



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

April 14, 2011

Ms. Sarah E. Hall
Blankingship and Keith, P.C.
4020 University Drive, Suite 300
Fairfax, VA 22030

Re: Interpretation for SE 2008-HM-010, George B. and Carolyn L.E. Sagatov
Tax Map 27-4 ((1)) 14C1: Minor Modification

Dear Ms. Hall:

This is in response to your letter of February 7, 2011 (attached), requesting an interpretation of the Special Exception (SE) Plat and development conditions approved by the Board of Supervisors in conjunction with SE 2008-HM-010. As I understand it, the question is whether the replacement of the three bio-retention basins proposed for Lot 1B1 with an increased Water Quality Management Area (WQMA) would be in substantial conformance with the SE Plat and development conditions. This determination is based on your letter and submitted exhibits, which consist of the following: three pages with calculations for phosphorous load reduction for Lot 1B1; the first is the calculation of the phosphorous load reduction that would be achieved by the three bio-retention basins alone; the second is the calculation for the phosphorous load reduction with the three bio-retention basins and the WQMA area depicted on the approved SE Plat; and the third is the calculation for the phosphorous load reduction without the bio-retention basins and an additional 32,553 square feet (SF) of WQMA.

SE 2008-HM-010 was approved by the Board of Supervisors, subject to development conditions, on April 6, 2010, for a minimum lot width waiver. On October 26, 2010, the Department of Public Works and Environmental Services (DPWES) granted approval of Water Quality Control Partial Waiver #5350-WBMP-001-1, to permit the stormwater management/best management practices plan shown on the approved SE Plat. However, it was determined after approval of the waiver that contrary to the conclusion of the preliminary infiltration study report, the infiltration rates of the soils in the location of the three bio-retention basins on Lot 1B1 exceeded the maximum allowable rate of 8 inches per hour. Therefore, the soils across the entire lot would exceed the acceptable infiltration rate. As a result, the bio-retention basins and WQMA's shown on the SE Plat would not achieve the phosphorous load reduction shown on the second page of phosphorous load reduction calculations.

Your letter states that the property owners propose to replace the three bio-retention basins with a substantially increased area of WQMA. There were two areas on Lot 1B1 approved as WQMA under the SE; one was located along the northern property line and the other along the eastern property line. The applicant is proposing to expand these two areas. The WQMA located along the northern property line would be expanded by 4,977 SF to include the area where bio-retention basin # 3 was approved to be located. The WQMA located along the eastern property line would be expanded by 20,250 SF to include an expanse of existing and supplemental vegetation along the southern property line, and the area where bio-retention basin # 1 was approved to be located. A third WQMA would be created in the northwestern corner of the property totaling 4,899 SF where bio-retention basin # 2 was approved to be located under the SE. According to your engineer's calculations, the water quality benefits of the expanded WQMAs would be equivalent to that of the bio-retention basins. The total estimated phosphorous load reduction would be 40.4%, compared to the total phosphorous load reduction of 39.9% approved under the SE. You note that the increased area of WQMA would provide more landscaped open space and less grading than that approved under the SE. You also recognize that a new water quality control partial waiver would have to be obtained from DPWES.

It is my determination that the replacement of the three bio-retention basins proposed for Lot 1B1 with the increased Water Quality Management Area (WQMA) would be in substantial conformance with the SE Plat and development conditions, provided that the WQMA is protected as undisturbed open space by the recordation of a conservation easement, record plat, deed, or other instrument, as determined by DPWES. This determination has been made in my capacity as the duly authorized agent of the Zoning Administrator and only addresses the issues discussed herein. If you have any questions regarding this interpretation, please feel free to contact Kelli-Mae Goddard-Sobers at (703) 324-1290.

Sincerely,



Barbara C. Berlin, AICP, Director
Zoning Evaluation Division, DPZ

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Attachments: A/S

cc: Catherine M. Hudgins, Supervisor, Hunter Mill District
Frank A. de la Fe, Planning Commissioner, Hunter Mill District
Regina C. Coyle, Assistant Director, Zoning Evaluation Division, DPZ
Eileen McLane, Zoning Administrator
Ken Williams, Plan Control, Land Development Services, DPWES
Jack Weyant, Director, Environmental and Facilities Inspection Division, DPWES
Kevin Guinaw, Chief, Special Projects/Applications Management Branch, ZED, DPZ
File: SE 2008-HM-010, SEI 1102 003 Imaging, Reading File

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February 7, 2011

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Zoning Evaluation Division

Messenger

Barbara Berlin
Director of Zoning Evaluation Division
Fairfax County
12055 Government Center Parkway, Eighth Floor
Fairfax, Virginia 22035

