

General Information

Instructions
General
Volume
Rate
Quality

<p>Project Name: <input style="width: 90%;" type="text" value="2951 BETZ COURT SITE"/></p> <p>County: <input style="width: 90%;" type="text" value="Lehigh"/></p> <p>Project Type: <input style="width: 90%;" type="text" value="Commercial Building"/></p> <p>Area: <input style="width: 100px;" type="text" value="28.00"/> acres <i>(In Watershed)</i></p> <p>No. of Post-Construction Discharge Points: <input style="width: 60px;" type="text" value="1"/></p>	<p>Application Type: <input style="width: 90%;" type="text" value="Individual NPDES Application"/></p> <p>Municipality: <input style="width: 90%;" type="text" value="Lowhill Township"/></p> <p> <input checked="" type="radio"/> New Project <input type="radio"/> Minor / Major Amendment </p> <p>Total Earth Disturbance: <input style="width: 100px;" type="text" value="28.00"/> acres <i>(In Watershed)</i></p> <p>Start DP Numbering at: <input style="width: 60px;" type="text" value="003"/></p>
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Discharge Point (DP) No.	Drainage Area (DA) (acres)	Earth Disturbance in DA (acres)	Existing Impervious in DA (acres)	Proposed Impervious in DA (acres)	Receiving Waters	Ch. 93 Class	Structural BMP(s)
003	28.00	28.00	13.28	13.55	UNT to Jordan Creek	HQ-CWF, MF	Yes
Undetained Areas							
Totals:	28.00	28.00	13.28	13.548			

Volume Management

Project: 2951 BETZ COURT SITE

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2-Year / 24-Hour Storm Event (NOAA Atlas 14): inches Alternative 2-Year / 24-Hour Storm Even inches

Alternative Source:

Pre-Construction Conditions: No. Rows: Exempt from Meadow in Good Condition Automatically Calculate CN, Ia, Runoff and Volume

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Forested (Good Condition)	6.50	B	55	1.636	0.26	6,130
Impervious Areas: Streets and Roads - Gravel (Including ROW)	10.88	B	85	0.353	1.78	70,429
Impervious Areas: Commercial	0.73	B	98	0.041	3.00	7,943
Impervious as Meadow	2.90	B	58	1.448	0.35	3,704
Pervious as Meadow	7.84	B	58	1.448	0.35	10,013

TOTAL (ACRES): 28.85 **TOTAL (CF): 98,218**

Post-Construction Conditions: No. Rows:

Land Cover	Area (acres)	Soil Group	CN	Ia (in)	Q Runoff (in)	Runoff Volume (cf)
Impervious Areas: Commercial	13.56	B	98	0.041	3.00	147,539
Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	3.73	B	58	1.448	0.35	4,764
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	9.49	B	61	1.279	0.46	15,719
Woods (Good Condition)	2.09	B	55	1.636	0.26	1,971

TOTAL (ACRES): 28.87

TOTAL (CF): 169,992

ET CHANGE IN VOLUME TO MANAGE (CF): **71,775**

Non-Structural BMP Volume Credits:

- Tree Planting Credit
- Other (attach calculations):

Structural BMP Volume Credits:

No. Structural BMPs: **3**

Start BMP Numbering at: **1**

DP No.	BMP No.	BMP Name	MRC?	Discharge	Incremental BMP DA (acres)	Volume Routed to BMP (CF)	Infiltration / Vegetated Area (SF)	Infiltration Rate (in/hr)	Infiltration Period (hrs)	Vegetated?	Media Depth (ft)	Storage Volume (CF)	Infiltration Credit (CF)	ET Credit (CF)
003	1	Infiltration Basin	-	Off-Site	8.34	76,412	20,791	2.00	28	Yes	2.0	35,549	72,973	3,439
003	2	Dry Extended Detention Basin	-	to BMP No. 3	11.93	65,383	21,229			Yes	2.0	0		11,166
003	3	Riparian Forest Buffer (Min 150 Ft)	-	Off-Site	0.00	66,227								

Totals: 72,973 14,606

INFILTRATION & ET CREDITS (CF): **87,578**

RIPARIAN FOREST BUFFER CREDIT (CF): **66,227**

NET CHANGE IN VOLUME TO MANAGE (CF): **71,775**

TOTAL CREDITS (CF): **153,805**

VOLUME REQUIREMENT SATISFIED

Rate Control

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Precipitation Amounts:

NOAA 2-Year 24-Hour Storm Event (in):	3.23	Alternative 2-Year 24-Hour Storm Event (in):	
NOAA 10-Year 24-Hour Storm Event (in):	4.71	Alternative 10-Year 24-Hour Storm Event (in):	
NOAA 50-Year 24-Hour Storm Event (in):	6.62	Alternative 50-Year 24-Hour Storm Event (in):	
NOAA 100-Year 24-Hour Storm Event (in):	7.61	Alternative 100-Year 24-Hour Storm Event (in):	

Report Summary of Peak Rates Only

Attach model input and output data or other calculations to support the rates reported below.

