Maynard Crossing
Equivalent Water Quality Rainfall Depth Calculation

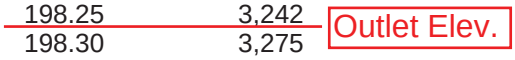
Total Water Quality Volume Provided On Site	A	B	A x B
Stormwater BMP	Impervious Area Draining to BMP (Ac.)	WQV (In)	
CBs to wet basin (see below)	15.752	0.66	10.46
Roofs not infiltrating but drain to wet basin	3.002	0.66	1.99
Raingarden to Basin #3	0.45	0.00	0.00
CBs to forebays to Basin #3	1.46	1.00	1.46
CBs to Isolator Rows to Infiltration	7.18	1.00	7.18
Supermarket roof	1.58	0.00	0.00
Totals	29.42		21.10
Total Water Quality Volume Provided On Site	**0.72**	**in**	

Excludes roofs draining directly to infiltration but includes roofs draining to perforated pipes
Calculation is a weighted average

Calculation of rainfall depth provided by wet basin		
WQV Required for CBs and roofs to Wet Basin=	68,077	cf
Permanent Pool Volume Provided=	90,449	cf
WQV provided in permanent pool (1/2 perm pool)	45,225	cf
Equivalent water quality rainfall provided in basin=	**0.66**	in

Stage-Area-Storage for Pond 16: UG #16 for CBs 45, 46, 47

Elevation (feet)	Storage (cubic-feet)
195.00	0
195.05	32
195.10	64
195.15	96
195.20	128
195.25	160
195.30	192
195.35	225
195.40	257
195.45	289
195.50	321
195.55	386
195.60	452
195.65	517
195.70	582
195.75	647
195.80	712
195.85	776
195.90	840
195.95	905
196.00	968
196.05	1,032
196.10	1,095
196.15	1,158
196.20	1,221
196.25	1,283
196.30	1,345
196.35	1,407
196.40	1,468
196.45	1,529
196.50	1,590
196.55	1,650
196.60	1,710
196.65	1,769
196.70	1,828
196.75	1,886
196.80	1,944
196.85	2,002
196.90	2,059
196.95	2,115
197.00	2,171
197.05	2,226
197.10	2,281
197.15	2,335
197.20	2,388
197.25	2,440
197.30	2,492
197.35	2,542
197.40	2,592
197.45	2,641
197.50	2,689
197.55	2,736
197.60	2,781
197.65	2,825
197.70	2,868
197.75	2,908
197.80	2,945
197.85	2,981
197.90	3,016
197.95	3,050
198.00	3,082
198.05	3,114
198.10	3,146
198.15	3,178
198.20	3,210
198.25	3,242
198.30	3,275
198.35	3,307
198.40	3,339
198.45	3,371
198.50	**3,403**



INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: CBs to Wet Basin

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
Wet Basin	**0.80**	**0.75**	**0.60**	**0.15**
	0.00	**0.15**	**0.00**	**0.15**
	0.00	**0.15**	**0.00**	**0.15**
	0.00	**0.15**	**0.00**	**0.15**

Total TSS Removal = **85%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: W161189

Prepared By: **Bohler Engineering**

Date: **7/26/2017**

*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: CBs to to open infiltration basin (total TSS)

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
Infiltration Basin	**0.80**	**0.75**	**0.60**	**0.15**
	0.00	**0.15**	**0.00**	**0.15**
	0.00	**0.15**	**0.00**	**0.15**
	0.00	**0.15**	**0.00**	**0.15**

Total TSS Removal = **85%**

Separate Form Needs to be Completed for Each Outlet or BMP Train

Project: W161189

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Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

1. Sheet is nonautomated. Print sheet and complete using hand calculations. Column A and B: See MassDEP Structural BMP Table
2. The calculations must be completed using the Column Headings specified in Chart and Not the Excel Column Headings
3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: CBs to to open infiltration basin (pretreatment)

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Rain Garden	**0.44**	**1.00**	**0.44**	**0.56**

Total TSS Removal = **44%** **Completed for Each Outlet or**

Project: **W161189**

Prepared By: **Bohler Engineering**

Date: **7/26/2017**

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

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4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: CBs to to open infiltration basin (pretreatment)

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
Sediment Forebay	**0.25**	**0.75**	**0.19**	**0.56**

Total TSS Removal = **44%** **Completed for Each Outlet or**

Project: **W161189**

Prepared By: **Bohler Engineering**

Date: **7/26/2017**

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

Non-automated: Mar. 4, 2008

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3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: CBs to Underground Infiltration (Total TSS)

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
Underground Infiltration Basins	**0.80**	**0.75**	**0.60**	**0.15**

Total TSS Removal = **85%** **Completed for Each Outlet or**

Project: **W161189**

Prepared By: **Bohler Engineering**

Date: **7/26/2017**

*Equals remaining load from previous BMP (E) which enters the BMP

INSTRUCTIONS:

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3. To complete Chart Column D, multiple Column B value within Row x Column C value within Row
4. To complete Chart Column E value, subtract Column D value within Row from Column C within Row
5. Total TSS Removal = Sum All Values in Column D

Location: CBs to Underground Infiltration (Pretreatment)

TSS Removal Calculation Worksheet

A BMP[1]	B TSS Removal Rate[1]	C Starting TSS Load*	D Amount Removed (B*C)	E Remaining Load (C-D)
Deep Sump and Hooded Catch Basin	**0.25**	**1.00**	**0.25**	**0.75**
Stormtech Isolator Row	**0.25**	**0.75**	**0.19**	**0.56**

Total TSS Removal = **44%** **Completed for Each Outlet or**

Project: **W161189**

Prepared By: **Bohler Engineering**

Date: **7/26/2017**

*Equals remaining load from previous BMP (E) which enters the BMP