Re: Minor Modification of Special Exception SE 2008-HM-010

Dear Ms. Berlin:

This firm represents George B. and Carolyn L. E. Sagatov. Our clients applied for, and on April 6, 2010 were granted, the above referenced Special Exception, which waived the minimum lot width requirement. A copy of the Clerk's letter regarding the granting of the Special Exception is enclosed. The Special Exception permitted our clients to subdivide their 4.5411 acre property (TM 27-4 ((1)) 14 C1) into two lots as shown on the enclosed Sheet 1 of the Special Exception Plat which was prepared by Runyon, Dudley, Associates, Inc. dated August 20, 2009, and revised through and sealed on January 19, 2010 (the "Plat").

The Plat showed the property being subdivided into Lot 1B1, on which our clients' house is located, and Lot 1B2, on which a new house will be constructed. Proposed for Lot 1B1 were three bio-retention basins and two Water Quality Maintenance Areas ("WQMA's") with a total area of 17,025 square feet (13,205 + 3,820 square feet). Enclosed are three pages of calculations (the "Calculations") of phosphorous load reduction calculations for Lot 1B1. The first two are the calculation of the phosphorous load reduction that would be achieved by the bio-retention basins standing alone (Page 1) and the reduction that would be achieved by the bio-retention basins and the WQMA's (Page 2). (These calculations correct some errors that were made in the calculations in the Special Exception Plat.) As shown on Page 1, the bio-retention basins alone would achieve a phosphorous load reduction of 26%, and as shown on Page 2, the bio-retention basins combined with the 17,025 square feet of WQMA's would achieve a reduction of 39.8%. By letter of October 26, 2010, Jeremiah Stonefield of the Stormwater and Geotechnical Section of DPWES granted Water Quality Control Partial Waiver #5350-WBMP-001-1, which permitted the stormwater management/BMP plan shown on the Plat.

Barbara Berlin
Director of Zoning Evaluation
Fairfax County
February 7, 2011
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After the Special Exception was granted and the October 26, 2010 Water Quality Control Partial Waiver letter issued, our clients' engineer received an Infiltration Study by Soil Tech, Inc. dated November 3, 2010, which stated that, contrary to the conclusions of a preliminary report, the infiltration rates of the soils in the locations of the three proposed basins on Lot 1B1 exceed the maximum allowable rate of 8.0 inch/hour and, in the opinion of Soil Tech, the soils across Lot 1B1 would also exceed the acceptable infiltration rate. Consequently, the bio-retention basins and WQMA's shown on Lot 1B1 on the Plat would not achieve the phosphorous load reduction shown on Page 2 of the Calculations.

By this letter we as counsel for the property owners request a determination that replacing the three bio-retention basins proposed for Lot 1B1 with a substantially increased area of WQMA's is a minor modification of Special Exception SE 2008-HM-010. Enclosed is a BMP/WQMA Exhibit prepared by Runyon, Dudley, Associates, Inc. dated January 31, 2011 (the "Exhibit"). Page 3 of the Calculations is a calculation of the phosphorous load reduction for Lot 1B1 based upon the Exhibit. Four WQMA's are shown on Lot 1B1 on the Exhibit, and their total area is 49,578 square feet, which is 32,553 square feet more of WQMA than the 17,025 square feet shown on Lot 1B1 on the Plat. As noted above, Page 1 of the Calculations shows that, if the soil had an acceptable infiltration rate, the three basins would have achieved a phosphorous load reduction of 26%. Page 3 of the Calculations shows that the phosphorus load reduction which the additional 32,553 square feet of WQMA on Lot 1B1 would achieve is 26.5%, slightly more than what the basins would have achieved. The phosphorus load reduction that would be achieved by the total 49,578 square feet of WQMA on Lot 1B1 would be 40.4%, more than that would have been achieved with the basins and the 17,025 square feet of WQMA shown on the Plat.

We request that the Exhibit and Page 3 of the Calculations be approved as a minor modification to the Special Exception in response to issues of soil and drainage. In addition to achieving a higher phosphorus load reduction than the bio-retention basins shown on the Plat would have achieved, the substantially increased area of WQMA will provide more landscaped open space and less grading than would have been the case with the basins. Furthermore, the modification will not have any of the seven results prohibited in Section 9-004.B of the Zoning Ordinance.

Our clients understand that they must obtain a new water quality control partial waiver for the WQMA's shown on the Exhibit, and they have every confidence they will obtain such a waiver after the Exhibit and Page 3 of the Calculations have been determined to be a minor modification of the Special Exception.

