



Project Name: St. John's College High School Cafeteria Service Road  
 Address: 2607 Military Road NW  
 State: DC

Project Size: 8,000 SF

Using Maryland MDE Regulations

**Potential Drainage Area For Nutrient Load Reduction:**

For 1.2 inch storm event:

89,638.41 SF  
 2.06 Acres

For 1.2 inch/hour storm event we can capture and store runoff from 2.06 Acres

**New SWM Practices Calculation - Event Mean Concentration Method**

			(A)	(B)	(C)	(D)	(E)	(F)
Treated Area (acres)	TN Concentration (mg/l)	TP Concentration (mg/l)	TN Load (lbs/yr)	TP Load (lbs/yr)	TN Load After Reduction (lbs/yr)	TP Load After Reduction (lbs/yr)	TN Difference (lbs/yr)	TP Difference (lbs/yr)
2.06	2	0.30	10	2	7	1	3	1

R = 10.87

- Rainfall Average in Maryland = 40 inches
- Imperviousness = 28% equivalent to Medium Density Residential (based on work by Cappiella, K. and K. Brown, "Impervious Cover and Land Use in the Chesapeake Bay Watershed," Center for Watershed Protection, Ellicott City, Md, 2001); see also "Imperviousness" tab in Nonpoint Source
- Average Urban Pollution Concentrations for TN and TP were cited from the Maryland Stormwater Design Manual, see pp 1.6.

- Use the Simple Method (Schueler, 1987) equation to calculate the load:

$L = 0.226 * R * C * A$  where, the following variables apply:

L = Load (lbs/yr)  
 A= Area Treated (acres)  
 C= Pollutant Concentration (mg/l)  
 R= Runoff  
 0.226 = a unit conversion factor

Where runoff is calculated using the following.

$R = P * Pj * Rv$  where,

P = Annual Rainfall (inches)  
 Ia = Impervious Fraction (%)  
 Pj = Fraction of events that produce runoff (usually 0.9)  
 $Rv = 0.05 + (.9 * Ia)$