



FACT SHEET

For

**NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**SPDES GENERAL PERMIT
FOR STORMWATER DISCHARGES**

from

CONSTRUCTION ACTIVITY

Permit No. GP-0-08-001

Issued Pursuant to Article 17, Titles 7, 8 and Article 70
of the Environmental Conservation Law

April, 2008

Introduction

The New York State Department of Environmental Conservation (NYSDEC) issued the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-08-001) in April, 2008. This general permit replaces the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-02-01).

The SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-08-001) is a two (2) year permit that covers discharges of stormwater to surface waters of the State from construction activities as defined in 40 CFR Part 122.26(b)(14)(x) and (b)(15)(i - ii).

Pursuant to Section 402 of the Clean Water Act (“CWA”), stormwater discharges from certain construction activities (including discharges through a municipal separate storm sewer system) are unlawful unless they are authorized by a National Pollutant Discharge Elimination System (NPDES) permit or by a state permit program. New York’s State Pollutant Discharge Elimination System (SPDES) is a NPDES-approved program with permits issued in accordance with the Environmental Conservation Law (“ECL”). An owner or operator of a construction activity must obtain permit coverage through either an individual SPDES permit which address the stormwater discharges or obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-08-001) prior to the commencement of construction activity.

In accordance with 6NYCRR 750-1.11(a)(5) and (9) and 40 CFR 122.44(d), SPDES permits must address discharges with the reasonable potential to cause or contribute to an in-stream excursion above the allowable ambient concentration of standards and guidance values set forth or calculated in accordance with 6NYCRR Part 700 to 706. Permits for discharges with a such a reasonable potential must include requirements to provide enhanced pollutant reductions.

In each of the watersheds subject to additional requirements in the draft permit, discharges of stormwater have already caused excursions or have the reasonable potential to cause excursions. In some cases the reasonable potential occurs where the discharge may reach classified waters of the state. In other cases, the reasonable potential may occur further downstream.

However, it is not practical or achievable to set traditional, outfall specific, effluent limitations to control these discharges. There are far too many outfalls and those outfalls' contributions of pollutants occur primarily during storm events, making the analysis more difficult than it has been for the relatively fewer traditional industrial and municipal steady state discharges.

Instead GP-0-08-001 proposes enhanced pollution controls in the watersheds where stormwater discharges are identified as having the reasonable potential to cause or contribute to excursions in the stream in which the discharge occurs. These pollution controls are expected to be the necessary first steps towards preventing future and eliminating existing excursions. In the fullness of time, the success of the controls included in these permits will be evaluated. If they are found to fall short in preventing and eliminating water quality excursions, further enhanced

controls will be applied.

New York City Watershed East of the Hudson River

In the New York City Watershed East of the Hudson the controls proposed are based, in large part, on recommendations from the Center for Watershed Protection (CWP) report entitled 'Recommendations for Developing an NPDES Phase II Stormwater General Permit for Municipal Separate Storm Sewer Systems in the East of Hudson Watershed'.

The CWP report recognizes that the New York City Watershed East of the Hudson is among the most sensitive watersheds in New York State that supplies drinking water to millions of people, but at the same time experiences substantial development pressure. The conditions that apply in the New York City Watershed East of the Hudson are targeted at practices that prevent and reduce phosphorus contributions to the entire watershed. Because the needed reductions will be so difficult to attain and because protection of drinking water is at the top of the environmental protection hierarchy, the conditions that apply to the New York City Watershed East of the Hudson are the most rigorous to be included in GP-0-08-001.

Other Phosphorus Watersheds (e.g. Onondaga Lake and Greenwood Lake)

GP-0-08-001 also includes requirements for other phosphorus watersheds where protections are to assure fishing and swimming best uses, but not used as a source of drinking water.

Need to Obtain Permit Coverage Prior to Commencement of Construction Activity

An owner or operator of a construction activity that is eligible for coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-08-001) must obtain coverage under the permit prior to the commencement of construction activity. They can not wait until there is an actual discharge from the construction site to obtain permit coverage.

