

PROJECT SHEET *BASE DESIGN STANDARDS*

Complete one Project Sheet for each project that includes Stormwater Quality Control Measures. Please email stormwater@erieco.gov with any questions. This document acceptance shall not be construed to relieve any requirement to conform to the Standards and Specifications not specifically addressed in this form. The engineering design and concept remain the responsibility of the professional engineer.

SITE INFORMATION

Project Name:			
Project Location:			
Submitted Date:		Submitted By:	
Applicant Email:		Applicant Phone:	
Applicant Organization:			
Acreage Disturbed:			
Existing Impervious:		New Net Impervious:	
Review Date:		Reviewed By:	
✓ Preparer	Requirements		
	Design Details are included for all Control Measures (CM)		
	List or include a description of any Source CMs (i.e. preventing pollutants from contacting stormwater) or other non-structural CMs:		
	Does project overlap multiple MS4 Jurisdictions?	Yes	No
	If project overlaps jurisdictions, provide written agreement designating responsibility for CM requirements, review, inspections		

DESIGN STANDARDS

Design Standards may be used in combination, as necessary, to meet the requirements. Additional design methods may be considered if they comply with the MS4 Permit. Evaluation of the suitability of Stormwater Quality Control Measures (CMs) is based on pollutant removal, flood attenuation and long-term maintenance. CMs must be designed in accordance with the most current version of [USDCM vol. 3, Chapter 4 "Treatment BMPs"](#) and the Town of Erie’s Standards and Specifications. CMs must also meet the specific requirements for each Design Standard used. Design Standard requirements can be found on the MS4 general permit here: [COR90000](#)

1. Indicate below, which Design Standards will be used for the project, and
2. Complete a separate, corresponding Design Standards checklist for each CM (e.g., WQCV, etc.)

<i>Design Standard</i>	<i># CMs</i>	<i>Location/Identifying information</i>
WQCV		
Pollutant Removal		
Runoff Reduction		
Regional WQCV Control Measure		
Regional WQCV Facility		

CHECKLIST WQCV Standard

WQCV STANDARD Criteria

Control measure(s) must be designed to provide treatment and/or infiltration of the Water Quality Capture Volume (WQCV) for 100% of the site.

Complete checklist if using the WQCV Standard to meet Design Standard requirements.

Project Name:	
Preparer	Requirements
	Control measure(s) provide treatment and/or infiltration of the WQCV for 100% of the site
	% of site treated:
	CM type:
	CM ID/location:
	See Drainage Report section:

If less than 100% of the site is treated, complete the following:

Preparer	Requirements		
	% of site not treated by control measures (not to exceed 20% or 1 acre):		
	<table border="1"> <tr> <td style="width: 50%; text-align: center;">%</td> <td style="width: 50%; text-align: center;">size (acres)</td> </tr> </table>	%	size (acres)
%	size (acres)		
	Provide explanation that the excluded area is impractical to treat:		
	Provide explanation that another CM is not practicable for the untreated area:		

CHECKLIST Pollutant Removal Standard

POLLUTANT REMOVAL STANDARD Criteria

Control measure(s) must be designed to provide treatment of the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS), at a minimum, to a median value of 30mg/L or less for 100% of the site. Substantiating data must meet criteria in USDCM vol.3 and be included in the submittal.

Complete checklist if using the Pollutant Removal Standard to meet Design Standard requirements.

Project Name:			
Preparer	Requirements		
	Control measure(s) provide treatment of the 80th percentile storm event. The control measure(s) treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS) to a median value of 30mg/L or less for 100% of the site.		
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">CM type:</td> <td style="width: 50%;">CM ID/location:</td> </tr> </table>	CM type:	CM ID/location:
CM type:	CM ID/location:		
	Storm event:		
	TSS mg/L reduction:		
	% of site treated:		
	See Drainage Report section:		

If less than 100% of the site is treated, complete the following:

Preparer	Requirements	
	% of site not treated by control measures (not to exceed 20% or 1 acre):	
	%	size (acres)
	Provide explanation that the excluded area is impractical to treat:	
	Provide explanation that another CM is not practicable for the untreated area:	

CHECKLIST Runoff Reduction Standard

RUNOFF REDUCTION STANDARD Criteria

Control measure(s) must be designed to infiltrate, evaporate or evapotranspire, at a minimum, a quantity of water equal to 60% of what the calculated WQCV would be if all impervious area discharged without infiltration. This Standard can be met through practices such as Green Infrastructure and Low Impact Development practices.

Complete checklist if using the Runoff Reduction Standard to meet Design Standard requirements.

Project Name:		
Preparer	Requirements	
	Control measure infiltrates, evaporates or evapotranspires at least 60% of WQCV	
	% treated through runoff reduction:	
	CM type:	CM ID/location:
	See Drainage Report section:	

CHECKLIST Regional WQCV Control Measure Standard

REGIONAL WQCV CONTROL MEASURE STANDARD Criteria

Control Measure(s) must be designed to accept the drainage from the applicable development site. Stormwater from the site must not discharge to a water of the state before being discharged to the Regional WQCV Control Measure. The Regional WQCV Control Measure must be designed to provide treatment and/or infiltration of the WQCV for 100% of the applicable development site.

