

Ohio Department of Transportation - Office of Hydraulic Engineering Post-Construction BMP Calculation Spreadsheet

## **Post Construction - Project Summary**

Project Data		Units
Project EDA	2.64	acres
Is the Project Routine Maintenance per L&D Vol. 2, Sec.		
1112.2	No	
BMPs Required?	<b>BMPs Required</b>	NA
Ain (New Impervious Area in New Permanent R/W	0	acres
Does Entire Site Drain to Large River (>100 sq. miles)?	No	
Water Quality Treatment Required	Yes	
Water Quantity Treatment Required	No	
Treatment Percent and Treatment Requirement		
Aix (Project EDA that is inside the existing right-of-way)	2.13	acres
Ain (New Impervious Area in New Permanent R/W)	0	acres
T% (Treatment Percent)	20.00	%
Treatment Requirement	0.53	acres

#### **BMPs Provided**

			Contributing
		Contributing	Drainage Area in
BMP		Drainage Area	ODOT R/W
Name	ВМР Туре	(acres)	(acres)
MS01	Manufactured System	0.57	0.57

#### **Treatment Provided**

Total Area with ODOT R/W Treated (acres)	0.57
Treatment Requirements (acres)	0.53
Treatment Check	Good

#### BMP Submittal Requirements (Per L&D, Vol. 2, Sec. 1116.2)

1. Estimated Project Earth Disturbed Area	Yes	Good
2. Treatment Percent Calculation	Yes	Good
3. BMP Selected for use	Yes	Good
4. Drainage area mapping for post-construction BMPs that show the		
total contributing drainage area and the amount of contributing area	Yes	Good
within ODOT right-of-way		
5. Plan sheets showing locations of post-construction BMP	Yes	Good
6. Calculations for each BMP	Yes	Good
7. Explanation for any area that is not treated	Yes	Good



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# Water Quality Flow Rate (WQ<sub>F</sub>)

Drainage Area #1	Area (acres)	Coefficient of Runoff (C)
Tributary Area within Existing R/W	0.57	0.9
Impervious Trib. Area Outside Existing R/W	0.00	0.9
Tributary Area Land Use #3	0.00	0.5
Tributary Area Land Use #4	0.00	0.3
Total Tributary Area	0.57	0.900
ВМР Туре	Manufactured System	
Time of Concentration (minutes)	12	
Intensity, i (in/hr)	1.68	
Water Quality Flow (WQ <sub>F</sub> )	0.862	cfs

Drainage Area #2	Area (acres)	Coefficient of Runoff (C)
Tributary Area within Existing R/W		0.9
Impervious Trib. Area Outside Existing R/W		0.9
Tributary Area Land Use #3		
Tributary Area Land Use #4		
Total Tributary Area	0.00	
ВМР Туре		
Time of Concentration (minutes)		
Intensity, i (in/hr)		
Water Quality Flow (WQ <sub>F</sub> )		cfs

Drainage Area #3	Area (acres)	Coefficient of Runoff (C)
Tributary Area within Existing R/W		0.9
Impervious Trib. Area Outside Existing R/W		0.9
Tributary Area Land Use #3		
Tributary Area Land Use #4		
Total Tributary Area	0.00	
ВМР Туре		]
Time of Concentration (minutes)		
Intensity, i (in/hr)		
Water Quality Flow (WQ <sub>F</sub> )		cfs

Drainage Area #4	Area (acres)	Coefficient of Runoff (C)
Tributary Area within Existing R/W		0.9
Impervious Trib. Area Outside Existing R/W		0.9
Tributary Area Land Use #3		
Tributary Area Land Use #4		
Total Tributary Area	0.00	
ВМР Туре		]
Time of Concentration (minutes)		
Intensity, i (in/hr)		
Water Quality Flow (WQ <sub>F</sub> )		cfs



### **Manufactured Systems**

Drainage Area #	Total Tributary Area (acres)	Tributary Area within R/W (acres)	WQ <sub>F</sub> (cfs)	Required Manufactured System Type	Manufactured System Type Provided
A1	0.57	0.57	0.862	1	1

Yellow: Requires Input (See instructions tab)

Total Area Treated by Manufactured Systems (within the right-of-way)

0.57 acres

(Treatment is for quality only, not quantity)

### **BMP** Design Considerations

1. Does the Water Quality flow rate match the system type in L&D Table 1117-1?	Yes	Good
2. Is the Water Quality flow rate greater than 6 cfs including all contributing area?	No	Good
3. Is the manufactured system located under a traffic lane?	No	Good
4. Is the storm sewer draining to the manufactured system deeper than 10 feet?	No	Good
5. Is there clear maintenance access to the manufactured system?	Yes	Good