Ohio EPA Permits Update, Division of Surface Water, Storm Water

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Construction General Permit (CGP)



2017-2018 Review of Post-Construction

- 1. Reduce ineffective (or failure to apply) post-construction BMPs on small sites?
- 2. Water Quality Volume equation hitting 80% TSS goal?
 - Update w/ latest data and average annual runoff
 - Assess the volumetric runoff coefficient

$$WQv = P_{wq} \times C \times A_{disturbed} \div 12$$



Draft Permit-Proposed Changes

- 1. Submittal of all plans (SWP3)
- 2. Remove 2 bullets re sediment basins; 12" sediment barriers in place of silt fence
- 3. Post-C SW

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- A. WQv capture (Table 2) practice for all developments > 1 ac
- B. WQv Calculation:
 - i. Volumetric runoff coefficient equation to Rv = 0.05 + 0.9i
 - ii. Increase precipitation (P) from 0.75 to 0.9 inches
- C. Add to Table of Practices
- D. Credit green infrastructure practices (reduce the WQv)
- E. Redevelopment –20% of WQv w/ green infrastructure practice; or 40% of WQv w/ standard practice
- F. Alternative practices: testing, particle size distribution and WQF
- 4. On-site infiltration for Big Darby groundwater recharge
- 5. Next inspection after rainfall: on the next work day



Draft Permit-Proposed Changes

- 1. Submittal of all plans (SWP3): Big Darby/Olentangy
- 2. Remove 2 bullets re sediment basins; 12" sediment barriers in place of silt fence
- 3. Post-Construction SW
 - A. WQv capture (Table 2) practice for all developments: ≥ 2 ac
 - B. WQv Calculation:

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- i. Volumetric runoff coefficient equation to Rv = 0.05 + 0.9i
- ii. Increase precipitation (P) from 0.75 to 0.9 inches
- C. Add to Table of Practices (Underground Det., Infiltration Basin)
- D. Credit green infrastructure practices (reduce the WQv)
- E. Redevelopment –20% of WQv w/ green infrastructure practice; or 40% of WQv w/ standard practice
- F. Alternative practices: testing, particle size distribution and WQF
- 4. On-site infiltration for Big Darby groundwater recharge
- 5. Next inspection after rainfall: on the next work day



The Process

• Early Stakeholder Outreach – May to Dec. 2017

- Draft Permit February, 2018
- More meetings with stakeholders
- Comments submitted April 4, 2018
- OHC00005 Permit Issued on April 23



otal Pages: 60

centry this to be a true and accurate copy of the ifficial documents as filed in the records of the Ohic invironmental Protection Acency.





Changes to the Permit

Online submittal of SWP3 is requested, but not required (except in Big Darby Creek and portions of the Olentangy River watersheds.



Protection Agency

Changes to the Permit

- 1. Sediment basins and sediment barriers clarifications
 - All sed. basins have drain times of 48 hours
 - Sediment basins are appropriate for sites < 10 ac
 - Minimum size sediment barrier as replacement for silt fence





"For most applications, standard silt fence is replaced with 12" diameter filter socks." (Rainwater and Land Development manual, *updated 11-6-14*. Chapter 6, page 48.

Post-Construction Changes

Capture WQv in a Table 4a/4b practice for all developments



For < 2 acres:

- May use an alternative practice if you show that 4a/4b are not feasible and the regulated MS4 approves.
- Green infrastructure BMPs are encouraged.



Post-Construction Changes

$WQv = Rv \cdot P \cdot A / 12$

Where,

- WQv = water quality volume
- Rv = 0.05 + 0.9i (from 0.858i3 0.78i2 + 0.774i + 0.04)
- P = precipitation of 0.9 (from 0.75)
- A = area



Post-Construction Changes

Additional options and notes for Table of Practices

Table 4a Extended Detention Post-Construction Practices with Minimum Drain Times				
Extended Detention Practices	Minimum Drain Time of WQv			
Wet Extended Detention Basin ^{1,2}	24 hours			
Constructed Extended Detention Wetland ^{1,2}	24 hours			
Dry Extended Detention Basin ^{1,3}	48 hours			
Permeable Pavement – Extended Detention ¹	24 hours			
Underground Storage – Extended Detention ^{1,4}	24 hours			
Sand & Other Media Filtration - Extended Detention ^{1, 5}	24 hours			

Table 4b Infiltration Post-Construction Practices with Maximum Drain Times			
Infiltration Practices	Maximum Drain Time of WQv		
Bioretention Area/Cell ^{1,2}	24 hours		
Infiltration Basin ²	24 hours		
Infiltration Trench ³	48 hours		
Permeable Pavement – Infiltration ³	48 hours		
Underground Storage – Infiltration ^{3,4}	48 hours		



Infiltration Basin

Underground Stormwater Management Systems





Runoff Reduction Practices

The WQv can be reduced by incorporating runoff reducing practices into the design of the site's drainage system.

- 1. Bioretention
- 2. Infiltration basin/trench
- 3. Permeable pavement with infiltration
- 4. Underground storage with infiltration
- 5. Grass swale
- 6. Sheet flow to filter strip
- 7. Sheet flow to conservation area
- 8. Impervious surface disconnection
- 9. Rainwater harvesting
- 10. Green Roof



Runoff Reduction Credit

E.g. Impervious Area Disconnection

- HSG-A/B soils: 4 ft³/100 ft² of filter strip
- HSG-C/D soils w/soil amendments: 2 ft³/100 ft² of filter strip
- HSG-C/D soils w/soil amendments: 4 ft³/100 ft² of filter strip



Alternative Practices

- Requires that alternative practices be tested to show equivalency to table of acceptable practices
 - (80% TSS and extended detention if not a negligible discharge impact of the discharge).
 - Specifies minimum particle size distribution similar to NJ DEP
 - NJ DEP reviewed testing or Washington State TAPE testing accepted
- Water quality flow practices must use table of intensities for Tc less than 60 minutes.



Big Darby Watershed (Recharge)

• The groundwater recharge requirement may be met by using on-site infiltrating practices (on-site retention).

$$V_{\text{retention}} = A_{\text{HSG-A}} * 0.9'' + A_{\text{HSG-B}} * 0.75'' + A_{\text{HSG-C}} * 0.5 + A_{\text{HSG-D}} * 0.25$$

Where Volume = retained on-site with infiltrating practices.

Impacted Soils	HSG-A	HSG-B	HSG-C	HSG-D
(inches)	0.9	0.75	0.5	0.25



Transition From Old To New Permit (Renewing Permits & Grandfathering)

- Existing permittees have 180 days to renew existing coverage (after 4-23-18)
- Projects under construction /having received MS4 approval, no update to new post-const. required.
- Phases draining to existing regional control w/ WQ treatment do not need to update to new postconstruction.
- Olentangy CGP to remain in effect until May 2019.



Construction General Permit

Find the permit at:

http://www.epa.ohio.gov/dsw/permits/GP_ConstructionSiteStorm Water.aspx

Or search for "Ohio EPA Construction General Permit"

Rainwater and Land Development manual is being updated:

http://epa.ohio.gov/dsw/storm/technical_guidance.aspx

- Adapted Chapter 2 (Post-Construction Practices)
- Provisional practices



Training

- Currently being planned for
- NW Ohio
- Northeast Ohio (NEOSWTC)

MS4 Permits, Other Issues and Q. & A.

- Newly Designated MS4s and a Storm Water Management Plan
- Outstanding Annual Reports
- Upcoming MS4 Permit Update

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