned R-30: Residential, 30 Dwelling Units Per Acre (Du/Ac).

The subject property is separated from Richmond Highway by a two acre property, Tax Map 101-3 ((1)) 96 zoned C-8: Highway Commercial District. This property is currently being developed as a hotel.

To the east of this hotel site are 8662 Richmond Highway (zoned C-8) and 8670 Richmond Highway (zoned C-6). The two properties have been the location of various vehicles sales, rental and ancillary service establishments.

## **COMPREHENSIVE PLAN PROVISIONS**

Plan Area: Area IV, Mount Vernon Planning District,  
MV8 – Woodlawn Community Planning Sector  
Adjacent to Sub-Unit A-2 in the Woodlawn Community Business Center

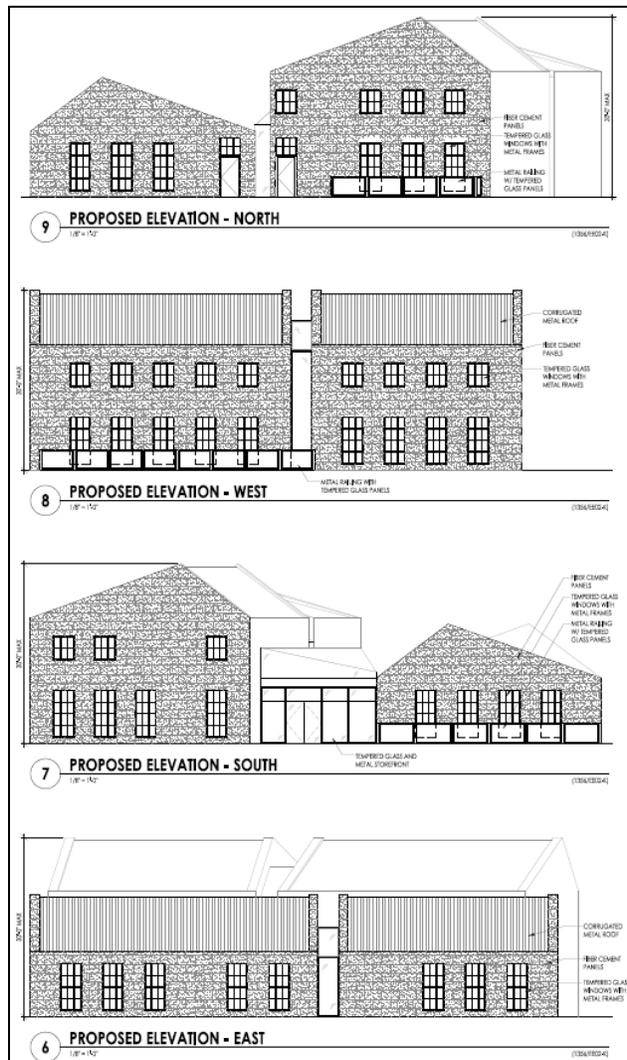
Plan Map: Residential: 2-3 du/ac

There is no site specific text in the Comprehensive Plan for the subject property. However, the Plan provides criteria for locating child care centers. Those guidelines are included in Appendix 4 and discussed as part of the General Special Exception Standards in this report.

## **DESCRIPTION OF THE SPECIAL EXCEPTION PLAT (SE PLAT)**

### **Child Care Center**

New Building: The applicant proposes to demolish the existing dwelling and construct a 30-foot tall, 14,812 square foot child care center. The child care center would have a 6,055 square foot first floor, a 2,635 square foot second floor, and a 6,122 square foot cellar. The proposed building would equate to a 0.20 FAR for the site. Figure 2 shows elevation drawings of the proposed child care center.



**Figure 2: Sheet A1.0 of the SE Plat depicts the proposed child care center from all sides (Source: McAllister Architects, P.C., 6/5/2015)**

Woodlawn Court. The applicant would bring the 24-foot wide internal drive aisle directly to the property boundary with Woodlawn Shopping Center, setting up conditions for a future interparcel access easement with the shopping center to the west.

The applicant proposes 32 vehicular parking spaces and 6 bicycle parking spaces. The applicant would also provide a 5-foot wide sidewalk as part of new curb and gutter along the property's frontage.

The SE Plat indicates that the cellar space would be used for indoor recreation, staff work space, classrooms, and storage. The first floor, where the main entrance is located, would include child care areas for infants, toddlers, and preschool aged children. The first floor would have a ramp down to the cellar space with open views between the two floors. The applicant proposes to use the second floor for administrative functions such as a conference room, a training area, and offices.

**Open Space:** The applicant proposes 9,600 square feet of outdoor recreation area devoted to the child care center use. The majority of this recreation area would be located in the northwestern portion of the site and be evenly split between play areas devoted to toddlers and preschoolers. A smaller outdoor space to the north of the building would be for outdoor interaction between staff and infants. All play areas would be enclosed with either 3½ foot tall chain link fencing or 6 foot tall composite wood fencing.

### Access and Parking

Figure 3 shows the proposed site layout for the subject property. The site would have a single vehicular access point from

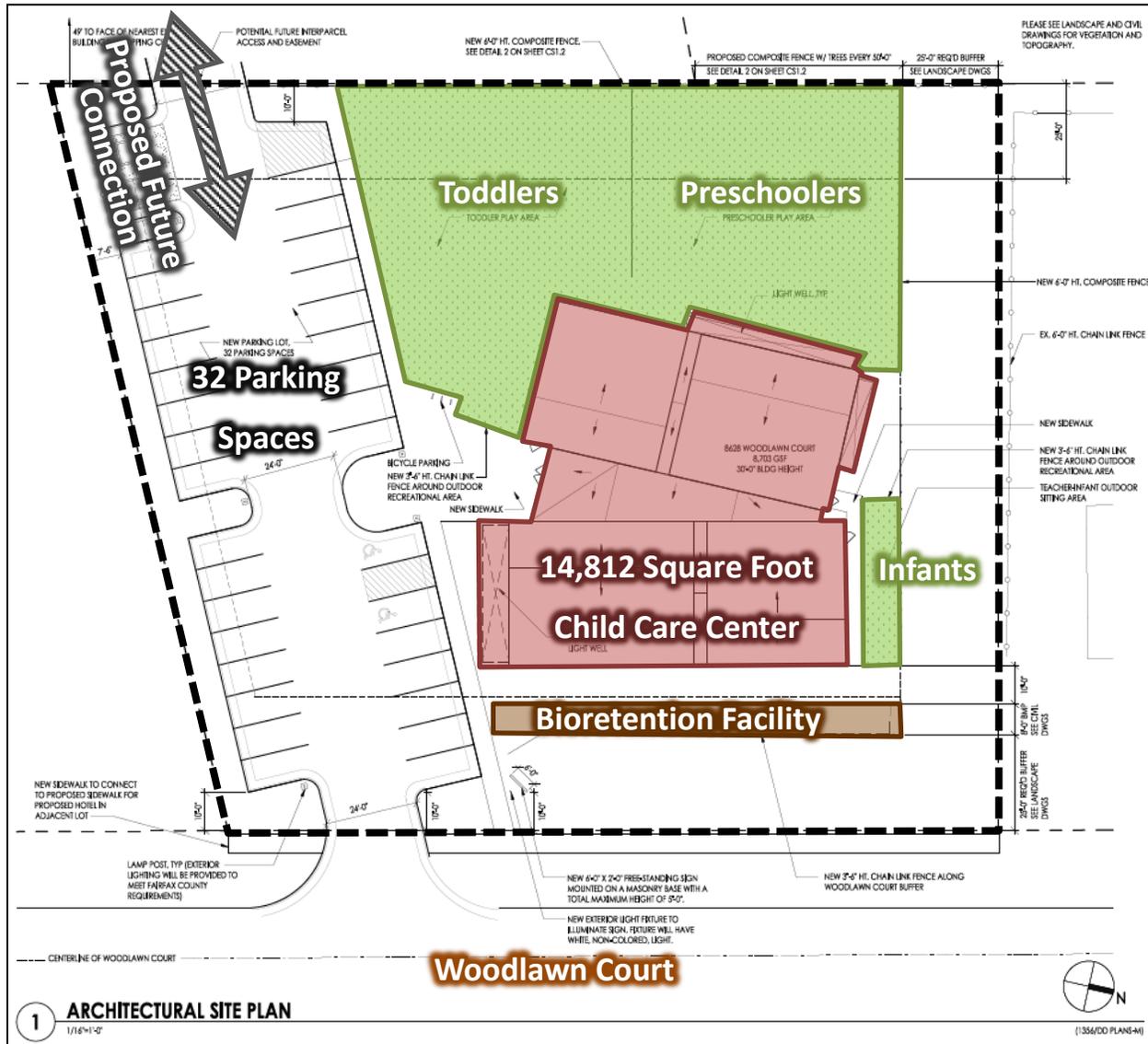


Figure 3: The proposed site layout (Source: McAllister Architects, P.C., 6/5/2015)

### Stormwater Management

The applicant would manage the site’s stormwater by using a combination of porous pavement in the parking lot and by constructing a rain garden between the building and the sidewalk. The porous pavement would cover 12,200 square feet of the parking lot, or about half of the on-site acreage for parking and drive aisles. The applicant’s rain garden would serve as a bioretention feature where approximately two-thirds of the site’s stormwater would be captured during rainy periods. The rain garden would be filled with a combination of sand, soil, compost, and stone and planted with landscaping.

### Landscaping

Of the existing site's 13,100 square feet of tree canopy coverage, the applicant proposes to preserve 1,400 square feet of canopy coverage. This tree save area is located near the property's boundary with Woodlawn Shopping Center.

The applicant's landscape plan proposes 11,668 square feet of new coverage. The majority of the new landscaping would be within the site's 25-foot wide transitional screening yards along the northern and eastern property boundaries. The applicant would plant eight understory trees and four large deciduous trees between the parking lot and the hotel property to the south. The outdoor recreation area would have three Red Sunset Maple trees and three Eastern Redbuds. Figure 4 shows the proposed landscape plan.