This requirement comes from Section 17-0505 of the ECL which states "*The making or use of an outlet or point source discharging into the waters of the state, and the operation or construction of disposal systems, without a valid SPDES permit as provided by section 17-0701 or title 8 hereof are prohibited.*". Several federal court cases have held that construction activity, which requires a NPDES permit (SPDES in New York State), is properly defined as a point source under the Clean Water Act (CWA). In other words, activities that fit the definition of "construction activity" under 40 CFR 122.26(b)(14)(x) and (15)(i), constitute point source activity. Therefore, pursuant to Section 17-0505, the owner or operator must have coverage under a SPDES permit prior to commencing construction activity.

Permit Renewal

There are three major changes in this general permit compared to the previous general permit (GP-02-01). The first major changes involves construction activities located in the New York City Watershed East of the Hudson that disturb between five thousand (5000) square feet and one (1) acre of land. Owners or operators of these construction activities will be required to gain coverage under the new general permit prior to commencing construction activity.

However, they will typically only have to develop a SWPPP that includes erosion and sediment controls. The Department made this a requirement in the new permit because of the potential for these projects to be a significant contributor of pollutants to the New York City water supply. Pursuant to 40 CFR Part 122.26(b)(15)(ii), the Department can require an operator to obtain coverage under a SPDES permit for stormwater discharges based on the potential for contribution to a violation of the water quality standards or for significant contribution of pollutants to surface waters of New York State.

The second major change involves construction projects located in the New York City Watershed East of the Hudson, Onondaga Lake Watershed and Greenwood Lake Watershed that are required to develop a SWPPP that includes post-construction stormwater management practices (see Table 2 of Appendix B). Under the new general permit, the owner or operator of these construction activities will be required, beginning September 30, 2008, to prepare a SWPPP that includes post-construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the New York State Stormwater Management Design Manual (“Design Manual”).

The third major change involves construction activities that are tributary to waters of the state classified as AA and AA-s and on Soil Slope Phases identified as an E and F (generally those exceeding 25% slope) as set forth on the County Soil survey. Those activities are ineligible for coverage under the general permit and would need to obtain coverage under an individual SPDES permit. The Department made this a requirement in the new permit because of the increased potential for erosion from these construction activities. This increase in erosion increases the potential for a water quality violation. For such sites, the department believes that it is appropriate that the higher level of oversight associated with an individual permit be applied.

One of the primary goals of the construction stormwater permit is to reduce or prevent erosion. In the preamble to the phase II stormwater rules, EPA has concluded that, on average, runoff from 1 acre of disturbed soils on a construction site contains the same levels of eroded sediment as 10 to 20 acres subject to row-crop farming and many hundreds of times the sediments that flow from 1 acre that is naturally vegetated. This erosion causes numerous stream impacts including turbidity, deposition, algal blooms, excessive aquatic vegetation and, generally, accelerated eutrophication. Beyond the concerns for erosion at the average construction sites, some land areas are at a much higher risk than these average values would suggest.

Construction activity on soils identified as Soil Slope Phases E and F are just such land areas at much higher risk of erosion that will result in adverse cumulative impacts to receiving waters. Experience with individual construction sites over the last permit term have revealed case examples where, under a general permit authorization, gross erosion from steep slopes has caused severe water quality impacts.

Erosion as a result of rain drop energy and the shearing force of runoff, is more significant when soil is exposed. The erosion hazard increases on steep slopes particularly those with extended length. Control of runoff and utilizing mechanisms for settling eroded sediment is less practical on steep slopes as well.

Addressing runoff, erosion and sediment control from steep slopes during active construction requires a site specific, detailed erosion and sediment control plan, rigorous control mechanisms, and frequent inspections. Depending on natural conditions of the site, a geotechnical study may be needed to address land slide and other structural risks. Additionally, providing post construction controls on hilly sites is often impractical.

Several factors effect soil detachment and erosion process. The most significant factor causing sheet erosion is raindrop impact, while the shearing force of water is most important in rill and gully erosion (Clark, Lake, and Pitt, 2007). The risk is maximized when the top layer of soil is stripped, and slopes are extended beyond moderate percentage and length. In an analysis for sustainable land development, Balmori (Balmori and Benoit, 2007) suggests prevention of soil clearance on slopes over 17 percent.

In the implementation of stormwater permit regulations, erosion hazards have been addressed in a variety of ways, with the following as examples.

The State of Vermont makes a determination based on the risk of having a discharge that violates water quality standards. Eligibility for coverage under the construction general permit is identified based on a threshold of the soil erodibility factor, slopes, and the extent and duration of disturbed soil. Having slopes > 15% does not necessarily preclude use of the general permit, but does increase the overall risk level of violating water quality standards. As a result, in order to remain eligible for general permit coverage, such sites would need to mitigate this risk by having smaller phases of construction (< 2 acres of disturbance at one time), short disturbance durations (7 days to stabilization), etc..

The State of California is considering enhancements to the Municipal SW Permit which applies to the State DOT, Long Beach, County of Los Angeles, and Ventura County (rural but quickly developing). The issue arises from construction activities on mountainous areas. The proposed requirements prohibit grading. Each permittee is required to ensure that no grading occurs between October and April (the rainy, high erosivity, winter season), as well as no grading during any period of the year on slopes of 20% or steeper (existing condition before construction) and where the slope is steep or long, and continuous.

The State of New Jersey is proposing a new land use Regulations Program, to be implemented through local law, and a new set of Water Quality Management Regulations (N.J.A.C. 7:15-5.25(g)2, (g)6 and (h)5). The proposed requirements set limits on disturbances in riparian zones and slopes greater than 20% (<http://www.nj.gov/dep/rules/proposals/052107a.pdf>).

Some communities utilize land use controls to establish limits on the number of dwelling units per acre on steep slopes. Those communities normally perform an analysis based on slope percentage in GIS to identify areas for zoning restrictions. Such restrictions are adopted by local zoning and planning boards.

As well as general experience in difficulties with steep slopes, the Universal Soil Loss Equation (USLE), a formula developed by the Soil Conservation Service (now the Natural Resource Conservation Service or NRCS) for use in determining erosion risks shows increasing

erosion risk with slope and dramatically increasing erosion risk at higher slopes. A chart of example erosion risk, expressed as estimated soil loss in tons per acre per year, at various slopes and slope lengths is attached. The calculated soil loss is based on the assumption of bare soil exposure with no erosion control practices in place or being implemented.

6NYCRR 750-1.21 allows the department to issue a general permit to cover a category of point sources of one or more discharges within a stated geographical area. 6NYCRR 750-1.21(a)(5), includes one criterion for such authorizations under general SPDES permits for point sources that will result in minimal adverse cumulative impacts. 6NYCRR 750-1.21(e)(viii) also authorizes the department to require an individual permit (or coverage under another general permit) if the discharger is a significant contributor of pollutants based on consideration of the following criteria:

‘(a)’ The location of the discharge(s) with respect to waters of New York State;

‘(b)’ The size of the discharge(s);

‘(c)’ The quantity and nature of the pollutants discharged to waters of New York State; and

‘(d)’ Other relevant factors including compliance with other provisions of ECL, article 17, or the Act.

The Department considered location in setting the criterion for GP-0-08-001 ineligibility when it applied the requirement to AA and AA-s watersheds. The Department considered the size of the discharge when it set the criterion for GP-0-08-001 ineligibility at one and two acres of disturbance. The Department considered the quantity and nature of pollutants discharged when it set the criterion for GP-0-08-001 ineligibility at slopes generally exceeding 25%.

Applicants for authorization under GP-0-08-001 will be required to consult the County Soils map and Appendix E of the permit to determine if the project can be authorized in accordance with GP-0-08-001, or if the project must apply for an individual permit.