<i>Peak Discharge Rates (cfs)</i>				
	Pre-Construction	Post-Construction	Net Change	
2-Year Storm:	26.60	25.06	-1.54	<i>Rate Control Satisfied</i>
10-Year Storm:	106.15	60.14	-46.01	<i>Rate Control Satisfied</i>
50-Year Storm:	180.54	119.40	-61.14	<i>Rate Control Satisfied</i>
100-Year Storm:	222.59	153.01	-69.58	<i>Rate Control Satisfied</i>

Water Quality

Project: 2951 BETZ COURT SITE

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Instructions General Volume Rate **Quality**

Pre-Construction Pollutant Loads:

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Forested (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	6.50	B	6,130	45.0	0.13	1.05	17.22	0.05	0.40
Impervious Areas: Streets and Roads - Gravel (Including ROW)	Highway (general)	10.88	B	70,429	141.0	0.43	2.65	620.08	1.89	11.65
Impervious Areas: Commercial	Commercial	0.73	B	7,943	61.7	0.22	2.02	30.61	0.11	1.00
Impervious as Meadow	Grassland/Herbaceous	2.90	B	3,704	48.8	0.22	2.30	11.29	0.05	0.53
Pervious as Meadow	Grassland/Herbaceous	7.84	B	10,013	48.8	0.22	2.30	30.51	0.14	1.44
TOTAL (ACRES):		28.85			TOTALS:			709.72	2.24	15.03

Post-Construction Pollutant Loads (without BMPs):

Land Cover (from Volume Worksheet)	Land Cover for Water Quality	Area (acres)	Soil Group	Runoff Volume (cf)	Pollutant Conc. (mg/L)			Pollutant Loads (lbs)		
					TSS	TP	TN	TSS	TP	TN
Impervious Areas: Commercial	Commercial	13.56	B	147,539	61.7	0.22	2.02	568.61	2.03	18.61

Meadow-Continuous Grass, Protected from Grazing and Generally Mowed for Hay	Grassland/Herbaceous	3.73	B	4,764	48.8	0.22	2.30	14.52	0.07	0.68
Open Space (Lawns, Parks, Golf Courses, Cemeteries, Etc.) - Good Condition (Grass Cover > 75%)	Open Space	9.49	B	15,719	78.0	0.25	1.25	76.56	0.25	1.23
Woods (Good Condition)	Deciduous Forest/Evergreen Forest/Mixed Forest	2.09	B	1,971	45.0	0.13	1.05	5.54	0.02	0.13

TOTAL (ACRES): 28.87

TOTALS: 665.22 2.35 20.65

POLLUTANT LOAD REDUCTION REQUIREMENTS (LBS): 0.00 0.12 5.62

Characterize Undetained Areas (for Untreated Stormwater)

Non-Structural BMP Water Quality Credits:

Pervious Undetained Area Credit

Other (attach calculations)

Structural BMP Water Quality Credits:

Use default BMP Outflows and Median BMP Outflow Concentrations

DP No.	BMP No.	BMP Name	MRC?	BMP DA (acres)	Vol. Routed to BMP (CF)	Inf. & ET Credits (CF)	Capture & Buffer Credits (CF)	Outflow (CF)	Outflow Conc. (mg/L)			Pollutant Loads (lbs)		
									TSS	TP	TN	TSS	TP	TN
003	1	Infiltration Basin	-	8.34	76,412	76,412		0	10.00	0.24	0.96	0.00	0.00	0.00
003	2	Dry Extended Detention Basin	-	11.93	65,383	11,166		54,217	-	-	-	-	-	-
003	3	Riparian Forest Buffer (Min 150 Ft)	-	0.00	66,227		66,227	0	0.00	0.00	0.00	0.00	0.00	0.00

POLLUTANT LOADS FROM STRUCTURAL BMP (TREATED) OUTFLOWS (LBS):

TSS	TP	TN
0.00	0.00	0.00

POLLUTANT LOADS FROM UNTREATED STORMWATER (LBS):	63.34	0.22	1.97
NON-STRUCTURAL BMP WATER QUALITY CREDITS (LBS):			
NET POLLUTANT LOADS FROM SITE, POST-CONSTRUCTION (LBS):	63.34	0.22	1.97
POLLUTANT LOADS FROM SITE, PRE-CONSTRUCTION (LBS):	709.72	2.24	15.03

WATER QUALITY REQUIREMENT SATISFIED

CERTIFICATION

I certify under penalty of law and subject to the penalties of 18 Pa.C.S. § 4904 (relating to unsworn falsification to authorities) that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify that the structure, function, and calculations contained in this spreadsheet have not been modified in comparison to the spreadsheet DEP has posted to its website or, if modifications were made, an explanation of the modifications made is attached to this spreadsheet.

Joshua D. Hoffman, P.E.

Spreadsheet User Name

12/5/2022

Date