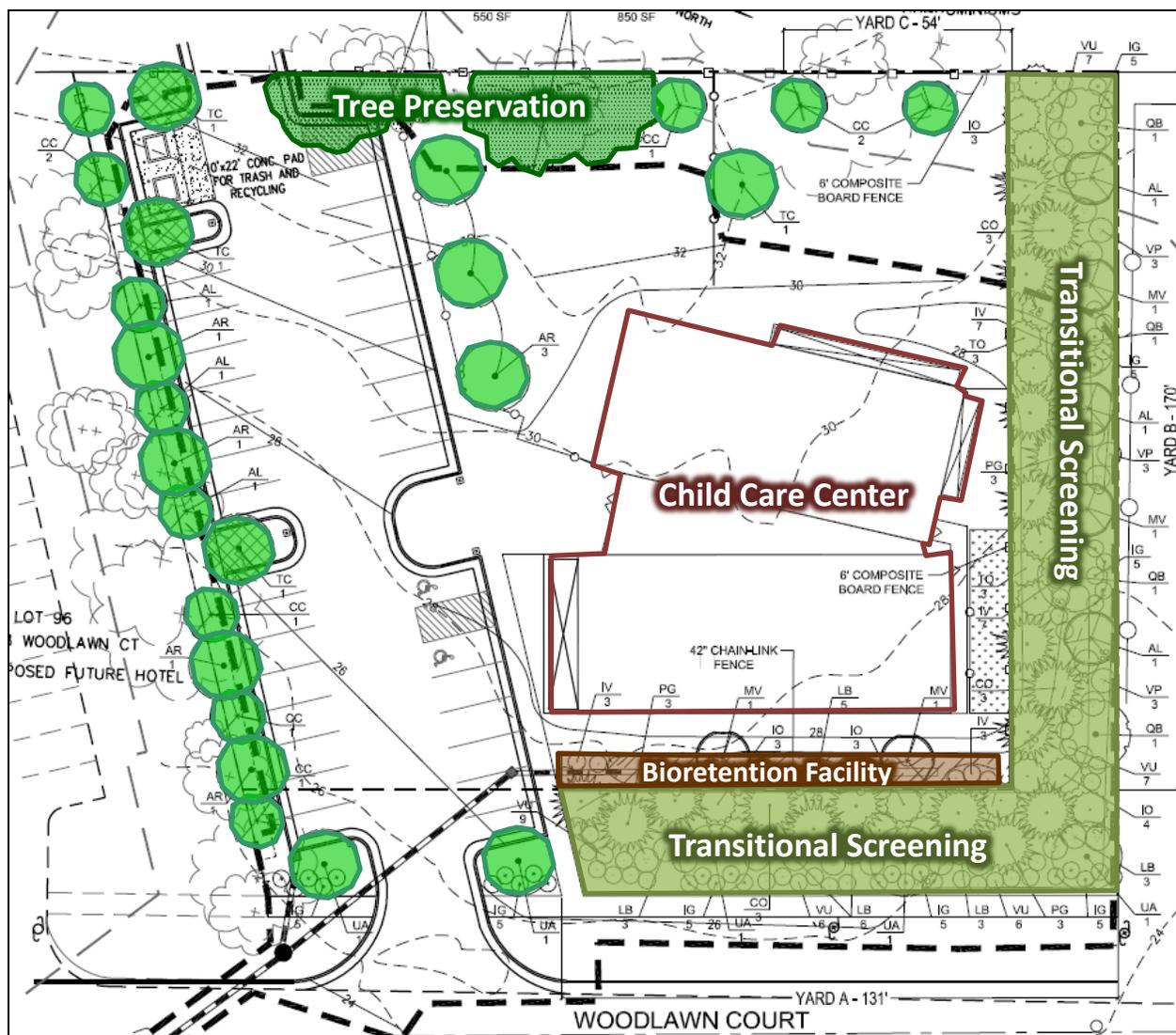


Figure 4: The landscape plan concentrates new landscaping along the northern and eastern property boundaries (Source: Wm. O'Kelly Russell, 7/20/2015)

**ZONING ORDINANCE PROVISIONS** (Appendix 5)**General Special Exception Standards** (Sect. 9-006)

**Standard 1** requires the proposed use to be in harmony with the adopted Comprehensive Plan.

While there are no site specific recommendations for the subject property, Appendix 3 of the Land Use Section of the Comprehensive Plan's Policy Plan provides locational guidelines for child care centers. Specifically, the Policy Plan's Land Use chapter recommends that child care facilities have sufficient open space, be designed as a safe setting, protect children from environmental harm and excessive noise, air pollutants and other environmental factors, have convenient access and appropriate parking areas, and not create excessive impacts on surrounding residences. Child care centers in a Suburban Neighborhood should be located on the periphery of residential developments or in the vicinity of planned community recreation facilities. The Plan also encourages child care centers in employment centers to provide locations convenient to work places.

The SE Plat shows 9,600 square feet of open space, or 22% of the subject property. The applicant's operational plan for picking up and dropping off on site at the center's front sidewalk would not create an unsafe setting for children. The center's location, bordering a residential community and a future hotel, would not subject the children to noise, air pollutants, or other adverse environmental factors. The proposed facility would have safe access from Woodlawn Court, a local street, and parking on-site that exceeds the Zoning Ordinance's requirements. The transitional screening and composite fence, coupled with the reduced enrollment in the evenings, would mitigate the impacts on the nearby residences when most people are at home. The center has a convenient location on the periphery of a commercial district and within a short drive of Fort Belvoir and other businesses along Richmond Highway.

In staff's opinion, the proposed application is in harmony with the adopted Comprehensive Plan.

**Standard 2** requires that the use be in harmony with the general purpose and intent of the applicable zoning district regulations.

The purpose and intent of the R-2 District is to provide for single family detached dwellings at not more than two dwelling units per acre, while allowing other selected uses which are compatible with the low density residential character of the R-2 District. A child care center is a permitted special exception use. The buildings height and architecture is being designed to be compatible with a single family neighborhood. The site has provided for transitional screening and ample open space. The use is located at the edge of the neighborhood adjacent to a proposed hotel. In staff's opinion, the proposed application is in harmony with the general purpose and intent of the applicable R-2 District regulations.

**Standard 3** requires that the proposed use be harmonious with and not adversely affect the use or development of neighboring properties in accordance with the applicable zoning district regulations and the Comprehensive Plan. The features of the proposal, such as the size and height of buildings and structures along with the nature and extent of screening, buffering, and landscaping, may not hinder or discourage the development and use of nearby property or impair its value.

The applicant's proposal would provide transitional screening buffers along the northern and eastern property boundaries, shielding the subject property from direct views by the nearby residences. The property to the south is proposed for development as a hotel.

The proposed structure has been designed by the applicant with a residential scale and architectural features more common with residences as opposed to commercial facilities. The applicant has stepped down the proposed structure with a 1-story, 19-foot tall section that fronts on Woodlawn Court and mirrors the heights of several of the residential structures along Woodlawn Court. The 2-story, 30-foot tall portion of the building is located to the rear of the site and lower in height than the maximum height of 35 feet permitted for a single family dwelling in a R-2 District.

In staff's opinion, the proposed use would be harmonious with and not adversely affect the neighboring properties.

**Standard 4** requires the pedestrian and vehicular traffic associated with the proposed use not be hazardous or conflict with the existing and anticipated traffic in the neighborhood.

The applicant's proposal, which would allow a maximum daily enrollment of 160 children, would add approximately 275 peak hour trips to Woodlawn Court. Woodlawn Court's sole access point is Richmond Highway. There are no vehicular connections to nearby communities. Woodlawn Court's intersection with Richmond Highway does not have a traffic signal to aid motorists with turning movements against traffic. As outlined in the Fairfax County Department of Transportation's analysis in Appendix 6, the increase in traffic for Woodlawn Court associated with the proposed use, coupled with its unsignalized intersection with Richmond Highway, would create traffic problems for the nearby neighborhood.

As part of its review and approval, the applicants for the adjacent hotel property proffered to construct a left-turn lane for northbound traffic on Richmond Highway to access Woodlawn Court. This left-turn lane would have 50 feet of stacking space and a 200 foot taper. At the time of this staff report's writing, the hotel had recently received final site plan approval and had commenced construction.

To provide a second option for access to the subject property, the applicant has pursued an agreement for interparcel access with Woodlawn Shopping Center to the west. The applicant's discussions with the shopping center owner centered around such an agreement needing concurrent review and agreement with the shopping center's

tenants and the shopping center's legal counsel. The applicant indicated that the adjacent property owner was receptive to the applicant's outreach; however, he could not agree to grant interparcel access within the review time of the Special Exception application, but that such a prospect was not impossible after further study.

Staff supports the child care center use at this location, but not at the requested enrollment without the provision of these two transportation improvements. Initially, FCDOT staff recommended a maximum daily enrollment for both Shifts 1 and 2 of 80 children, as opposed to the enrollment requested by the applicant. After further discussion with the applicant to better understand the operational characteristics of the proposed use, staff established consensus with the applicant on a phased approach to the center's enrollment. Staff has proposed a development condition, agreeable to the applicant, which would allow an initial enrollment of 70 children during Shift 1 and 30 children during Shift 2. The applicant would be able to increase to the initially requested enrollment of Shift 1 at 120 children and Shift 2 at 40 children upon demonstration to the Zoning Administrator that both the left-turn lane and the interparcel access have been completed.

With the above conditions, in staff's opinion the proposed use would not be hazardous or conflict with neighborhood traffic.

**Standard 5** gives the Board of Supervisors the authority to require landscaping and screening in accordance with Article 13 of the Zoning Ordinance.

Article 13 of the Zoning Ordinance requires the applicant to provide Transitional Screening Type 1 and Barrier D, E, or F along the northern and eastern property boundaries, as well as Barrier H along a portion of the western boundary. The SEA Plat shows the applicant's proposal to conform to the purpose and intent of the Zoning Ordinance; however, the applicant's landscape plan does not strictly conform to the required specifications. The applicant will need modifications of several provisions to achieve the required conformance. The appropriateness of these modifications is examined in the Modifications and Waivers section of this staff report.

**Standard 6** requires that the applicant provide an amount of open space equal to that required for the particular zoning district.

The R-2 District does not have a minimum open space requirement. However, Section 9-309 of the Zoning Ordinance requires a minimum of 100 square feet of usable outdoor recreation area on site for each child that may use the space at any one time.

The applicant's tabulations on the SE Plat identify a maximum of 80 children that would use the outdoor recreation area at any one time, which would generate a requirement for an 8,000 square feet on-site recreation area. Furthermore, the applicant has indicated in discussions with staff that use of the outdoor recreation area would be limited to the daytime shift only.

