LEGEND:

Symbol	Description		Symbol	Description
	PROPERTY LINE			PROPOSED STORMDRAIN
	RIGHT-OF-WAY LINE			PROPOSED STORMDRAIN INLET
	ADJACENT PROPERTY LINE			PROPOSED SIDEWALK
	EXISTING CURB AND GUTTER			PROPOSED TREELINE
	EXISTING UTILITY POLE			PROPOSED CURB
	EXISTING LIGHT POLE			PROPOSED STREET LIGHT
	EXISTING MAILBOX			PROPOSED SHADE TREE
	EXISTING SIGN			PROPOSED EVERGREEN TREE
	EXISTING SANITARY MANHOLE			
SS	EXISTING SANITARY LINE			PROPOSED 10' CONTOUR
CO	EXISTING CLEANOUT			PROPOSED 2' CONTOUR
FH	EXISTING FIRE HYDRANT			PROPOSED SPOT ELEVATION
W	EXISTING WATER LINE			
	EXISTING FENCE			PROPOSED STABILIZED CONSTRUCTION ENTRANCE
	EXISTING TREELINE			
	EXISTING TREES (OFF SITE)		SSF	PROPOSED SILT FENCE
			LOD	PROPOSED LIMIT OF DISTURBANCE
	EXISTING TREES (ON SITE)			PROPOSED EARTH DIKE
	EXISTING 10' PUBLIC SURFACE DRAINAGE AND UTILITY EASEMENT (PLAT ꟷS 17616-17620)			MODERATE SLOPES (15% - 24.99%)
				STEEP SLOPES (>25%)

VICINITY MAP
SCALE: 1"=2000'
ADC MAP COORDINATE: PG. 4936 B2

BENCHMARKS
HOWARD COUNTY BENCHMARK - 31AB (CONC. MONUMENT)
N 573984.47   E 1369949.46   ELEV. 499.93
LOCATION: IN AN ELECTRICAL TRANSMISSION TOWER EASEMENT 86' FROM TRANS. TOWER 281A AND 114.2' FROM TRANS. TOWER 281, APPROXIMATELY 0.2 MILES EAST OF #4641 NEW CUT ROAD

HOWARD COUNTY BENCHMARK - 31A (CONC. MONUMENT)
N 571982.66   E 1372145.07   ELEV. 481.64
LOCATION: EAST SIDE OF ROLLING TOP ROAD, APPROXIMATELY 0.1 MILES NORTH OF ORCHARD ROAD.

MONTGOMERY ROAD DAYCARE

$Rv = 0.05 + 0.009XI$

$V_{min} = 1.0"$ rainfall $(1.0 \times 0.95 \times A)/12$

$V_{max} = 1yr$ rainfall $= 2.6"$ $(2.6 \times 0.95 \times A)/12$

DA	% IMPERV	Rv	DA	MINIMUM VOLUME	MAXIMUM VOLUME	VOLUME PROVIDED	IMPERV AREA	GREEN AREA
1	46.8	0.4712	0.282	482	1254	829	0.13	0.15
2	49.7	0.4973	0.0693	125	325	200	0.03	0.03
			TOTAL VOLUME PROVIDED			1029	0.17	0.18

MONTGOMERY ROAD DAY CARE ENVIRONMENTAL CONCEPT PLAN

I.   Introduction

The subject site is located at the northwest corner of Baugher Farm Road and Montgomery Road (MD Route 103) in Ellicott City, Maryland. The site is zoned R-20 and is identified as Tax Map31, Parcel 415, the address is 4821 Montgomery Road. The site area is 0.64 acres and the proposed limit of disturbance is 0.57 acres. The site fronts on a County road and a State road. It is adjacent to a recently approved zoned R-20 and the Glen Mar United Methodist Church Property (specifically the recreational field). The subject property was recently approved as a Child Care facility through the Conditional Use process.

The site contains an existing residence, retaining wall, parking area, driveway and two sheds. The existing residence will remain and be expanded but the other features will be removed. There is an existing State Highway Administration inlet located close to the northwest property corner which currently accommodates the drainage from the site.

Eco-Science Professionals, Inc. (John Canole, Environmentalist) performed a field investigation regarding woods, resources, wetlands, streams or other visible environmental features. The subject site is less than 15% impervious and therefore does not qualify under the "redevelopment" criteria. Therefore the Environmental Site Design is based on the proposed limit of disturbance is considered new development. The ESDv is based on the reduction of runoff to mimic "woods in good condition".

II.   METHODOLOGY

Stormwater management for the project has been provided in accordance with the 2000 Maryland Stormwater Design Manual, 2007 Stormwater Management Act (Environmental Site Design), MDE Design Computations and Howard County requirements. The proposed improvements consist of the existing house, building expansion, parking lot, and sidewalks.

The offsite drainage flowing to the site will be diverted around the proposed development and will not be managed or treated. There are two predominant drainage areas which incorporate the impervious areas. There are limited grass areas which are not directed to a facility. The ESDv is computed for the entire project limit of disturbance.