Barbara Berlin
Director of Zoning Evaluation
Fairfax County
February 7, 2011
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Enclosed is a check made payable to Fairfax County for the \$500.00 interpretation fee.

Please contact me if you have any questions regarding this request.

Best regards.

Yours truly,

Sarah E Hall

Sarah E. Hall

SEH/sp
Enclosures
cc: Kevin Guinaw

LANTERN HILL - BMP FACILITIES LOT 1B1 January 31, 2011

BMP FACILITIES DESIGN CALCUATIONS

BMP /SE PLAT- 3 BIO/RETENTION FILTER- NO CREDIT WQMA ←

I. WATER QUALITY NARRATIVE: See attachment

II. WATERSHED INFORMATION

Sub-area	Descriptions	"C"	Acres	
(A-1)	Imprev area 3 bio retet	0.90	10769 sqft	0.25 ac
(A-2)	Imprev not controlled	0.90	11717 sqft	0.27 ac
(A-3)	Previous bio/ret control	0.30	29923 sqft	0.69 ac
(A-4)	Previous not control	0.30	70385 sqft	1.62 ac
	totals		122794 sqft	2.82 ac

PART 1:

LIST ALL OF THE SUB-AREA AND "C" FACTOR USED IN THE BMP COMPUTATIONS

(A-1)	Imprev area 3 bio retet	0.90	10769 sqft	0.25 ac	
(A-2)	Imprev not controlled	0.90	11717 sqft	0.27 ac	
(A-3)	Previous bio/ret control	0.30	29923 sqft	0.69 ac	
(A-4)	Previous not control	0.30	70385 sqft	1.62 ac	
	totals		122794 sqft	2.82 ac	2.82 ac.

PART 2: COMPUTE THE WEIGHT AVERAGE "C" FACTOR SITE

(A)	AREA OF SITE		122794		(a)
(B)		"C"	Acres	Product	
(A-1)	Imprev area 3 bio retet	0.90	0.25	0.2225	
(A-2)	Imprev not controlled	0.90	0.27	0.2421	
(A-3)	Previous bio/ret control	0.30	0.69	0.2061	
(A-4)	Previous not control	0.30	1.62	0.4847	
			(b) total	1.1554	
			C =	0.4099	

(b) / (a) = c

(C) WEIGHTED AVERAGE "C" FACTOR

PART 3: COMPUTE THE TOTAL PHOPHORUS REMOVAL FOR THE SITE

Sub - area	BMP	Removal	Area	"C" Factor	Product
Designation	Type	Eff	Ratio	Ratio	
(Area Ratio = (4)= (A-1) / total area; "C"Factor Ratio = (5)="C" factor / Weighted "C")					
(1)	(2)	(3)	(4)	(5)	(6)
(A-1)	bio retention	70	0.09	2.195808	13.5
(A-2)	no controlled	0	0.10	2.195808	0.0
(A-3)	bio retention	70	0.24	0.731936	12.5
(A-4)	not controlled	0	0.57	0.731936	0.0
			1.00	total	26.0 ←

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Zoning Evaluation Division

LANTERN HILL - BMP FACILITIES LOT 1B1 January 31, 2011
BMP FACILITIES DESIGN CALCUATIONS
BMP DESIGN W/ SE APPROVAL W 3 BIO RETENTION & 17,025SF= WQMA

I. WATER QUALITY NARRATIVE: See attachment

II. WATERSHED INFORMATION

Sub-area	Descriptions	"C"	Acres	
(A-1)	Imprev area 3 bio retetior	0.90	10769 sqft	0.25 ac
(A-2)	Imprev not controlled	0.90	11717 sqft	0.27 ac
(A-3)	Previous bio/ret control	0.30	29923 sqft	0.69 ac
(A-4)	Previous not controlled	0.30	53360 sqft	1.22 ac
(A-5)	Previous area WQMA	0.30	17025 sqft	0.39 ac
	totals		122794 sqft	2.82 ac

PART 1:

LIST ALL OF THE SUB-AREA AND "C" FACTOR USED IN THE BMP COMPUTATIONS

(A-1)	Imprev area 3 bio retetior	0.90	10769 sqft	0.25 ac	
(A-2)	Imprev not controlled	0.90	11717 sqft	0.27 ac	
(A-3)	Previous bio/ret control	0.30	29923 sqft	0.69 ac	
(A-4)	Previous not controlled	0.30	53360 sqft	1.22 ac	
(A-5)	Previous area WQMA	0.30	17025 sqft	0.39 ac	
	totals		122794 sqft	2.82 ac	2.82 ac.