Complete checklist if using the Regional WQCV Control Measure Standard to meet Design Standard requirements.

Project Name:	
Preparer	Requirements
	Control Measure(s) are designed to accept the drainage from the site
	Stormwater from the site must not discharge to a water of the state before being discharged to the Regional WQCV Control Measure
	The Regional WQCV Control Measure is designed to provide treatment and/or infiltration of the WQCV for 100% of the site
	CM ID/location:
	See Drainage Report section:

If less than 100% of the site is treated, complete the following:

Preparer	Requirements	
	% of site not treated by control measures (not to exceed 20% or 1 acre):	
	%	size (acres)
	Provide explanation that the excluded area is impractical to treat:	
	Provide explanation that another CM is not practicable for the untreated area:	

CHECKLIST Regional WQCV Facility Standard

REGIONAL WQCV FACILITY STANDARD Criteria

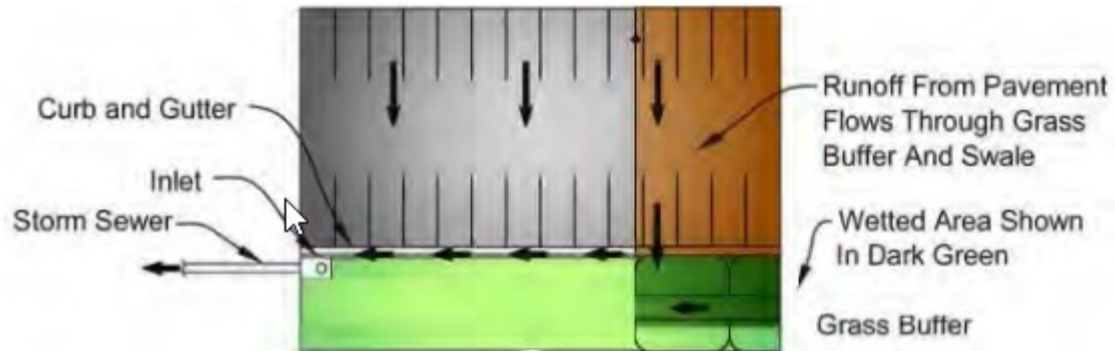
Control Measure(s) must be designed to accept drainage from the applicable development site. Stormwater from the site may be discharged to a water of the state before being discharged to the Regional WQCV facility. Before discharging to a water of the state, at least 20 percent of the upstream imperviousness of the site must be disconnected from the storm drainage system and drain through a receiving pervious area control measure comprising a footprint of at least 10 percent of the upstream disconnected impervious area of the applicable development site. In addition, the stream channel between the discharge point of the applicable development site and the Regional WQCV facility must be stabilized.

Complete checklist if using the Regional WQCV Facility Standard to meet Design Standard requirements.





Project Name:	
Preparer	Requirements
	The Regional WQCV Facility is implemented, functional, and maintained following good engineering, hydrologic and pollution control practices.
	The Regional WQCV Facility is designed and operating in accordance with the original design and/or USDCM vol.3.
	The Regional WQCV Facility is designed and operating to provide 100% WQCV for its entire drainage area.
	The Regional WQCV Facility has capacity to accommodate the drainage from the site.
	The Regional WQCV Facility is designed and built to comply with all assumptions for the development planned within the drainage area and site.
	Evaluation of the minimum drain time is based on the pollutant removal mechanism and functionality of the facility.
	The Regional WQCV Facility is designed and constructed with flood control and water quality as the primary use. Recreational ponds and reservoirs or Classified State Waters cannot be used as Regional WQCV Facilities.
	% of site treated in facility:
	% of unconnected imperviousness area (prior to facility):
	% of receiving pervious area (prior to facility):
	Stream channel stabilized (include documentation)
	Stream reach:
	Method of stabilization:
	Date completed:
	Included in project scope:
	CM type:
	CM ID/location:
	See Drainage Report section:

Regional WQCV Facility Standard example

Example Water Quality Enhancements for Site Tributary to Regional Facility



LEGEND

-  Directly Connected Impervious Area
-  Unconnected Impervious Area (Equal to 20% of the Total impervious area)
-  Receiving Pervious Area (Equal to 10% of the unconnected impervious area)
-  Separate Pervious Area

PROJECT SHEET *CONSTRAINED SITE STANDARD*

Complete one Project Sheet for each project that is Constrained and includes Stormwater Quality CMs.

CONSTRAINED REDEVELOPMENT SITES

Constrained Redevelopment Sites are sites where the existing condition is >35% imperviousness and the proposed redevelopment will result in >75% imperviousness. If the proposed redevelopment will result in >75% imperviousness, but the existing condition is <35% imperviousness, the Constrained Site Standard cannot be used and Base Design Standards must be followed. **The Constrained Site Standard can only be used if it is determined that it is not practicable to meet any of the Base Design Standards.** It is incumbent on the design engineer to demonstrate adherence to Base Design Standards has been thoroughly evaluated and found to be infeasible before a Constrained Site Standard is proposed.