The site consists of Hydrologic Soil Group type 'B' soils. The weighted P_E to mimic "woods in good condition" is 1.6 based on an overall development impervious percentage of 29. The resulting recharge factor (R_E) is 0.31. Applying an overall limit of disturbance of 0.57 acres, the total ESDv required for this project is 1,029 cf. The Rev required is 167 cf.

Two micro-bioretention facilities are utilized to fulfill the ESDv requirement. Each drainage area provides ESDv which exceeds the minimum $(P_E = 1.0")$ and does not exceed the maximum $(P_E = 2.6")$. The total ESDv provided by the two micro-bioretention facilities meets the minimum required. Additionally, Rev is provided in the soil under the storage (per County policy).

III.   CONCLUSION

The ESDv requirement of 1,029 cf for the proposed project is provided utilizing micro-bioretention (1,029 cf). Considering the size and configuration of the development we anticipate sediment control will be accommodated by perimeter super silt fence.

The Environmental Site Design for this project successfully incorporates the methodology present in the MDE Stormwater Design Manual, Chapter 5. This report and the associated Concept Plan successfully address the following:

1. Map of all site resources
2. Field verification of the natural resource map
3. Proposed limits of clearing and grading
4. Location of proposed impervious areas
5. Location of existing and proposed utilities
6. Preliminary estimates of stormwater requirements
7. Preliminary location of ESD practices
8. Stable conveyance of stormwater at potential outfall locations
9. Narrative addresses:
   a. Natural resource protection and enhancement
   b. Maintenance of natural flow patterns
   c. Reduction of impervious areas through better site design, alternative surfaces, and non-structural practices
   d. Integration of erosion and sediment control into the stormwater strategy
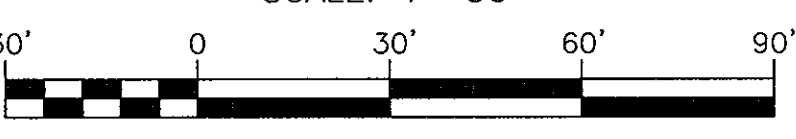   e. Implementation of ESD planning techniques and practices to the MEP

PETITIONER/OWNER
VISHNAMPET AND PADMA VENKATRAMAN
4512 HIDDEN HOLLOW DR.
ELLICOTT CITY, MD 21043
PHONE: (410) 480-2850

ENVIRONMENTAL CONCEPT PLAN

4821 MONTGOMERY ROAD (MD ROUTE 103) CHILD DAY CARE

PLAN OF A SUBDIVISION OF A PROPERTY OF RUSSELL H. BAUGHER, LOT 1
LIBER 12531 / FOLIO 295
0.6424 ACRES

2ND ELECTION DISTRICT
TAX MAP: 31 GRID: 07
DPZ REF'S: BA #10-031C

ZONING: R-20
PARCEL: 415 LOT: 1
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
Engineers • Surveyors • Planners
8407 Main Street
Ellicott City, MD 21043
Tel: 410.461.7666
Fax: 410.461.8961

PROFESSIONAL CERTIFICATE
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193
EXPIRATION DATE: 09-27-2012

DESIGN BY:	RHV
DRAWN BY:	JMR
CHECKED BY:	RHV
DATE:	SEPTEMBER 2011
SCALE:	AS SHOWN
W.O. NO.:	10-17

SHEET 1 OF 1

NO.	REVISION	DATE

JEFFREY B. SMITH, PE 31373   12-8-11

ENVIRONMENTAL CONCEPT PLAN
SCALE: 1"=30'

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30'   0      30'    60'    90'
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GENERAL NOTES

