Wetland Regulation Requirements in Water Supply Protection Areas

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Constituent	Stormwater ¹	Smith and Granato 2010 ²	Drinking Water	Aquatic Organisms
Suspended Sediment	54.5 mg/L (TSS)	195 mg/L (SSC)	Max <1 NTU, ≤0.3 NTU 95% samples ³	1.3 NTU ³
Zinc	129 μg/L	231 µg/L	5000 μg/L	120 μg/L chronic 120 μg/L acute
Lead	50.7 μg/L	20 μg/L	0 μg/L	2.5 μg/L chronic 65 μg/L acute
Fecal Coliform	15,000 colonies/100 mL		Indicator but Total Coliform < 0	
Chloride	116 mg/L*	822 mg/L (annual) 2,484 mg/L (Jan - April only)	250 mg/L (2ndary)	230 mg/L chronic 860 mg/L acute

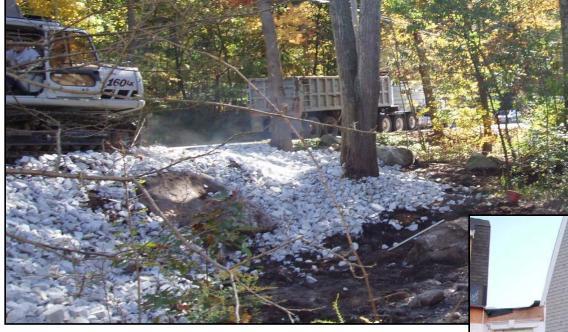
- 1. RI DEM, 2010, RI Stormwater Design and Installation Standards Manual, page 2-13 (referencing other sources)
- 2. Smith and Granato 2010, USGS, Scientific Investigations Report 2009-5269, averages used
- 3. No universal conversion has been established between TSS or SSC with turbidity measures (NTU)

Areas Subject to Wetlands Protection

- Banks
- Bordering
 Vegetated
 Wetlands
- Lands Under Water
- Lands Subject to Flooding
- Riverfront Areas
- Salt Marshes
- Other Coastal Resource Areas
- Buffer Zones



Authorization Required For New Development or Redevelopment



when an Activity is proposed in a wetland resource area or buffer zone



Protection of Interests of the Act:

310 CMR 10.05(6)(b) require issuing authorities of wetlands permits to impose conditions:

- on the QUALITY and QUANTITY of Discharges from Point Sources
- to Control EROSION and SEDIMENTATION
- 310 CMR 10.05(6)(k) requires:
 - Compliance with 10 Stormwater Management Standards plus related requirements

Stormwater Req. Summary

No Scour to Resource Areas/No new untreated discharges to wetland resource area	310 CMR 10.05(6)(k)1
Attenuate peak runoff rate	310 CMR 10.05(6)(k)2
Provide stormwater recharge	310 CMR 10.05(6)(k)3
Remove TSS (surrogate)	310 CMR 10.05(6)(k)4
Protect critical areas (e.g. public drinking water supplies)	310 CMR 10.05(6)(k)6
Eliminate illicit discharges	310 CMR 10.05(6)(k)10
Comply with TMDL	

Specific Req. in Public Drinking Water Areas (when a wetland permit is required)



- Source control and pollution prevention plan (310 CMR 10.05(6)(k)4a)
- Stormwater discharges to Zone I or A are prohibited, unless essential to operation of the public water supply (310 CMR 10.05(6)(k)6)
- No stormwater BMPs allowed in Zone A
- Specific treatment and pretreatment practices required
- 1-inch water quality volume req. to size treatment practices
- 44% TSS removal required for infiltration pretreatment
- Practices for shut down and containment needed

Hydro-modifications



- Stormwater recharge required to provide quantity
- MassDEP Underground Injection Control (UIC) registration required to protect groundwater quality for Class V wells (310 CMR 27.00)

Illicit Discharges

Any non-stormwater discharge prohibited except for:

Water Line Flushing,	Water from Crawl Space Pumps	
Landscape Irrigation,	Footing Drains	
Diverted Stream Flows	Lawn Watering	
Rising Ground Waters	Individual Resident Car Washing	
Uncontaminated Ground Water Infiltration	Flows from Riparian Habitats and Wetlands	
Uncontaminated Pumped Ground Water	Dechlorinated Swimming Pool Discharges	
Discharge from Potable Water Sources	Street Wash Water	
Foundation Drains	Residential Building Wash Waters, without Detergents	
Air Conditioning Condensation	Fire fighting activities during emergency situations	
Irrigation Water, Springs		

Last Thoughts



- Jurisdiction, jurisdiction, and jurisdiction
- New development versus redevelopment
- Existing stormwater discharges

Documents Req. With Wetlands NOI

- Stormwater Report with Narrative and Computations for Each Standard
- **ESSD/LID** Measures Considered
- Complete Evaluation for Redevelopment activities, small housing projects (if applicable)
- Long Term Pollution Prevention Plan
- Construction Period Control Plan
- □ STP Long Term O&M Plan
- Illicit Discharge Compliance Statement



Massachusetts Department of Environmental Protection Bureau of Resource Protection - Wetlands Program Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

No disturbance to any Wetland Resource Areas Site Design Practices (e.g. clustered development, reduced frontage setbacks) Reduced Impervious Area (Redevelopment Only) Minimizing disturbance to existing trees and shrubs LID Site Design Credit Requested: Credit 1 Credit 2 Credit 3 Use of "country drainage" versus curb and gutter conveyance and pipe Bicretention Cells (includes Rain Gardens) Constructed Stormwater Wetlands (includes Gravel Wetlands designs) Treebox Filter Water Quality Swale Grass Channel Green Roof Other (describe) Standard 1: No New Untreated Discharges No new unfreeted discharge Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwoolf Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbock included. Methuen Off-Ramp Stormwater Report Checklist.doo - 04/01/08 Slormwater Report Checklet + Page 3 of 8

Challenges and Opportunities