The applicant has provided 9,600 square feet of outdoor recreation space in three separate areas based on the age of the enrolled children. This total square footage exceeds the Zoning Ordinance's minimum requirement. Staff has included development conditions that would cap the maximum number of children in the outdoor space at any one time to 70, and to restrict Shift 2 to using the outdoor recreation areas no later than 7:00pm. This restriction would minimize any impacts on nearby residences during evening hours.

With the above condition language, in staff's opinion the proposed use would satisfy this standard.

**Standard 7** requires that adequate utilities, drainage, parking, loading and other necessary facilities to serve the proposed use be provided.

Article 11 of the Zoning Ordinance would require 26 parking spaces for the child care center<sup>2</sup>. The applicant's SE Plat shows 32 parking spaces, which would exceed the Zoning Ordinance requirement.

The applicant indicates in the statement of justification that the child care center would have 22 employees. While the Zoning Ordinance's parking provisions for a child care center do not specifically require a calculation of employees, staff's preference is for the applicant to pursue a shared-parking agreement with Woodlawn Shopping Center to allow employees to park adjacent to the site, which would ensure that the majority of the parking would be devoted to pick up and drop off during peak hours. Staff has included a development condition that would allow the applicant to pursue such an agreement.

In staff's opinion, the applicant's request would have adequate facilities to support the proposed use.

**Standard 8** requires all signs to be regulated by the provisions of Article 12.

For signs located in residential districts for land uses subject to a Special Exception, Article 12 of the Zoning Ordinance limits the site to one freestanding sign and one building-mounted sign. No such sign shall exceed 12 square feet. Freestanding signs shall not exceed 10 feet in height nor be closer than 10 feet to any lot line. Based on feedback from the Zoning Administration Division, the conceptual sign shown in the SE Plat would need to be reduced to meet the above requirements. Staff has included a development condition in Appendix 1 requiring conformance with Article 12.

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<sup>2</sup> Article 11, Sect. 11-106, Par. 2(B) requires 0.16 parking spaces per child for a child care center which has a maximum daily enrollment of 100 or more children. The applicant would be required to provide 26 parking spaces (160 children \* 0.16 spaces per child = 25.6, or 26 spaces)

### Standards for Category 3 Uses (Sect. 9-304)

**Standard 1** requires public uses be in a location necessary for rendering efficient services to residents within the general area of the location. Since the proposed use is not a public use, this standard is not applicable.

**Standard 2** requires that the proposed use comply with the lot size requirements of the zoning district in which located. As demonstrated in Table 1, the applicant's request complies with the lot size requirements for the R-2 District.

| TABLE 1 – BULK STANDARDS FOR R-2 ZONING |  |                                    |
|---|--|------------------------------------|
| Standard                                | Required   | Provided                           |
| Lot Size                                | 18,000 square feet minimum   | 43,560 square feet                 |
| Lot Width                               | Interior Lot – 100 feet minimum<br>Corner Lot – 125 feet minimum   | 200.77 feet                        |
| Building Height                         | 60 feet maximum  | 30 feet maximum                    |
| Front Yard                              | Controlled by a 45° angle of bulk plane, but not less than 35 feet | 43 feet                            |
| Rear Yard                               | Controlled by a 40° angle of bulk plane, but not less than 25 feet | 56.4 feet                          |
| Side Yard                               | Controlled by a 40° angle of bulk plane, but not less than 15 feet | 36 feet (North)<br>92 feet (South) |
| Floor Area Ratio                        | 0.20 maximum   | 0.20                               |

**Standard 3** requires compliance with the bulk regulations of the zoning district in which located. As demonstrated in Table 1, the applicant's request would meet the R-2 District requirements for building height, FAR and minimum required yards.

**Standard 4** requires that the proposed use comply with the Zoning Ordinance's performance standards specified for the zoning district in which located. The applicant's proposal would be subject to the performance standards listed in Article 14.

**Standard 5** requires that the applicant adhere to the provisions in Article 17 of the Zoning Ordinance prior to establishment of the use. The applicant would need site plan and building permit approval from the Department of Public Works and Environmental Services (DPWES) prior to the issuance of a Non-Residential Use Permit (Non-RUP) for the proposed use.

**Standards for Child Care Centers (Sect. 9-309)**

**Standard 1** requires a minimum of 100 square feet of usable outdoor recreation area on site for each child that may use the space at any one time. As discussed previously, the applicants have provided 9,600 square feet of outdoor recreation area in the site's rear yard, which would accommodate 96 children at any one time. However, staff has proposed a development condition that would limit the maximum number of children in the outdoor play area at any one time to 70 children.

**Standard 2** requires child care centers to have to an existing or programmed public street of sufficient right-of-way and cross-section width to accommodate pedestrian and vehicular traffic to and from the center. The applicant has requested a modification of this provision, and the staff analysis on the modification's appropriateness is discussed in the Modifications and Waiver section of this report.

**Standard 3** requires child care centers to be located so as to permit the pick-up and delivery of all persons to the site. The applicants would have pick-up and drop-off of children in the 32 space parking lot, which exceeds the Zoning Ordinance's minimum requirement and adequately functions with the applicants' system of staggered pick-up and drop-off.

**Standard 4** references the regulations in the Fairfax County Code and the Code of Virginia that govern the child care administered at child care centers. The applicant would be subject to these provisions.

In staff's opinion, the applicant's request satisfies all of the applicable Zoning Ordinance provisions.

**Highway Corridor Overlay District (Sect. 7-600)**

The subject property is located in a Highway Corridor Overlay District. The Zoning Ordinance provides additional use limitations for drive-in financial institutions, fast food restaurants, quick-service food stores, service stations, and service station/mini-marts located in this overlay district. Since the applicant's proposal is for a child care center, the district's use limitations are not applicable.

**MODIFICATIONS AND WAIVERS****Additional Standards for a Child Care Center**

Paragraph 2 of Sect. 9-309 gives general guidelines for the appropriate size of a child care center or nursery school in relation to the street type along which the center is to be located. Per the Zoning Ordinance, a child care center with 76-660 children should be located on a collector street.

Although Woodlawn Court is a local street, the subject property's close proximity to Richmond Highway would reduce traffic impacts on the Woodlawn Court residences. As previously discussed, staff has recommended a development condition to limit the child care center's enrollment to 100 children until Richmond Highway has a northbound left turn lane at its Woodlawn Court intersection and until the site has achieved interparcel access with Woodlawn Shopping Center. This maximum enrollment would be split between a Shift 1 of 70 children and a Shift 2 of 30 children. With the approval of this condition, staff supports the location of the child care center on Woodlawn Court.

### **Deviation from tree preservation target**

To comply with the Fairfax County Code's tree canopy requirements, the applicant must provide tree canopy coverage equivalent to 30% of the site. The 30% coverage is based on the canopy assumed after 10 years of tree growth. The applicant is required to provide 13,068 square feet of tree canopy coverage. This includes a required minimum of 3,921 square feet of preserved tree save area, or 30% of the 13,068 square foot minimum.

The applicant's request is to modify this preservation target from 30% to 10.7% as shown on the SE Plat. This would be achieved with the preservation of several trees along the western property boundary shared with Woodlawn Shopping Center. In total, the applicant would retain 1,400 square feet of tree canopy. The applicant contends on Sheet L5.0 that the tree preservation target could not be met due to the combination of poor tree specimens on site and the central location of site's high quality trees within the limits of clearing and grading. UFMD staff did not oppose the applicant's request for a deviation from the tree preservation target in their enclosed memo (Appendix 7).

### **Transitional screening and barrier requirements**

Section 13-302 of the Zoning Ordinance requires an applicant to provide transitional screening and barriers between dissimilar land uses as indicated in the Transitional Screening and Barrier Matrix at the end of Article 13. For child care centers, Article 13 requires screening and barriers as indicated in Table 2.

On Sheet L4 of the SE Plat, the applicant has requested a modification of Article 13's screening and barrier requirements for the eastern property boundary. The eastern boundary borders Woodlawn Court and is the vehicular access point into the site. In lieu of providing the full transitional screening and barrier, the applicant has provided a 25-foot wide screening buffer and a 42-inch tall chain link fence along a portion of the property boundary. These dimensions correspond with the required dimensions prescribed in Article 13 of the Zoning Ordinance.

The applicant supports the waiver and modification request with Par. 12 of Sect. 13-305, which gives the Board the ability to waive or modify the barrier requirements when the topography of the lot a providing the transitional screening and the lot being protected is such that a barrier would not be effective. The subject property

is relatively flat; alternatively, the request is best supported by Par. 3, which states that transitional screening may be waived or modified where the building, a barrier and/or the land between that building and the property line has been specifically designed to minimize adverse impact through a combination of architectural and landscaping techniques. The reduced height of the building section closest to Woodlawn Court, coupled with the screening and barrier provided, would result in a site design that is in accordance with the purpose and intent of the transitional screening and barriers section of the Zoning Ordinance.

| <b>Table 2 - Transitional Screening and Barrier Requirement</b> |   |  |  |
|---|---|--|--|
| <b>Location</b>   | <b>Adj. Land Use</b>                      | <b>Required</b>  | <b>Proposed</b>  |
| North   | Single family detached dwelling           | Transitional Screening Type 1 (Footnote 3 below)<br>Barrier D, E or F (Footnote 4 below) | 25-foot wide landscaped buffer with a 42-inch high chain link fence  |
| East  | Single family detached dwelling           | Transitional Screening Type 1; Barrier D, E or F   | 25-foot wide landscaped buffer with a 42-inch high chain link fence along a portion of property frontage     |
| South   | Hotel                                     | None   | 8 understory trees and 8 large deciduous trees between the parking lot and the adjacent property line        |
| West  | Multifamily dwellings and shopping center | Barrier H (Multifamily only; Footnote 5 below)   | 6-foot high composite board-on-board fence; 3 understory trees and 1 large deciduous tree 30 feet apart each |

**3** Transitional Screening 1 shall consist of an unbroken strip of open space a minimum of twenty-five (25) feet wide planted with all of the following:

- (1) A mixture of large and medium evergreen trees and large deciduous trees that achieves a minimum ten (10) year tree canopy of seventy-five (75) percent or greater;
- (2) A mixture of trees consisting of at least seventy (70) percent evergreen trees, and consisting of no more than thirty-five (35) percent of any single species of evergreen or deciduous tree; and,
- (3) A mixture of predominately medium evergreen shrubs at a rate of three (3) shrubs for every ten (10) linear feet for the length of the transition yard area. The shrubs shall generally be located away from the barrier and staggered along the outer boundary of the transition yard.

**4** Barrier D shall consist of a 42-48 inch chain link fence and may be required by the Director to have inserts in the fence fabric, to be coated, or to be supplemented by trees and/or shrubs.

Barrier E shall consist of a 6 foot wall, brick or architectural block faced on the side facing the existing use and may be required to be so faced on both sides as determined by the Director.

Barrier F shall consist of a 6 foot high solid wood or otherwise architecturally solid fence.

**5** Barrier H shall consist of one row of 6-foot trees averaging 50 feet on centers, such trees being a variety of types. This requirement may be omitted in cases where the building is 6 feet or less from the property line.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Staff Conclusions**

The applicant's request to establish a child care center at this location would be for a compatible use that would provide the surrounding residential communities with a child care option to serve the needs of nearby workers during both customary business hours and nontraditional evening hours. The proposed development conditions would ensure that the necessary transportation infrastructure would be completed to serve the proposed use and mitigate the traffic impacts on the nearby residences. Staff considers the proposal to be in conformance with the Comprehensive Plan and all applicable provisions of the Zoning Ordinance.

### **Recommendations**

Staff recommends approval of SE 2014-MV-058, subject to the proposed conditions contained in Appendix 1.

Staff recommends approval of a waiver of Par. 2 of Sect. 9-309 of the Zoning Ordinance to permit a child care center for 160 children to be located along a local street.

Staff recommends approval of a modification of the transitional screening and barrier requirements along the eastern property boundary in favor of that shown on the SE Plat.

Staff recommends approval of a deviation from the required tree preservation target of 30% to 10.7% as shown on the SE Plat.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any conditions proffered by the owner, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this application does not interfere with, abrogate or annul any easements, covenants, or other agreements between parties, as they may apply to the property subject to this application.

## **APPENDICES**

1. Proposed Development Conditions
2. Affidavit
3. Applicant's Statement of Justification
4. Child Care Center Criteria from the Comprehensive Plan

5. Zoning Ordinance Provisions
6. Fairfax County Department of Transportation Analysis
7. Urban Forest Management Division Analysis
8. Glossary of Terms

**PROPOSED DEVELOPMENT CONDITIONS****SE 2014-MV-058****September 17, 2015**

If it is the intent of the Board of Supervisors to approve SE 2014-MV-058 located at 8628 Woodlawn Court (101-3 ((1)) 95), to permit a child care center pursuant to Sect. 3-204 of the Fairfax County Zoning Ordinance, staff recommends that the Board condition the approval by requiring conformance with the following development conditions:

1. This Special Exception Amendment is granted for and runs with the land indicated in this application and is not transferable to other land.
2. This Special Exception Amendment is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.
3. This Special Exception is subject to the provisions of Article 17, Site Plans, as may be determined by the Director, Department of Public Works and Environmental Services (DPWES). Any plan submitted pursuant to this special exception shall be in substantial conformance with the approved Special Exception Plat entitled "Special Exception Plat – 8628 Woodlawn Court – Alexandria, VA 22309" prepared by McAllister Architects, P.C., Suburban Development Engineering, Inc., and Wm. O'Kelly Russell, RLA, which is dated January 17, 2014 as revised through August 6, 2015, and these conditions. Minor modifications to the approved Special Exception Amendment may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.
4. A copy of this Special Exception and the Non-Residential Use Permit (Non-RUP) shall be posted in a conspicuous place on the property of the use and be made available to all departments of the County of Fairfax during the hours of operation for the permitted use.
5. The hours of operation for the child care center shall be 6:00am to 11:00pm, Monday through Friday. Staff members may be present prior to or after these hours of operation. Child care services shall only be provided within the following two shifts:
  - a. Shift 1: 6:00am to 2:00pm
  - b. Shift 2: 3:00pm to 11:00pm
6. The maximum daily enrollment shall be 100 children. Enrollment shall be allotted to the two shifts in the following manner:

- a. Shift 1: Maximum of 70 children
- b. Shift 2: Maximum of 30 children

The applicant may accommodate late pickup for Shift 1 or early arrival for Shift 2. The applicant shall be limited to a maximum of 20 children between Shift 1 and Shift 2.

7. The applicant may increase the maximum daily enrollment to 160 children upon demonstration to the satisfaction of the Zoning Administrator that the transportation improvements outlined below have been completed:
  - a. Construction of a left-turn lane for northbound traffic on Richmond Highway at Richmond Highway's intersection with Woodlawn Court as depicted on the Generalized Development Plan for PCA 2012-MV-002; and,
  - b. Demonstrate that the applicant has recorded an interparcel access agreement with the adjacent property owner of Woodlawn Shopping Center (Tax Map 109-2 ((1)) 24), and construction of the interparcel access.

The increased enrollment shall be allotted with a maximum of 120 children for Shift 1, and a maximum of 40 children for Shift 2. The applicant may continue to accommodate late pickup for Shift 1 or early arrival for Shift 2. The applicant shall be limited to a maximum of 20 children between Shift 1 and Shift 2.

8. Outdoor recreation shall not be permitted before 9:00am and after 7:00pm.
9. The applicant shall limit the use of the outdoor recreation area to a maximum of 70 children at any one time.
10. Loading and unloading of children shall only occur on site. The applicant shall stagger loading and unloading during the peak hours of 6:00am-9:00am, 2:00pm-5:00pm, and 9:30pm-11:00pm. To reduce loading and unloading times for parents and to create parking turnover on site, employees of the child care center shall meet parents at the sidewalk in front of the center and bring the children into the child care center.
11. Parking for all uses shall occur on-site and will be limited to the parking areas shown on the Special Exception Plat. The applicants may supplement the on-site parking by utilizing off-site parking facilities. Such facilities may be used for, but shall not be limited to, supplemental parking for employees. The use of an off-site parking facility shall conform to Article 11 of the Zoning Ordinance.
12. Notwithstanding the prospective sign detail shown on Sheet A1.0, all signs shall comply with the provisions of Article 12 of the Zoning Ordinance.
13. Prior to the issuance of a Non-RUP, the proposed sidewalk, curb, and gutter

shown along the property's Woodlawn Court frontage shall be completed.

The above proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining the required Non-Residential Use Permit through established procedures, and this Special Exception shall not be valid until this has been accomplished.

Pursuant to Section 9-015 of the Zoning Ordinance, this special exception shall automatically expire, without notice, thirty (30) months after the date of approval unless the use has been established through the issuance of a Non-Residential Use Permit (Non-RUP). The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the special exception. The request must specify the amount of additional time requested, the basis for the amount of time requested and an explanation of why additional time is required.

## STATEMENT OF JUSTIFICATION

Morning Star Child Day Care Center  
8628 Woodlawn Ct. Fairfax County, VA

(modified November 26, 2014)

(modified February 19, 2015)

(modified March 5, 2015)

(modified September 11, 2015)

Tax Map No.: 1013010095

Zoning District: R-2

Magisterial District: Mount Vernon

### A. TYPE OF OPERATION

Elizabeth Appiah is a Fairfax County, Virginia business woman who currently owns a child day care facility in the County that serves 10 to 12 children. Her existing business program was designed to accommodate parents who work a regular 8 hour day in the morning and afternoon, but also includes a second programmed period to accommodate parents who work the “second shift” between 3:00 PM and 11:00 PM. With the increasing demand for child day care programs of this type, Ms. Appiah has purchased property and will develop a new child day care facility programmed to meet the growing child care demand, and in particular those parents who work a second shift and find it extremely difficult to find consistent and quality child care. Ms. Appiah has purchased a one acre parcel located one parcel off US 1 Richmond Highway at 8628 Woodlawn Court in Fairfax County.

### B. HOURS OF OPERATION and USER PROCESSING

#### Hours of Operation

Patrons of the new facility will begin user check in processing at 6:00 AM. There will be two 8 hour Child Care Periods of operation daily, Monday through Friday.

Child Care Period One (1) 6:00 AM – 2:00 PM

Child Care Period Two (2) 3:00 PM – 11:00 PM

#### Daily Drop Off User Processing Procedures

The loading and unloading of children shall only occur on site. To minimize confusion and promote drop off/pick up order and efficiency during the daily individual Child Care Period schedules, the day care shall stagger loading and unloading during the peak hours of 6:00 AM to 9:00 AM, 2:00 PM to 5:00 PM, and 9:30 PM to 11:00 PM. Parents will be given an orientation as part of the initial registration process. Emphasis will be placed on child safety during the busy vehicular interaction during drop off/pick up periods.

Typically, parents will pull into one of the parking spaces designated for drop-off and pick-up. The average time from vehicle through processing and back to vehicle is about 3 minutes, of which about 2 minutes is for the required sign in or out. To reduce loading and unloading times for parents and to create parking turnover on site, employees of the child care center shall meet parents at the sidewalk in front of the center to receive each child for sign in then bring the children into the center. Staff will be assigned to monitor user ingress and egress during these peak periods to keep vehicular traffic flowing to avoid queuing issues.

#### Daily Pick Up User Processing Procedures

When children are picked up, the process essentially reverses itself. The child is picked up at the sidewalk station where parents are required to sign out. The turn around time for pick up from the center and back to vehicle is similar to that for the drop off.

#### Late Pick Ups

On a daily basis, inevitably, some parents are late for pick up and for various reasons. All day cares experience this and charge an hourly fee for providing child care services until the parent arrives. Late pick ups are projected to average about 10% on a daily basis.

#### General and Patrons Parking

The building maximum capacity is 120 children. However, zoning requires parking provisions for the 24 hour program maximum capacity of 160 children, resulting in 26 required parking spaces to accommodate patrons and staff. The Morning Star site plan provides 32 parking spaces, 20% more than zoning requires. Federal child care guidelines recommend that minimum local code parking requirements not be exceeded.

For patrons, designated parking close to the main entry will be posted and shown on the facility's site plan. Staff parking will be located at the far end of the parking lot and likewise posted and shown on the site plan. Planning guidelines recommend teacher and support staff parking provided be at 80% of the average daily aggregate staff number. The balance of teachers and staff would preferably use public transportation, car pooling and biking as sustainable commuting alternatives.

#### C. PROJECTED NUMBER OF CHILDREN

The child loading matrix below provides the numbers for the day care center's maximum occupancy, average projected occupancy, and totals by Child Care Period reflected as a percentage of allowable or maximum child occupancy.

MAXIMUM BUILDING CAPACITY – 120 Children

CARE PERIOD ONE - 102 Children Average, with a Maximum of 120 Children

CARE PERIOD TWO - 34 Children Average, with a Maximum of 40 Children\*

**MORNING STAR CHILD DAY CARE**

**Child Occupancy and Loading Levels by Period**

| Operating Periods/Hours              | Max. Occupancy |             | Average Occupancy* |            | Total Av. By Period |             |
|--------------------------------------|----------------|-------------|--------------------|------------|---------------------|-------------|
|                                      | Children       | % of Allow. | Children           | % of Max.  | Children            | % of Allow. |
| <b>Child Care Period One</b>         |                |             |                    |            |                     |             |
| Operating Hours 6 AM to 2 PM         |                |             |                    |            |                     |             |
| <u>AM Drop Offs Breakdown</u>        |                |             |                    |            |                     |             |
| 6 AM to 7 AM                         | 78             | 65%         | 66                 | 85%        | 66                  |             |
| 7 AM to 9 AM                         | 42             | 35%         | 36                 | 86%        | 102                 |             |
| <b>Totals for AM Drop Off Period</b> | <b>120</b>     | <b>100%</b> | <b>102</b>         | <b>85%</b> | <b>102</b>          | <b>85%</b>  |
| <u>PM Pick Ups Breakdown</u>         |                |             |                    |            |                     |             |
| 2 PM to 3 PM                         | 108            | 90%         | 92                 | 85%        | 92                  |             |
| 2 PM to 4 PM - late pick ups**       | 12             | 10%         | 10                 | 85%        | 10                  |             |
| <b>Totals for PM Pick Up Period</b>  | <b>120</b>     | <b>100%</b> | <b>102</b>         | <b>85%</b> | <b>102</b>          | <b>85%</b>  |
| <b>Child Care Period Two***</b>      |                |             |                    |            |                     |             |
| Operating Hours 3 PM to 11 PM        |                |             |                    |            |                     |             |
| <u>PM Drop Offs Breakdown</u>        |                |             |                    |            |                     |             |
| 3 PM to 4 PM                         | 28             | 70%         | 24                 | 85%        | 24                  |             |
| 4 PM to 5 PM                         | 12             | 30%         | 10                 | 85%        | 10                  |             |
| <b>Totals for PM Drop Off Period</b> | <b>40</b>      | <b>110%</b> | <b>34</b>          | <b>85%</b> | <b>34</b>           | <b>85%</b>  |
| <u>PM Pick Ups Breakdown</u>         |                |             |                    |            |                     |             |
| 9:30 PM to 10:30 PM                  | 36             | 90%         | 31                 | 85%        | 31                  |             |
| 10:30 PM to 11:00 PM                 | 4              | 10%         | 3                  | 85%        | 3                   |             |
| late pick ups & staff closing        |                |             |                    |            |                     |             |
| <b>Totals for PM Pick Up Period</b>  | <b>36</b>      | <b>100%</b> | <b>31</b>          | <b>85%</b> | <b>31</b>           | <b>85%</b>  |

\* Programming guidelines for child care facilities note, A completely full building will be extremely rare due to illness,

family vacations and other unexpected family events. This loading matrix assumes daily average occupancy of 85%.

\*\* Late pick ups are normal and are charged an hourly fee.

\*\*\* Child Care Period Two includes after school care, providing homework, indoor play time and dinner.

Note: Programming guidelines recommend parking capacity not exceed minimum local zoning requirements.

Note: The average time for loading and unloading (parking time) is about 6 minutes, of which about half is sign in or out.

Note: Programming guidelines recommend staff parking should be provided for 80% of staff, with the remainder using public transportation, car pooling and bicycle to minimize dependence on conventional automobiles.

Note: Programming guidelines recommend staff parking be located as close to facility as possible for security reasons, particularly during winter months and 2nd shift hours.

## OUTDOOR RECREATION

Outdoor recreation areas are provided and designated based on child ages. The outdoor recreation shall not be permitted before 9:00 AM and after 7:00 PM.

### D. PROJECTED NUMBER OF TEACHERS/SUPPORT PERSONNEL

The number of program teachers will directly reflect the average number of enrolled children. Similar to the children, the average number of teachers on a daily basis will be about 85% of maximum.

Maximum Facility Occupancy 120 Children

Maximum No. of Teachers is 22                      Projected Average No. of Teachers is 19  
Maximum No. of FTE Support Personnel 3

### E. TRAFFIC IMPACT PROJECTION

Based on 1 or 2 children per vehicle at maximum occupancy

AM Peak Hour 6:00 to 9:00 AM

|                                   |                        |                    |
|-----------------------------------|------------------------|--------------------|
| 35% SHIFT ONE (120 Children max.) | 2 Children per Vehicle | - 21 Vehicle Trips |
| 65% SHIFT ONE (120 Children max.) | 1 Child per Vehicle    | - 78 Vehicle Trips |
| Staff/Visitors                    |                        | - 23 Vehicle Trips |

PM Peak Hour 2:00 to 5:00 PM

|                                   |                        |                    |
|-----------------------------------|------------------------|--------------------|
| 35% SHIFT ONE (120 Children max.) | 2 Children per Vehicle | - 21 Vehicle Trips |
| 65% SHIFT ONE (120 Children max.) | 1 Child per Vehicle    | - 78 Vehicle Trips |
| Staff/Visitors                    |                        | - 15 Vehicle Trips |

PM Non-Peak Hour 9:30 to 10:30 PM

|                                  |                        |                    |
|----------------------------------|------------------------|--------------------|
| 45% SHIFT TWO (40 Children max.) | 2 Children per Vehicle | - 9 Vehicle Trips  |
| 55% SHIFT TWO (40 Children max.) | 1 Child per Vehicle    | - 22 Vehicle Trips |
| Staff/Visitors                   |                        | - 8 Vehicle Trips  |

|  |            |
|--|------------|
| Total Daily Peak Hour Vehicle Trips        | 236        |
| Total Daily Non-Peak Hour Vehicle Trips    | 39         |
| <u>Total Daily One Way Vehicular Trips</u> | <u>275</u> |

#### Potential Inter Parcel Connectivity

The day care development has sought to reduce its traffic impact by seeking inter parcel connectivity with the adjoining shopping center, which could allow for access to the nearby traffic light. Discussions with the shopping center owner to date have not yet resulted in a mutual understanding, however, those discussions will continue as planning moves forward.

In the interim, the day care site plan will provide for the connection showing a two way traffic entry labeled as “future inter parcel connection”. In addition, the day care owner will agree to a reduced number of children served daily on an interim basis. Determination of the interim patronage reduction will be resolved through further discussions with the county’s planning staff, with the critical understanding that the reduced daily maximum number of children must still be at a level to assure the economic viability of the day care program.

#### F. VICINITY or GENERAL AREA to be SERVED

##### South Fairfax County

Within the large geographical South County area, there is a large multi-cultural demand for quality child day care, particularly by working class families. The facility’s program will focus on this demand as well as other market segments.

##### Richmond Highway/Rt.1 Revitalization Corridor Area

With the Rt.1 corridor revitalization currently underway, new commercial and residential development will be a target market for the new day care. Numerous new employment centers will increase the need for more child care services.

##### Existing Higher Density Residential

Abutting the day care’s west property line, existing higher density residential developments will have easy and convenient access to the new day care, and will be another market source.

##### Ft Belvoir Military Base

One significant advantage of the site’s location is its proximity to the Ft. Belvoir military base reservation. The base is part of the military’s BRAC program and will add a large number of additional military and civilian personnel. Much of the base’s operation, especially its new sprawling hospital complex, operates around

the clock. The new child care facility will be poised to service the base's many employees in need of nearby convenient child care.

## G. DESCRIPTION OF BUILDING ARCHITECTURE

### Architectural Narrative – Morning Star Children's Daycare

The site for the Morning Star Day Care facility is uniquely located between a bustling commercial corridor on one property line and a single-family residential neighborhood on the opposite property line. The architect's design response was to recognize and give consideration to both uses. In response, the form and character of the building reflects some simple commercial exterior materials, while the volume reflects simple house forms, with the 1-story wing closest to the street more in scale with the neighboring single story ranch homes and the 2-story wing set behind where the impact is minimal. In general, while the building is one volume, the massing has been broken down into smaller scale elements that give it a more residential feel. Building materials will include cementitious panels as the dominant exterior cladding material and shingled roofing with a bit of color. The punched window fenestrations will be aluminum-framed insulated clear glass. These materials, combined with the simple house shapes, angled roofs, and playful colors, results in a building that is welcoming to families and contextual with the neighborhood without overpowering the residential portion of this small community.

The building interior is designed as a space for children to play, learn, discover, and share. As you enter into the building, a reception area opens up to a dramatic 2-story atrium space that forms the heart of the day care center. The atrium showers the building with natural light, provides visual communication amongst the different classrooms, and frames a gentle playful ramp leading down to a large indoor recreation area. Soft textures, bright colors, and ample access to natural light and air define the interiors and contribute to a welcoming feel. To the rear of the building, a generous green space provides opportunity for outdoor recreation and exercise, with the potential for defining specific areas for the different age groups.

## H. HAZARDOUS or TOXIC SUBSTANCES

No hazardous or toxic substances were found to exist on the site.

## I. USE CONFIRMATION WITH ALL APPLICABLE ZONING ORDINANCES

See Statement of Confirmation, Attachment A, on following page

**SPECIAL EXCEPTION AFFIDAVIT**

DATE: September 22, 2014  
 (enter date affidavit is notarized)

I, A. Gene Edgecombe, do hereby state that I am an  
 (enter name of applicant or authorized agent)

(check one)         applicant  
                           applicant's authorized agent listed in Par. 1(a) below

in Application No.(s): SE 2014-MV-058 126808  
 (enter County-assigned application number(s), e.g. SE 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS, and LESSEES** of the land described in the application,\* and, if any of the foregoing is a **TRUSTEE,\*\*** each **BENEFICIARY** of such trust, and all **ATTORNEYS and REAL ESTATE BROKERS**, and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

**(NOTE:** All relationships to the application listed above in **BOLD** print are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

| <b>NAME</b><br>(enter first name, middle initial, and last name) | <b>ADDRESS</b><br>(enter number, street, city, state, and zip code) | <b>RELATIONSHIP(S)</b><br>(enter applicable relationships listed in <b>BOLD</b> above) |
|--|---|--|
| Elizabeth B. Appiah  | 3349 Beechcliff Dr<br>Alexandria, VA 22306                          | Owner  |
| Morning Star Day Care, LLC                                       | 3349 Beechcliff Dr<br>Alexandria, VA 22306                          | Applicant  |
| A. Gene Edgecombe<br>VMS, LLC Developers, LLC                    | 5579 Harrington Falls Lane Suite 1055<br>Alexandria, VA 22312       | Agent  |

(check if applicable)         There are more relationships to be listed and Par. 1(a) is continued on a "Special Exception Attachment to Par. 1(a)" form.

\* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.  
 \*\* List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

CAB

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 22, 2014
(enter date affidavit is notarized)

for Application No. (s): SE 2014-MV-058
(enter County-assigned application number(s))

126808

1(b). The following constitutes a listing\*\*\* of the SHAREHOLDERS of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders:

(NOTE: Include SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES, and REAL ESTATE INVESTMENT TRUSTS herein.)

CORPORATION INFORMATION

NAME & ADDRESS OF CORPORATION: (enter complete name and number, street, city, state, and zip code)

Morning Star Day Care, LLC
3349 Beechcliff Drive
Alexandria, VA 22306

DESCRIPTION OF CORPORATION: (check one statement)

- [x] There are 10 or less shareholders, and all of the shareholders are listed below.
[ ] There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
[ ] There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF SHAREHOLDERS: (enter first name, middle initial and last name)

Elizabeth B. Appiah

(check if applicable) [ ] There is more corporation information and Par. 1(b) is continued on a "Special Exception Affidavit Attachment 1(b)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed. Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 22, 2014  
(enter date affidavit is notarized)

for Application No. (s): SE 2014-MV-058  
(enter County-assigned application number(s))

126808

1(c). The following constitutes a listing\*\*\* of all of the **PARTNERS**, both **GENERAL** and **LIMITED**, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

**PARTNERSHIP NAME & ADDRESS:** (enter complete name, and number, street, city, state, and zip code)

N/A

(check if applicable)  The above-listed partnership has no limited partners.

**NAMES AND TITLE OF THE PARTNERS** (enter first name, middle initial, last name, and title, e.g. **General Partner, Limited Partner, or General and Limited Partner**)

N/A

(check if applicable)  There is more partnership information and Par. 1(c) is continued on a "Special Exception Affidavit Attachment to Par. 1(c)" form.

\*\*\* All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. *In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.* Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 22, 2014  
(enter date affidavit is notarized)

for Application No. (s): SE 2014-MV-058  
(enter County-assigned application number(s))

126808

1(d). One of the following boxes **must** be checked:

In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land:

Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

**EXCEPT AS FOLLOWS:** (**NOTE:** If answer is none, enter "NONE" on the line below.)

NONE

(check if applicable)  There are more interests to be listed and Par. 2 is continued on a "Special Exception Attachment to Par. 2" form.

**SPECIAL EXCEPTION AFFIDAVIT**

DATE: September 22, 2014

(enter date affidavit is notarized)

126808

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than \$100, singularly or in the aggregate, with any of those listed in Par. 1 above.

**EXCEPT AS FOLLOWS:** (NOTE: If answer is none, enter "NONE" on line below.)

NONE

**NOTE:** Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable) [ ] There are more disclosures to be listed and Par. 3 is continued on a "Special Exception Attachment to Par. 3" form.

4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE\* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.

WITNESS the following signature:

(check one)

Applicant

Applicant's Authorized Agent

Elizabeth B. Appiah, Owner

Albert E. Edgecombe, Agent

(type or print first name, middle initial, last name, and & title of signee)

Subscribed and sworn to before me this 24th day of September 20 14, in the State/Comm. of Virginia, County/City of Fairfax.

Mildred D. Ampadu  
Notary Public

My commission expires: 12/31/2014



**Special Exception Attachment to Par. 3**

DATE: September 24, 2014  
(enter date affidavit is notarized)

for Application No. (s): SE 2014-MV-058  
(enter County-assigned application number (s))

(check if applicable)

There are more disclosures to the listed for Par. 3, and Par. 3 is continued further on a "Special Exception Attachment to Par. 3" form.

**APPENDIX 3****LOCATIONAL GUIDELINES FOR CHILD CARE FACILITIES**

In Fairfax County, as in other areas of the country, there is an increasing need for high-quality child care facilities. Such facilities should be encouraged throughout the county to the extent that they can be provided consistently with the following criteria:

1. Child care facilities should have sufficient open space to provide adequate access to sunlight and suitable play areas, taking into consideration the size of the facility.
2. Child care facilities should be located and designed to ensure the safety of children.
3. Child care facilities should be located and designed to protect children from excessive exposure to noise, air pollutants, and other environmental factors potentially injurious to health or welfare.
4. Child care facilities should be located and designed to ensure safe and convenient access. This includes appropriate parking areas and safe and effective on-site circulation of automobiles and pedestrians.
5. Child care facilities in Suburban Neighborhoods should be located and designed to avoid creating undesirable traffic, noise, and other impacts upon the surrounding community. Therefore, siting child care facilities in the periphery of residential developments or in the vicinity of planned community recreation facilities should be considered.
6. Child care facilities should be encouraged in employment centers to provide locations convenient to work places. However, these locations should make provisions for a safe and healthful environment in accord with the guidelines listed above.

## 9-006 General Standards

In addition to the specific standards set forth hereinafter with regard to particular special exception uses, all such uses shall satisfy the following general standards:

1. The proposed use at the specified location shall be in harmony with the adopted comprehensive plan.
2. The proposed use shall be in harmony with the general purpose and intent of the applicable zoning district regulations.
3. The proposed use shall be such that it will be harmonious with and will not adversely affect the use or development of neighboring properties in accordance with the applicable zoning district regulations and the adopted comprehensive plan. The location, size and height of buildings, structures, walls and fences, and the nature and extent of screening, buffering and landscaping shall be such that the use will not hinder or discourage the appropriate development and use of adjacent or nearby land and/or buildings or impair the value thereof.
4. The proposed use shall be such that pedestrian and vehicular traffic associated with such use will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood.
5. In addition to the standards which may be set forth in this Article for a particular category or use, the Board shall require landscaping and screening in accordance with the provisions of Article 13.
6. Open space shall be provided in an amount equivalent to that specified for the zoning district in which the proposed use is located.
7. Adequate utility, drainage, parking, loading and other necessary facilities to serve the proposed use shall be provided. Parking and loading requirements shall be in accordance with the provisions of Article 11.
8. Signs shall be regulated by the provisions of Article 12; however, the Board may impose more strict requirements for a given use than those set forth in this Ordinance.

### **9-304 Standards for all Category 3 Uses**

In addition to the general standards set forth in Sect. 006 above, all Category 3 special exception uses shall satisfy the following standards:

1. For public uses, it shall be concluded that the proposed location of the special exception use is necessary for the rendering of efficient governmental services to residents of properties within the general area of the location.
2. Except as may be qualified in the following Sections, all uses shall comply with the lot size requirements of the zoning district in which located.
3. Except as may be qualified in the following Sections, all uses shall comply with the bulk regulations of the zoning district in which located; however, subject to the provisions of Sect. 9-607, the maximum building height for a Category 3 use may be increased.
4. All uses shall comply with the performance standards specified for the zoning district in which located, including the submission of a sports illumination plan as may be required by Part 9 of Article 14.
5. Before establishment, all uses, including modifications or alterations to existing uses, shall be subject to the provisions of Article 17, Site Plans.

### 9-309 Additional Standards for Child Care Centers and Nursery Schools

1. In addition to complying with the minimum lot size requirements of the zoning district in which located, the minimum lot area shall be of such size that 100 square feet of usable outdoor recreation area shall be provided for each child that may use the space at any one time. Such area shall be delineated on a plat submitted at the time the application is filed. For the purpose of this provision, usable outdoor recreation area shall be limited to:
  - A. That area not covered by buildings or required off-street parking spaces.
  - B. That area outside the limits of the minimum required front yard, unless specifically approved by the Board in commercial and industrial districts only.
  - C. Only that area which is developable for active outdoor recreation purposes.
  - D. An area which occupies no more than eighty (80) percent of the combined total areas of the required rear and side yards.
2. All such uses shall be located so as to have direct access to an existing or programmed public street of sufficient right-of-way and cross-section width to accommodate pedestrian and vehicular traffic to and from the use as determined by the Director. To assist in making this determination, each applicant, at the time of application, shall provide an estimate of the maximum expected trip generation, the distribution of these trips by mode and time of day, and the expected service area of the facility. As a general guideline, the size of the use in relation to the appropriate street type should be as follows, subject to whatever modification and conditions the Board deems to be necessary or advisable:

| <b>Number of Persons</b> | <b>Street Type</b> |
|--------------------------|--------------------|
| 1-75                     | Local              |
| 76-660                   | Collector          |
| 660 or more              | Arterial           |

3. All such uses shall be located so as to permit the pick-up and delivery of all persons on the site.
4. Such use shall be subject to the regulations of Chapter 30 of The Code or Title 63.2, Chapter 17 of the Code of Virginia.

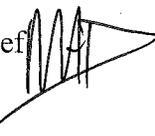


# County of Fairfax, Virginia

## MEMORANDUM

DATE: May 13, 2015

**TO:** Barbara Berlin, Director  
Zoning Evaluation Division  
Department of Planning and Zoning

**FROM:** Michael A. Davis, Acting Chief   
Site Analysis Section  
Department of Transportation

**FILE:** 3-5 (SE 2014-MV-058)

**SUBJECT:** Transportation Impact - Addendum

**REFERENCE:** SE 2014-MV-058 Morning Star Day Care Center  
Land Identification Map: 101-3 ((1)) 95

Transmitted herewith are updated comments from the Department of Transportation with respect to the referenced application. These comments are based on the plat dated June 10, 2014, and revised through April 10, 2015. The applicant is seeking a special exception to operate a child care center on Woodlawn Court. Two shifts are proposed: first from 6:00 a.m. to 2:00 p.m. for 80 children with an increase in stages to 120 children maximum on-site; a second shift from 3:00 p.m. to 11:00 p.m. for 40 children maximum. The plan provides 32 parking spaces (23 are required).

We remain concerned that the proposal for a child care center up to maximum of 120 children will create traffic problems. The sole access to the property is Woodlawn Court, a narrow substandard residential roadway. The use will add a significant amount of traffic to the road. Further, the proposed use is proximate to Route 1 (Richmond Highway) which will be the primary site access via Woodlawn Court. A left turn lane is expected to be constructed for Woodlawn Court, which is necessary for safe access to the proposed use. We feel that, unless other access to this site is available and the left turn from Richmond Highway to Woodlawn Court is completed, the total enrollment should be limited to a total that is well below 120 children.