1. BOUNDARY AND TOPOGRAPHICAL SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC., DATED SEPTEMBER 2010.
2. SITE DATA:
   ADDRESS: 4821 MONTGOMERY ROAD
   ELLICOTT CITY, MD 21043
   ZONING: R-20
   AREA: 27,985 SF OR 0.6424 ACRES
   DATE OF CONSTRUCTION: APPROXIMATELY 1949
3. REFERENCE PLAT "PLAN OF A SUBDIVISION OF A PROPERTY OF RUSSELL H. BAUGHER", PB 7, P 4.
4. CONDITIONAL USE BA #10-031C, APPROVED JULY 14TH, 2011, FOR CHILD DAY CARE (SECTION 131.N.13) INCLUDED THESE AS CONDITIONS OF APPROVAL:
   A: THE 50' SETBACK ALONG THE NORTHERN PROPERTY LINE (ADJOINING GLEN MAR UNITED METHODIST CHURCH) IS REDUCED TO 20' IN ACCORDANCE WITH SECTION 131.N.13 g(2)(a).
   AND
   B: THE 50' SETBACK ALONG THE WESTERN PROPERTY LINE (ADJOINING VACANT LOT) IS REDUCED TO 20' IN ACCORDANCE WITH SECTION 131.N.13 g(2)(b). A 6' HIGH PRIVACY FENCE AND LANDSCAPING BUFFER IS PROVIDED.
5. ULTIMATE CAPACITY: 55 CHILDREN
6. OUTDOOR PLAY AREA: (75 SF / 2 CHILDREN) (55 CHILDREN)
   = 2,065 SF REQUIRED, 2,065 SF PROVIDED
7. AREA WITHIN STRUCTURE SETBACKS: 9,291 SF
   20% GREEN SPACE REQUIRED: 1,858 SF
   GREEN SPACE WITHIN STRUCTURE SETBACKS: 3,478 SF
   GREEN SPACE PROVIDED: 37.4%
8. LOT SIZE REQUIRED: (55 CHILDREN) (500 SF / CHILD) = 27,500 SF
   LOT SIZE PROVIDED: 27,985 SF
9. ALL LIGHTING TO CONFORM TO SECTION 134 OF THE REGULATIONS. LIGHTING WILL BE DIRECTED DOWN AND AWAY FROM RESIDENTIAL PROPERTY.
10. WATER AND SEWER TO BE PUBLIC.
11. APPROVAL OF THIS ECP DOES NOT CONSTITUTE APPROVAL OF ANY ASSOCIATED SUBDIVISION OR SITE DEVELOPMENT PLAN. FURTHER COMMENTS WILL BE GENERATED WITH REVIEW OF THE APPLICABLE DEVELOPMENT PLANS IN ACCORDANCE WITH THE SUBDIVISION AND ZONING REGULATIONS FOR HOWARD COUNTY, MD.
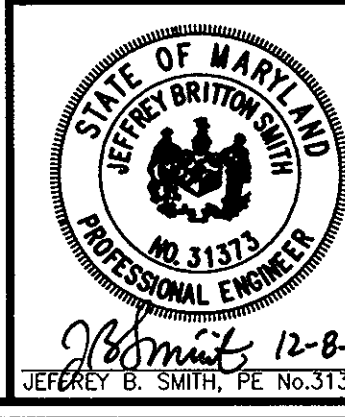12. NO FLOODPLAIN, WETLAND AND STREAM OR OTHER ENVIRONMENTAL FEATURE EXIST ON SITE.

COORDINATE TABLE
NO.	NORTH	EAST
201	572901.7398	1368549.9469
202	573035.6214	1368685.8332
203	572983.5334	1368776.0600
204	572822.9480	1368695.5698
205	572815.9773	1368618.5783

SOILS LEGEND
SYMBOL	NAME / DESCRIPTION	SOIL GROUP
LaC	LEGORE SILT LOAM, 8 TO 15 PERCENT SLOPES	B
LmB	LEGORE-MONTALTO SILT LOAMS, 3 TO 8 PERCENT SLOPES	B
LoB	LEGORE-MONTALTO-URBAN LAND COMPLEX, 0 TO 8 PERCENT SLOPES	B
SrD	SASSAFRAS AND CROOM SOILS, 10 TO 15 PERCENT SLOPES	B

PARKING TABULATION
DAY CARE
3 SPACES/1,000 SF = 11 SPACES REQUIRED
(3,442 SF)
12 SPACES PROVIDED

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION   12/21/11   DATE
CHIEF, DIVISION OF LAND DEVELOPMENT   12/20/11   DATE

Site plan labels (as shown on drawing)

AVOCA AVE. PUBLIC ROAD

ALLAN T. LEFFLER II MELISSA ANN LEFFLER T/E
TAX MAP: 31 PARCEL: 16 L. 3308 / F. 704 1.35 AC. ZONED: R-20 USE: RESIDENTIAL

DONALD ELLWOOD BAUGHER SR. JOANN CATHRYN BAUGHER WF
TAX MAP: 31 PARCEL: 415 LOT: 5 L. 1721 / F. 197 38,289 SF ZONED: R20 USE: VACANT

GLEN MAR UNITED METHODIST CHURCH (SDP-04-42)
TAX MAP: 31 PARCEL: 10 LOT: 4 PLAT #19364 L. 10758 / F. 285 15.44 AC. ZONED: R-20 USE: RELIGIOUS INSTITUTION

BEATRICE BETHARD BREEN THOMAS E. BREEN T/E
TAX MAP: 31 PARCEL: 440 L. 6563 / F. 31 5.55 AC. ZONED: R-20 USE: RESIDENTIAL

RUSSELL H. BAUGHER L/E JAMES R. BAUGHER & MILDRED JOAN BAUGHER WF
TAX MAP: 31 PARCEL: 800 L. 2033 / F. 23 13.02 AC. ZONED: R-20 USE: AGRICULTURAL

MONTGOMERY ROAD (MD-RTE 103) MINOR ARTERIAL
SRC.PLAT.1127 (60' R/W)

BAUGHER FARM ROAD MINOR COLLECTOR (50' R/W)

EX. HOUSE #4821 CA. 1949 1 STORY W/ VINYL SIDING 1,572 SF FF=489.90
PROP. FUTURE ADDITION 1,762 SF

PROP. OUTDOOR PLAY AREA 2,065 SF

EX. 10' PUBLIC SURFACE DRAINAGE AND UTILITY EASEMENT (PLAT ꟷS 17616-17620)