SITE INFORMATION

Project Name:			
Project Location:			
Submitted Date:		Submitted By:	
Acreage Disturbed:			
Existing Impervious:		New Net Impervious:	
Review Date:		Reviewed By:	
✓ Preparer	Requirements		
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DESIGN STANDARDS

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1. Indicate below, which Design Standards will be used for the project, and
2. Complete a separate, corresponding Design Standards checklist for each CM (e.g., WQCV, etc.)

<i>Design Standard</i>	<i># CMs</i>	<i>Location/Identifying information</i>
WQCV		
Pollutant Removal		
Runoff Reduction		

CHECKLIST Constrained WQCV Standard

APPLICABILITY

Constrained Redevelopment Sites are sites where the existing condition is >35% imperviousness and the proposed redevelopment will result in >75% imperviousness. If the proposed redevelopment will result in >75% imperviousness, but the existing condition is <35% imperviousness, the Constrained Site Standard cannot be used and Base Design Standards must be followed. **The Constrained Site Standard can only be used if it is determined that it is not practicable to meet any of the Base Design Standards.** It is incumbent on the design engineer to demonstrate adherence to Base Design Standards has been thoroughly evaluated and found to be infeasible before a Constrained Site Standard is proposed.

The minimum treatment levels are included below and treatment should be maximized to the extent feasible under constrained site conditions.

CONSTRAINED WQCV STANDARD Criteria

Control measure(s) must be designed to provide, at a minimum, treatment and/or infiltration of the WQCV for 50% of the site.

Complete checklist if using the Constrained WQCV Standard to meet Design Standard requirements.

Project Name:		
Preparer	Requirements	
	Control measure(s) provide treatment and/or infiltration of the WQCV for 50% of the site	
	% of site treated:	
	CM type:	CM ID/location:
	See Drainage Report section:	
	Provide an evaluation of the infeasibility of Base Design Standards and justification for use of Constrained Site Standard:	

CHECKLIST Constrained Pollutant Removal Standard

APPLICABILITY

Constrained Redevelopment Sites are sites where the existing condition is >35% imperviousness and the proposed redevelopment will result in >75% imperviousness. If the proposed redevelopment will result in >75% imperviousness, but the existing condition is <35% imperviousness, the Constrained Site Standard cannot be used and Base Design Standards must be followed. **The Constrained Site Standard can only be used if it is determined that it is not practicable to meet any of the Base Design Standards.** It is incumbent on the design engineer to demonstrate adherence to Base Design Standards has been thoroughly evaluated and found to be infeasible before a Constrained Site Standard is proposed.

The minimum treatment levels are included below and treatment should be maximized to the extent feasible under constrained site conditions.

CONSTRAINED POLLUTANT REMOVAL STANDARD Criteria

Control measure(s) must be designed to provide treatment of the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS), at a minimum, to a median value of 30mg/L or less for 50% of the site. Substantiating data must meet criteria in USDCM vol.3 and be included in the submittal.

Complete checklist if using the Constrained Pollutant Removal Standard to meet Design Standard requirements.

Project Name:	
Preparer	Requirements
	Control measure(s) provide treatment of the 80th percentile storm event. The control measure(s) shall be designed to treat stormwater runoff in a manner expected to reduce the event mean concentration of total suspended solids (TSS) to a median value of 30mg/L or less for 50% of the site.
	CM type: CM ID/location:
	Storm event:
	TSS mg/L reduction:
	% of site treated:
	See Drainage Report section:
	Provide an evaluation of the infeasibility of Base Design Standards and justification for use of Constrained Site Standard:

CHECKLIST Constrained Runoff Reduction Standard

APPLICABILITY

Constrained Redevelopment Sites are sites where the existing condition is >35% imperviousness and the proposed redevelopment will result in >75% imperviousness. If the proposed redevelopment will result in >75% imperviousness, but the existing condition is <35% imperviousness, the Constrained Site Standard cannot be used and Base Design Standards must be followed. **The Constrained Site Standard can only be used if it is determined that it is not practicable to meet any of the Base Design Standards.** It is incumbent on the design engineer to demonstrate adherence to Base Design Standards has been thoroughly evaluated and found to be infeasible before a Constrained Site Standard is proposed.

The minimum treatment levels are included below and treatment should be maximized to the extent feasible under constrained site conditions.

CONSTRAINED RUNOFF REDUCTION STANDARD Criteria

Control measure(s) must be designed to infiltrate, evaporate or evapotranspire, at a minimum, a quantity of water equal to 30% of what the calculated WQCV would be if all impervious area discharged without infiltration. This Standard can be met through practices such as Green Infrastructure and Low Impact Development practices.

Complete checklist if using the Constrained Runoff Reduction Standard to meet Design Standard requirements.

Project Name:	
Preparer	Requirements
	Control measure infiltrates, evaporates or evapotranspires at least 30% of WQCV
	% treated through runoff reduction:
CM type:	CM ID/location:
	See Drainage Report section:
	Provide an evaluation of the infeasibility of Base Design Standards and justification for use of Constrained Site Standard: