

## Chapter 3: Department of Environmental Conservation Permits

This chapter provides a summary of the applications that may need to be filed with the Department of Environmental Conservation (DEC) for new development projects. This section identifies general policies and timelines for filing a State Pollutant Discharge Elimination System ("SPDES") General Permit for stormwater discharges from construction activities as well as environmental permits under the Uniform Procedures Act (UPA). More detailed information on the permits and up-to-date regional contact information are available from the DEC web site at the following URLs:

[www.dec.state.ny.us/website/dcs/permits\\_level2.html](http://www.dec.state.ny.us/website/dcs/permits_level2.html)

[www.dec.state.ny.us/website/dcs/upa/upa\\_permits.html](http://www.dec.state.ny.us/website/dcs/upa/upa_permits.html)

### Section 3.1 Filing for a Stormwater Permit

40 CFR Part 122 prohibits point source discharges of stormwater to waters of the United States without a permit issued under the National Pollutant Discharge Elimination System ("NPDES"). New York State is approved by the EPA to administer its SPDES program in lieu of EPA's NPDES program. The operator of a storm water discharge, which qualifies for coverage under the SPDES General Permit for stormwater, must submit a Notice of Intent (NOI) form to obtain permit coverage. Consult the general permit for any possible restrictions on eligibility of coverage. The permit includes a complete set of instructions for filing an NOI and for filing a Notice of Termination (NOT).

#### 3.1.1 *Where to File the NOI Form*

Completed NOIs should be sent to:

NYS DEC – Notice of Intent  
Bureau of Water Permits  
625 Broadway  
Albany, NY 12233-3505

#### 3.1.2 *Stormwater Pollution Prevention Plan*

The applicant must check whether the project will be a small or large one and whether the plan conforms to either NYSDEC or local Municipal Separate Storm Sewer System (MS4) requirements. The flow chart in Figure 3.1 identifies what components of the Stormwater Pollution Prevention Plan need to be prepared depending on the size and complexity of the site.

Table 3.1 Summary of Environmental Permits Issued by DEC That May Apply to New Development			
3.1 Permit Title	3.2 Implementation Authority	3.2.1 Applicability	3.2.2 Regulated Activities
<a href="#">State Pollutant Discharge Elimination System</a>	ECL Article 17 Division of Water	<ul style="list-style-type: none"> <li>Construction sites disturbing one acre or more.</li> </ul>	<p><i>Regulated:</i> Stormwater discharge associated with industrial activity, including new construction; point source discharges and disposal systems</p> <p><i>Exempted:</i> Agricultural discharge<sup>1</sup>, discharge of sewage effluent to groundwater less than 1,000 gallons a day.</p>
<a href="#">Dam Safety</a>	ECL Article 15-0503 see <a href="#">Guidelines for Design of Dams</a>	<ul style="list-style-type: none"> <li>Applies to on-stream and off-stream structures having height &gt; 6' and storage capacity &gt; 3MG, or height ≥ 15' and storage capacity ≥ 1 MG.</li> </ul>	<p><i>Regulated:</i> Construction, reconstruction, repair or removal of dams or impoundment.</p> <p><i>Exempted:</i> Structures for treatment or storage of wastewater, or materials other than water.</p>
<a href="#">Freshwater Wetlands</a>	ECL Article 24 Division of Fish, Wildlife and Marine Resources	<ul style="list-style-type: none"> <li>Freshwater wetlands appearing on New York State freshwater wetland maps</li> <li>Generally limited to 12.4 acres or greater, but stricter requirements in the Adirondack Park</li> </ul>	<p><i>Regulated:</i> Construction of buildings, roadways, septic systems, dams, docks; filling, draining, or excavating; vegetation removal</p> <p><i>Exempted:</i> Ordinary maintenance and repair of existing structures; recreational activities</p>
<a href="#">Tidal Wetlands</a>	ECL Article 25 NY DEC, Tidal Wetlands Regulatory Program	<ul style="list-style-type: none"> <li>Official DEC tidal wetlands maps.</li> <li>Anywhere tidal inundation occurs on a daily, monthly, or intermittent basis, including but not exclusively within the salt wedge (salt marshes, vegetated flats, and shorelines)<sup>2</sup></li> <li>Adjacent areas extend up to 300 ft. inland from wetland boundary (NYC 150 ft)</li> </ul>	<p><i>Regulated:</i> Residences and condos; accessory structures; commercial and industrial buildings; roadways and parking lots; boat ramps; septic systems; drainage structures; erosion control structures (groins, sea walls); docks, piers, etc.</p> <p>Clearing/clear cutting; beach nourishment; dredging, excavation, and grading.</p>
<a href="#">Protection of Waters</a>	Title 5, ECL Article 15 Division of Fish, Wildlife and Marine Resources	Bed or banks of protected streams	<p><i>Regulated:</i> Modification or disturbance of the bed or banks of protected streams, including removal of sand or gravel; filling dredging in navigable waters; construction/modification/ repair of</p>

<sup>1</sup> - Eligible for coverage under Concentrated Animal Feeding Operation (CAFO)

<sup>2</sup> Applicable to Rockland and Westchester Counties, NYC and Long Island.

**Table 3.1 Summary of Environmental Permits Issued by DEC That May Apply to New Development**

			certain dams, docks, and mooring areas. <i>Exempted:</i> Ordinary maintenance
<a href="#">Coastal Erosion Hazard Areas</a>	ECL Article 34 Division of Water	<ul style="list-style-type: none"> <li>Lands adjacent to Lakes Erie and Ontario; the St. Lawrence, Niagara, Harlem, East, and Hudson Rivers; Kill van Kull; Arthur Kill; Atlantic Ocean; and connective water-bodies.</li> <li>Natural Protective Features (NPF) nearshore areas; and landward Structural Hazard Areas (SHA)</li> </ul>	<i>Regulated:</i> Construction/ modification/ restoration of structures, e.g. buildings, docks, piers, walkways; Filling, draining or excavating; Construction/modification/restoration of erosion control structures <i>Exempted:</i> Ordinary maintenance and repair of existing structures
<a href="#">Wild, Scenic, &amp; Recreational Rivers</a>	Title 27, ECL Article 15 Division of Fish, Wildlife and Marine Resources	All or portions of DEC-designated waterways: Three levels of classification include recreational rivers, scenic rivers, wild rivers	<i>Regulated:</i> Specifics depend on classification, but includes construction of residential, non-residential, accessory structures, and roads; Water quality, wastewater treatment, disposal; Vegetative cutting and agriculture; Recreational uses and development; Commercial and industrial uses.  <i>Exempted:</i> Continuation of existing land uses; Maintenance and repair--without changes

\* UPA permits not included in this table are Long Island Wells, Water Supply, 401 Water Quality Certification, Air Pollution Control; Mined Land Reclamation, Hazardous Waste Management Facilities, Waste Transporter  
 Source URL: ([http://www.dec.state.ny.us/website/dcs/upa/upa\\_permits.html](http://www.dec.state.ny.us/website/dcs/upa/upa_permits.html))

Cold climate regions of New York State may present special design considerations. Each section includes a summary of possible design modifications that address the primary concerns associated with the use of that SMP in cold climates. A more detailed discussion of cold climate modifications can be found in the publication *Stormwater BMP Design Supplement for Cold Climates* (Caraco & Claytor, 1997). In addition, Appendix I of this manual provides some sizing examples that incorporate cold climate design.

IMPORTANT NOTES:

ANY PRACTICE THAT CREATES A DAM IS REQUIRED TO FOLLOW THE GUIDANCE PRESENTED IN THE [GUIDELINES FOR DESIGN OF DAMS](#) AND MAY REQUIRE A PERMIT FROM THE NYSDEC. FOR THE MOST RECENT COPY OF THIS DOCUMENT, CONTACT THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DAM SAFETY DIVISION, AT: 518-402-8151. AN EVALUATION OF HAZARD CLASSIFICATION MUST BE INCLUDED IN THE DESIGN REPORT FOR STORMWATER PONDS OR WETLANDS CREATED BY A DAM.

THIS CHAPTER FOLLOWING TEXT PRESENTS CRITERIA IN TWO PARTS. DESIGN GUIDELINES ARE FEATURES THAT ENHANCE PRACTICE PERFORMANCE, BUT MAY NOT BE NECESSARY FOR ALL APPLICATIONS. REQUIRED ELEMENTS ARE FEATURES THAT SHOULD BE USED IN ALL APPLICATIONS. A FACT SHEET AT THE BACK OF EACH SECTION HIGHLIGHTS THE REQUIRED ELEMENTS.

APPENDICES F AND G PROVIDE EXAMPLE CHECKLISTS FOR THE CONSTRUCTION AND OPERATION&MAINTENANCE OF EACH OF THE PRACTICE TYPES.

**Section 6.1 Stormwater Ponds**

Stormwater ponds are practices that have either a permanent pool of water, or a combination of a permanent pool and extended detention, and some elements of a shallow marsh equivalent to the entire WQ<sub>v</sub>. Five design variants include:

- P-1 Micropool Extended Detention Pond (Figure 6.1)
- P-2 Wet Pond (Figure 6.2)
- P-3 Wet Extended Detention Pond (Figure 6.3)
- P-4 Multiple Pond System (Figure 6.4)
- P-5 Pocket Pond (Figure 6.5)

Treatment Suitability:

Dry extended detention ponds without a permanent pool are not considered an acceptable option for meeting water quality treatment goals. Each of the five stormwater pond designs can be used to provide channel protection volume as well as overbank and extreme flood attenuation. The term "pocket" refers to a pond or wetland that has such a small contributing drainage area that little or no baseflow is available to sustain water elevations during dry weather. Instead, water elevations are heavily influenced, and in some cases maintained, by a locally high water table.

**IMPORTANT NOTES:**

ANY PRACTICE THAT CREATES A DAM IS REQUIRED TO FOLLOW THE GUIDANCE PRESENTED IN THE [GUIDELINES FOR DESIGN OF DAMS](#) AND MAY REQUIRE A PERMIT FROM THE NYSDEC. FOR THE MOST RECENT COPY OF THIS DOCUMENT, CONTACT THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DAM SAFETY DIVISION, AT: 518-402-8151. AN EVALUATION OF HAZARD CLASSIFICATION MUST BE INCLUDED IN THE DESIGN REPORT FOR STORMWATER PONDS CREATED BY A DAM.

WHILE THE STORMWATER PONDS DESIGNED ACCORDING TO THIS GUIDANCE MAY ACT AS A COMMUNITY AMMENITY, AND MAY PROVIDE SOME HABITAT VALUE, THEY CANNOT BE ANTICIPATED TO FUNCTION AS NATURAL LAKES OR PONDS.

**Section 6.2 Stormwater Wetlands**

Stormwater wetlands are practices that create shallow marsh areas to treat urban stormwater and often incorporate small permanent pools and/or extended detention storage to achieve the full WQv. Design variants include:

- W-1 Shallow Wetland (Figure 6.7)
- W-2 ED Shallow Wetland (Figure 6.8)
- W-3 Pond/Wetland System (Figure 6.9)
- W-4 Pocket Wetland (Figure 6.10)

Wetland designs W-1 through W-4 can be used to provide Channel Protection volume as well as Overbank and Extreme Flood attenuation. In these design variations, the permanent pool is stored in a depression excavated into the ground surface. Wetland plants are planted at the wetland bottom, particularly in the shallow regions.

**IMPORTANT NOTES**

ALL OF THE POND CRITERIA PRESENTED IN PERFORMANCE CRITERIA – PONDS (CHAPTER 6.1) ALSO APPLY TO THE DESIGN OF STORMWATER WETLANDS. ADDITIONAL CRITERIA THAT GOVERN THE GEOMETRY AND ESTABLISHMENT OF CREATED WETLANDS ARE PRESENTED IN THIS SECTION.

ANY PRACTICE THAT CREATES A DAM IS REQUIRED TO FOLLOW THE GUIDANCE PRESENTED IN THE [GUIDELINES FOR DESIGN OF DAMS](#) AND MAY REQUIRE A PERMIT FROM THE NYSDEC. FOR THE MOST RECENT COPY OF THIS DOCUMENT, CONTACT THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DAM SAFETY DIVISION, AT: 518-402-8151. AN EVALUATION OF HAZARD CLASSIFICATION MUST BE INCLUDED IN THE DESIGN REPORT FOR STORMWATER WETLANDS CREATED BY A DAM.

WHILE THE STORMWATER WETLANDS DESIGNED ACCORDING TO THIS GUIDANCE MAY ACT AS A COMMUNITY AMMENITY, AND MAY PROVIDE SOME HABITAT VALUE, THEY CANNOT BE ANTICIPATED TO FUNCTION AS NATURAL WETLANDS

## **Chapter 8: Stormwater Management Design Examples**

This chapter presents design examples for two hypothetical development sites in the State of New York. The first site, “Stone Hill Estates,” is a residential development near Ithaca. The second is a commercial site in Albany. The chapter is divided into five sections, each of which focuses on a particular element of stormwater management design.

- Section 8.1 provides an example of detailed hydrology calculations at the residential site.
- Section 8.2 presents a pond design example based on the hydrology calculated in Section 8.1. This design example demonstrates the hydrologic and hydraulic computations to achieve water quality and water quantity control for stormwater management. Other specific dam design criteria such as soil compaction, structural appurtenances, embankment drainage, outlet design, gates, reservoir drawdown requirements, etc. are stated in Guidelines For Design of Dams.
- This design example in Section 8.2 requires an Article 15 Permit from NYS-DEC since the dam is 15 feet high measured from the top of dam to the low elevation at the downstream outlet, and the storage measured behind the structure to the top of the dam is 2.2 MG.
- Sections 8.3 through 8.5 present design examples for three practices on the commercial site: a sand filter, infiltration trench, and bioretention practice.