The Applicant was asked to pursue an interparcel easement to and through the adjoining shopping center as well as exploring the possibility of a shared parking agreement for employees of the center with pedestrian access between the daycare and shopping center. The Applicant's representative has discussed the interparcel easement with the shopping center owner, but an agreement is not in place. The Applicant has agreed to provide the access if agreement is reached.

Given our concern about the site access, this department recommends that, until interparcel access is available, the maximum on-site number of children should be limited to 80. Further, until the left turn bay proffered for access to Woodlawn Court by the adjoining hotel property is complete, the maximum on-site number of children should be limited to 60.

Fairfax County Department of Transportation  
4050 Legato Road, Suite 400  
Fairfax, VA 22033-2895  
Phone: (703) 877-5600 TTY: 711  
Fax: (703) 877 5723  
[www.fairfaxcounty.gov/fcdot](http://www.fairfaxcounty.gov/fcdot)



May 13, 2015

Page 2 of 2

To supplement the above, these additional concerns remain to be addressed:

- A condition should be adopted that requires construction of sidewalk, curb and gutter across the entire frontage of the site prior to the issuance of a NonRUP for the proposed use.
- A condition should be adopted that requires construction of the interparcel easement if the owner of the adjoining shopping center provides an access easement.
- We recommend that the large concrete “nub” in front of the building be eliminated to provide more parking. We remain concerned that the parking supply will be inadequate to accommodate parents at peak demand. Because Woodlawn Court is a substandard roadway, off-site parking is not a safe alternative.

MAD/LAH/lah

cc: Nick Rogers, DPZ



# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** August 21, 2015

**TO:** Nicholas Rogers, Staff Coordinator  
Zoning Evaluation Division, DPZ

**FROM:** Jay Banks, Urban Forester II   
Forest Conservation Branch, DPWES

**SUBJECT:** Morning Star Day Care, SE 2014-MV-058

I have reviewed the above referenced Special Exception Plat, stamped "Received, Department of Planning and Zoning, August 6, 2015". It appears that all tree conservation and landscaping concerns have been addressed.

At this time Forest Conservation Branch staff has no further comments regarding this application.

If there are any questions or further assistance is desired, please contact me at (703) 324-1770.

JSB/

UFMDID #: 195084

cc: DPZ File

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Department of Public Works and Environmental Services  
Urban Forest Management Division  
12055 Government Center Parkway, Suite 518  
Fairfax, Virginia 22035-5503  
Phone 703-324-1770, TTY: 711, Fax: 703-653-9550  
[www.fairfaxcounty.gov/dpwes](http://www.fairfaxcounty.gov/dpwes)



## GLOSSARY

This Glossary is provided to assist the public in understanding the staff evaluation and analysis of development proposals. It should not be construed as representing legal definitions. Refer to the Fairfax County Zoning Ordinance, Comprehensive Plan or Public Facilities Manual for additional information.

**ABANDONMENT:** Refers to road or street abandonment, an action taken by the Board of Supervisors, usually through the public hearing process, to abolish the public's right-of-passage over a road or road right-of way. Upon abandonment, the right-of-way automatically reverts to the underlying fee owners. If the fee to the owner is unknown, Virginia law presumes that fee to the roadbed rests with the adjacent property owners if there is no evidence to the contrary.

**ACCESSORY DWELLING UNIT (OR APARTMENT):** A secondary dwelling unit established in conjunction with and clearly subordinate to a single family detached dwelling unit. An accessory dwelling unit may be allowed if a special permit is granted by the Board of Zoning Appeals (BZA). Refer to Sect. 8-918 of the Zoning Ordinance.

**AFFORDABLE DWELLING UNIT (ADU) DEVELOPMENT:** Residential development to assist in the provision of affordable housing for persons of low and moderate income in accordance with the affordable dwelling unit program and in accordance with Zoning Ordinance regulations. Residential development which provides affordable dwelling units may result in a density bonus (see below) permitting the construction of additional housing units. See Part 8 of Article 2 of the Zoning Ordinance.

**AGRICULTURAL AND FORESTAL DISTRICTS:** A land use classification created under Chapter 114 or 115 of the Fairfax County Code for the purpose of qualifying landowners who wish to retain their property for agricultural or forestal use for use/value taxation pursuant to Chapter 58 of the Fairfax County Code.

**BARRIER:** A wall, fence, earthen berm, or plant materials which may be used to provide a physical separation between land uses. Refer to Article 13 of the Zoning Ordinance for specific barrier requirements.

**BEST MANAGEMENT PRACTICES (BMPs):** Stormwater management techniques or land use practices that are determined to be the most effective, practicable means of preventing and/or reducing the amount of pollution generated by nonpoint sources in order to improve water quality.

**BUFFER:** Graduated mix of land uses, building heights or intensities designed to mitigate potential conflicts between different types or intensities of land uses; may also provide for a transition between uses. A landscaped buffer may be an area of open, undeveloped land and may include a combination of fences, walls, berms, open space and/or landscape plantings. A buffer is not necessarily coincident with transitional screening.

**CHESAPEAKE BAY PRESERVATION ORDINANCE:** Regulations which the State has mandated must be adopted to protect the Chesapeake Bay and its tributaries. These regulations must be incorporated into the comprehensive plans, zoning ordinances and subdivision ordinances of the affected localities. Refer to Chesapeake Bay Preservation Act, Va. Code Section 10.1-2100 et seq and VR 173-02-01, Chesapeake Bay Preservation Area Designation and Management Regulations.

**CLUSTER DEVELOPMENT:** Residential development in which the lots are clustered on a portion of a site so that significant environmental/historical/cultural resources may be preserved or recreational amenities provided. While smaller lot sizes are permitted in a cluster subdivision to preserve open space, the overall density cannot exceed that permitted by the applicable zoning district. See Sect. 2-421 and Sect. 9-615 of the Zoning Ordinance.

**COUNTY 2232 REVIEW PROCESS:** A public hearing process pursuant to Sect. 15.2-2232 (Formerly Sect. 15.1-456) of the Virginia Code which is used to determine if a proposed public facility not shown on the adopted Comprehensive Plan is in substantial accord with the plan. Specifically, this process is used to determine if the general or approximate location, character and extent of a proposed facility is in substantial accord with the Plan.

**dBA:** The momentary magnitude of sound weighted to approximate the sensitivity of the human ear to certain frequencies; the dBA value describes a sound at a given instant, a maximum sound level or a steady state value. See also Ldn.

**DENSITY:** Number of dwelling units (du) divided by the gross acreage (ac) of a site being developed in residential use; or, the number of dwelling units per acre (du/ac) except in the PRC District when density refers to the number of persons per acre.

**DENSITY BONUS:** An increase in the density otherwise allowed in a given zoning district which may be granted under specific provisions of the Zoning Ordinance when a developer provides excess open space, recreation facilities, or affordable dwelling units (ADUs), etc.

**DEVELOPMENT CONDITIONS:** Terms or conditions imposed on a development by the Board of Supervisors (BOS) or the Board of Zoning Appeals (BZA) in connection with approval of a special exception, special permit or variance application or rezoning application in a "P" district. Conditions may be imposed to mitigate adverse impacts associated with a development as well as secure compliance with the Zoning Ordinance and/or conformance with the Comprehensive Plan. For example, development conditions may regulate hours of operation, number of employees, height of buildings, and intensity of development.

**DEVELOPMENT PLAN:** A graphic representation which depicts the nature and character of the development proposed for a specific land area: information such as topography, location and size of proposed structures, location of streets trails, utilities, and storm drainage are generally included on a development plan. A development plan is a submission requirement for rezoning to the PRC District. A **GENERALIZED DEVELOPMENT PLAN (GDP)** is a submission requirement for a rezoning application for all conventional zoning districts other than a P District. A development plan submitted in connection with a special exception (SE) or special permit (SP) is generally referred to as an SE or SP plat. A **CONCEPTUAL DEVELOPMENT PLAN (CDP)** is a submission requirement when filing a rezoning application for a P District other than the PRC District; a CDP characterizes in a general way the planned development of the site. A **FINAL DEVELOPMENT PLAN (FDP)** is a submission requirement following the approval of a conceptual development plan and rezoning application for a P District other than the PRC District; an FDP further details the planned development of the site. See Article 16 of the Zoning Ordinance.

**EASEMENT:** A right to or interest in property owned by another for a specific and limited purpose. Examples: access easement, utility easement, construction easement, etc. Easements may be for public or private purposes.

**ENVIRONMENTAL QUALITY CORRIDORS (EQCs):** An open space system designed to link and preserve natural resource areas, provide passive recreation and protect wildlife habitat. The system includes stream valleys, steep slopes and wetlands. For a complete definition of EQCs, refer to the Environmental section of the Policy Plan for Fairfax County contained in Vol. 1 of the Comprehensive Plan.

**ERODIBLE SOILS:** Soils that wash away easily, especially under conditions where stormwater runoff is inadequately controlled. Silt and sediment are washed into nearby streams, thereby degrading water quality.

**FLOODPLAIN:** Those land areas in and adjacent to streams and watercourses subject to periodic flooding; usually associated with environmental quality corridors. The 100 year floodplain drains 70 acres or more of land and has a one percent chance of flood occurrence in any given year.

**FLOOR AREA RATIO (FAR):** An expression of the amount of development intensity (typically, non-residential uses) on a specific parcel of land. FAR is determined by dividing the total square footage of gross floor area of buildings on a site by the total square footage of the site itself.

**FUNCTIONAL CLASSIFICATION:** A system for classifying roads in terms of the character of service that individual facilities are providing or are intended to provide, ranging from travel mobility to land access. Roadway system functional classification elements include Freeways or Expressways which are limited access highways, Other Principal (or Major) Arterials, Minor Arterials, Collector Streets, and Local Streets. Principal arterials are designed to accommodate travel; access to adjacent properties is discouraged. Minor arterials are designed to serve both through traffic and local trips. Collector roads and streets link local streets and properties with the arterial network. Local streets provide access to adjacent properties.

**GEOTECHNICAL REVIEW:** An engineering study of the geology and soils of a site which is submitted to determine the suitability of a site for development and recommends construction techniques designed to overcome development on problem soils, e.g., marine clay soils.