PART 2: COMPUTE THE WEIGHT AVERAGE "C" FACTOR SITE

(A)	AREA OF SITE		122794		(a)
(B)		"C"	Acres	Product	
(A-1)	Imprev area 3 bio retetior	0.90	0.25	0.2225	
(A-2)	Imprev not controlled	0.90	0.27	0.2421	
(A-3)	Previous bio/ret control	0.30	0.69	0.2061	
(A-4)	Previous not controlled	0.30	1.22	0.3675	
(A-5)	Previous area WQMA	0.30	0.39	0.1173	
			(b) total	1.1554	
	(b) / (a) = c		C =	0.4099	

(C) WEIGHTED AVERAGE "C" FACTOR

PART 3: COMPUTE THE TOTAL PHOPHORUS REMOVAL FOR THE SITE

Sub - area	BMP	Removal	Area	"C" Factor	Product
Designation	Type	Eff	Ratio	Ratio	
(Area Ratio = (4)= (A-1) / total area; "C"Factor Ratio = (5)="C" factor / Weighted "C")					
(1)	(2)	(3)	(4)	(5)	(6)
(A-1)	bio retention	70	0.09	2.195808	13.5
(A-2)	no controlled	0	0.10	2.195808	0.0
(A-3)	bio retention	70	0.24	0.731936	12.5
(A-4)	no controlled	0	0.43	0.731936	0.0
(A-5)	equal control	100	0.14	1	13.9
			0.86		total 39.8

LANTERN HILL - BMP FACILITIES LOT 1B1 January 31, 2011

BMP FACILITIES DESIGN CALCUATIONS

BMP DESIGN WITH ADDITIONAL WQMA = TOTAL 49,578 SQFT ←

I. WATER QUALITY NARRATIVE: See attachment

II. WATERSHED INFORMATION

Sub-area	Descriptions	"C"	Acres	
(A-1)	Imprev area 3 bio retet	0.90	0 sqft	0.00 ac
(A-2)	Imprev not controlled	0.90	22486 sqft	0.52 ac
(A-3)	Pervious SE WQMA	0.30	17025 sqft	0.39 ac
(A-4)	Pervious not control	0.30	50730 sqft	1.16 ac
(A-5)	Pervious add't WQMA	0.30	32553 sqft	0.75 ac ←
	totals		122794 sqft	2.82 ac

PART 1:

LIST ALL OF THE SUB-AREA AND "C" FACTOR USED IN THE BMP COMPUTATIONS

(A-1)	Imprev area 3 bio retet	0.90	0 sqft	0.00 ac	
(A-2)	Imprev not controlled	0.90	22486 sqft	0.52 ac	
(A-3)	Pervious SE WQMA	0.30	17025 sqft	0.39 ac	
(A-4)	Pervious not control	0.30	50730 sqft	1.16 ac	
(A-5)	Pervious add't WQMA	0.30	32553 sqft	0.75 ac	
	totals		122794 sqft	2.82 ac	2.82 ac.

PART 2: COMPUTE THE WEIGHT AVERAGE "C" FACTOR SITE

(A)	AREA OF SITE		122794	(a)
(B)		"C"	Acres	Product
(A-1)	Imprev area 3 bio retet	0.90	0.00	0.0000
(A-2)	Imprev not controlled	0.90	0.52	0.4646
(A-3)	Pervious SE WQMA	0.30	0.39	0.1173
(A-4)	Pervious not control	0.30	1.16	0.3494
(A-5)	Pervious add't WQMA	0.30	0.75	0.2242
			(b) total	1.1554
			C =	0.4099

$(b) / (a) = c$

(C) WEIGHTED AVERAGE "C" FACTOR

PART 3: COMPUTE THE TOTAL PHOPHORUS REMOVAL FOR THE SITE

Sub - area	BMP	Removal	Area	"C" Factor	Product
Designation	Type	Eff	Ratio	Ratio	
(Area Ratio = (4)= (A-1) / total area; "C"Factor Ratio = (5)="C" factor / Weighted "C")					
(1)	(2)	(3)	(4)	(5)	(6)
(A-1)	bio retention N/A	0	0.00	2.195808	0.0
(A-2)	not controlled	0	0.18	2.195808	0.0
(A-3)	SE WQMA control	100	0.14	1	13.9
(A-4)	not controlled	0	0.41	0.731936	0.0
(A-5)	NEW WQMA Control	100	0.27	1	26.5 ←
			0.73		total 40.4 ←