**HYDROCARBON RUNOFF:** Petroleum products, such as motor oil, gasoline or transmission fluid deposited by motor vehicles which are carried into the local storm sewer system with the stormwater runoff, and ultimately, into receiving streams; a major source of non-point source pollution. An oil-grit separator is a common hydrocarbon runoff reduction method.

**IMPERVIOUS SURFACE:** Any land area covered by buildings or paved with a hard surface such that water cannot seep through the surface into the ground.

**INFILL:** Development on vacant or underutilized sites within an area which is already mostly developed in an established development pattern or neighborhood.

**INTENSITY:** The magnitude of development usually measured in such terms as density, floor area ratio, building height, percentage of impervious surface, traffic generation, etc. Intensity is also based on a comparison of the development proposal against environmental constraints or other conditions which determine the carrying capacity of a specific land area to accommodate development without adverse impacts.

**Ldn:** Day night average sound level. It is the twenty-four hour average sound level expressed in A-weighted decibels; the measurement assigns a "penalty" to night time noise to account for night time sensitivity. Ldn represents the total noise environment which varies over time and correlates with the effects of noise on the public health, safety and welfare.

**LEVEL OF SERVICE (LOS):** An estimate of the effectiveness of a roadway to carry traffic, usually under anticipated peak traffic conditions. Level of Service efficiency is generally characterized by the letters A through F, with LOS-A describing free flow traffic conditions and LOS-F describing jammed or grid-lock conditions.

**MARINE CLAY SOILS:** Soils that occur in widespread areas of the County generally east of Interstate 95. Because of the abundance of shrink-swell clays in these soils, they tend to be highly unstable. Many areas of slope failure are evident on natural slopes. Construction on these soils may initiate or accelerate slope movement or slope failure. The shrink-swell soils can cause movement in structures, even in areas of flat topography, from dry to wet seasons resulting in cracked foundations, etc. Also known as slippage soils.

**OPEN SPACE:** That portion of a site which generally is not covered by buildings, streets, or parking areas. Open space is intended to provide light and air; open space may function as a buffer between land uses or for scenic, environmental, or recreational purposes.

**OPEN SPACE EASEMENT:** An easement usually granted to the Board of Supervisors which preserves a tract of land in open space for some public benefit in perpetuity or for a specified period of time. Open space easements may be accepted by the Board of Supervisors, upon request of the land owner, after evaluation under criteria established by the Board. See Open Space Land Act, Code of Virginia, Sections 10.1-1700, et seq.

**P DISTRICT:** A "P" district refers to land that is planned and/or developed as a Planned Development Housing (PDH) District, a Planned Development Commercial (PDC) District or a Planned Residential Community (PRC) District. The PDH, PDC and PRC Zoning Districts are established to encourage innovative and creative design for land development; to provide ample and efficient use of open space; to promote a balance in the mix of land uses, housing types, and intensity of development; and to allow maximum flexibility in order to achieve excellence in physical, social and economic planning and development of a site. Refer to Articles 6 and 16 of the Zoning Ordinance.

**PROFFER:** A written condition, which, when offered voluntarily by a property owner and accepted by the Board of Supervisors in a rezoning action, becomes a legally binding condition which is in addition to the zoning district regulations applicable to a specific property. Proffers are submitted and signed by an owner prior to the Board of Supervisors public hearing on a rezoning application and run with the land. Once accepted by the Board, proffers may be modified only by a proffered condition amendment (PCA) application or other zoning action of the Board and the hearing process required for a rezoning application applies. See Sect. 15.2-2303 (formerly 15.1-491) of the Code of Virginia.

**PUBLIC FACILITIES MANUAL (PFM):** A technical text approved by the Board of Supervisors containing guidelines and standards which govern the design and construction of site improvements incorporating applicable Federal, State and County Codes, specific standards of the Virginia Department of Transportation and the County's Department of Public Works and Environmental Services.

**RESOURCE MANAGEMENT AREA (RMA):** That component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

**RESOURCE PROTECTION AREA (RPA):** That component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline or water's edge that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. New development is generally discouraged in an RPA. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

**SITE PLAN:** A detailed engineering plan, to scale, depicting the development of a parcel of land and containing all information required by Article 17 of the Zoning Ordinance. Generally, submission of a site plan to DPWES for review and approval is required for all residential, commercial and industrial development except for development of single family detached dwellings. The site plan is required to assure that development complies with the Zoning Ordinance.

**SPECIAL EXCEPTION (SE) / SPECIAL PERMIT (SP):** Uses, which by their nature, can have an undue impact upon or can be incompatible with other land uses and therefore need a site specific review. After review, such uses may be allowed to locate within given designated zoning districts if appropriate and only under special controls, limitations, and regulations. A special exception is subject to public hearings by the Planning Commission and Board of Supervisors with approval by the Board of Supervisors; a special permit requires a public hearing and approval by the Board of Zoning Appeals. Unlike proffers which are voluntary, the Board of Supervisors or BZA may impose reasonable conditions to assure, for example, compatibility and safety. See Article 8, Special Permits and Article 9, Special Exceptions, of the Zoning Ordinance.

**STORMWATER MANAGEMENT:** Engineering practices that are incorporated into the design of a development in order to mitigate or abate adverse water quantity and water quality impacts resulting from development. Stormwater management systems are designed to slow down or retain runoff to re-create, as nearly as possible, the pre-development flow conditions.

**SUBDIVISION PLAT:** The engineering plan for a subdivision of land submitted to DPWES for review and approved pursuant to Chapter 101 of the County Code.

**TRANSPORTATION DEMAND MANAGEMENT (TDM):** Actions taken to reduce single occupant vehicle automobile trips or actions taken to manage or reduce overall transportation demand in a particular area.

**TRANSPORTATION SYSTEM MANAGEMENT (TSM) PROGRAMS:** This term is used to describe a full spectrum of actions that may be applied to improve the overall efficiency of the transportation network. TSM programs usually consist of low-cost alternatives to major capital expenditures, and may include parking management measures, ridesharing programs, flexible or staggered work hours, transit promotion or operational improvements to the existing roadway system. TSM includes Transportation Demand Management (TDM) measures as well as H.O.V. use and other strategies associated with the operation of the street and transit systems.

**URBAN DESIGN:** An aspect of urban or suburban planning that focuses on creating a desirable environment in which to live, work and play. A well-designed urban or suburban environment demonstrates the four generally accepted principles of design: clearly identifiable function for the area; easily understood order; distinctive identity; and visual appeal.

**VACATION:** Refers to vacation of street or road as an action taken by the Board of Supervisors in order to abolish the public's right-of-passage over a road or road right-of-way dedicated by a plat of subdivision. Upon vacation, title to the road right-of-way transfers by operation of law to the owner(s) of the adjacent properties within the subdivision from whence the road/road right-of-way originated.

**VARIANCE:** An application to the Board of Zoning Appeals which seeks relief from a specific zoning regulation such as lot width, building height, or minimum yard requirements, among others. A variance may only be granted by the Board of Zoning Appeals through the public hearing process and upon a finding by the BZA that the variance application meets the required Standards for a Variance set forth in Sect. 18-404 of the Zoning Ordinance.

**WETLANDS:** Land characterized by wetness for a portion of the growing season. Wetlands are generally delineated on the basis of physical characteristics such as soil properties indicative of wetness, the presence of vegetation with an affinity for water, and the presence or evidence of surface wetness or soil saturation. Wetland environments provide water quality improvement benefits and are ecologically valuable. Development activity in wetlands is subject to permitting processes administered by the U.S. Army Corps of Engineers

**TIDAL WETLANDS:** Vegetated and nonvegetated wetlands as defined in Chapter 116 Wetlands Ordinance of the Fairfax County Code: includes tidal shores and tidally influenced embayments, creeks, and tributaries to the Occoquan and Potomac Rivers. Development activity in tidal wetlands may require approval from the Fairfax County Wetlands Board.

#### Abbreviations Commonly Used in Staff Reports

|         |   |         |  |
|---------|---|---------|--|
| A&F     | Agricultural & Forestal District                      | PDH     | Planned Development Housing                    |
| ADU     | Affordable Dwelling Unit                              | PFM     | Public Facilities Manual                       |
| ARB     | Architectural Review Board                            | PRC     | Planned Residential Community                  |
| BMP     | Best Management Practices                             | RC      | Residential-Conservation                       |
| BOS     | Board of Supervisors                                  | RE      | Residential Estate                             |
| BZA     | Board of Zoning Appeals                               | RMA     | Resource Management Area                       |
| COG     | Council of Governments                                | RPA     | Resource Protection Area                       |
| CBC     | Community Business Center                             | RUP     | Residential Use Permit                         |
| CDP     | Conceptual Development Plan                           | RZ      | Rezoning                                       |
| CRD     | Commercial Revitalization District                    | SE      | Special Exception                              |
| DOT     | Department of Transportation                          | SEA     | Special Exception Amendment                    |
| DP      | Development Plan                                      | SP      | Special Permit                                 |
| DPWES   | Department of Public Works and Environmental Services | TDM     | Transportation Demand Management               |
| DPZ     | Department of Planning and Zoning                     | TMA     | Transportation Management Association          |
| DU/AC   | Dwelling Units Per Acre                               | TSA     | Transit Station Area                           |
| EQC     | Environmental Quality Corridor                        | TSM     | Transportation System Management               |
| FAR     | Floor Area Ratio                                      | UP & DD | Utilities Planning and Design Division, DPWES  |
| FDP     | Final Development Plan                                | VC      | Variance                                       |
| GDP     | Generalized Development Plan                          | VDOT    | Virginia Dept. of Transportation               |
| GFA     | Gross Floor Area                                      | VPD     | Vehicles Per Day                               |
| HC      | Highway Corridor Overlay District                     | VPH     | Vehicles per Hour                              |
| HCD     | Housing and Community Development                     | WMATA   | Washington Metropolitan Area Transit Authority |
| LOS     | Level of Service                                      | WS      | Water Supply Protection Overlay District       |
| Non-RUP | Non-Residential Use Permit                            | ZAD     | Zoning Administration Division, DPZ            |
| OSDS    | Office of Site Development Services, DPWES            | ZED     | Zoning Evaluation Division, DPZ                |
| PCA     | Proffered Condition Amendment                         | ZPRB    | Zoning Permit Review Branch                    |
| PD      | Planning Division                                     |         |  |
| PDC     | Planned Development Commercial                        |         |  |