Other Changes

Some of the other more significant changes with GP-0-08-001 include:

- An owner or operator of a construction activity that is subject to the requirements of a regulated, traditional land use control MS4 shall have their SWPPP reviewed and accepted by the MS4 prior to submitting the Notice of Intent (NOI) to the Department. Beginning on September 30, 2008, the owner or operator shall have the principal executive officer or ranking elected official from the regulated, traditional land use control MS4, or a duly authorized representative of that person from the regulated, traditional land use control MS4 sign the “MS4 SWPPP Acceptance” form and then submit that form along with the NOI to the Department. This requirement does not apply to an owner or operator that is obtaining permit coverage in accordance with the requirements of the “Change of Owner or Operator” section of the general permit.

- For construction activities that are subject to the requirements of a regulated, traditional land use control MS4, an owner or operator with a SWPPP that has not been prepared in conformance with the technical standards referenced in the general permit will be authorized to discharge in 5 business days from the date the Department receives a complete NOI, provided the SWPPP has been reviewed and accepted by the regulated, traditional land use control MS4.
- Pursuant to 6 NYCRR Part 750-1.21(d)(2), an owner or operator of a construction activity with coverage under the existing SPDES General Permit for Stormwater Discharges from Construction Activity (GP-02-01) as of the effective date of GP-0-08-001 shall be automatically permitted to discharge in accordance with GP-0-08-001 unless otherwise notified by the Department. These owners or operators may continue to implement the technical/design components of the SWPPP that was developed in accordance with the requirements of GP-02-01. However, they will be subject to the provisions of the new general permit, GP-0-08-001.
- Construction activities that require the preparation of a SWPPP that only includes erosion and sediment control practices are identified in Table 1 of Appendix B. Construction activities that require the preparation of a SWPPP that also includes post-construction stormwater management practices are identified in Table 2 of Appendix B.
- Under GP-0-08-001, the qualified inspector shall conduct at least one site inspection every seven (7) calendar days. The required frequency of inspections under the existing permit (GP-02-01) was one every seven (7) calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater. The Department did not feel that it was necessary to maintain the requirement for the qualified inspector to perform an inspection after a rain event of 0.5 inches since the New York Standards and Specifications for Erosion and Sediment Control requires the owner to inspect and maintain many of the practices after every rain event. An owner will typically have one of the contractor(s) or subcontractor(s) that has been identified pursuant to Part III.A.5. of the general permit perform these rain event inspections. For construction sites where active construction has been suspended, inspection frequency under GP-0-08-001 can be reduced to once every 30 days, provided temporary stabilization measures have been applied to all disturbed areas.
- The owner or operator shall have the qualified inspector perform a final site inspection prior to submitting the Notice of Termination (NOT) to the Department. The qualified inspector shall certify that all disturbed areas have achieved final stabilization; all temporary, structural erosion and sediment control measures have been removed; and that all post-construction stormwater management practices have been constructed in conformance with the SWPPP by signing the “Final Stabilization” and “Post-Construction Stormwater Management Practice” certification statements on the NOT.

The owner of a construction activity needs to ensure that the appropriate “Qualified Inspector” has been hired to inspect the different components of the SWPPP. Some of the individuals included in the definition of “Qualified Inspector” may not have the

necessary qualifications, certification(s) or license(s) to inspect a post-construction stormwater management practice and then certify that it has been constructed in conformance with the SWPPP. (Refer to the NYS Education Department rules and regulations that apply to licensed professional engineers) For these inspections, the owner may have to hire the design engineer (or other professional engineer) to act as the “Qualified Inspector” in order to meet any NYS Education Department rules and regulations that apply to licensed professionals.

Referenced Literature

Balmori, D. and G. Benoit, 2007. *Land and natural Development (LAND) Code*. John Wiley & Sons, Inc.: Hoboken, N.J. 45-53.

Clark, S.E., D.W. Lake, and R.E. Pitt, 2007. *Construction Site Erosion and Sediment Controls*. DEStech Publications, Inc.:Lancaster, PA.

Erosion Risk Chart

Slope Length of 30 meter

slope %	LS	K	R	soil loss	K	R	soil loss	K	R	soil loss
0.20	0.05	0.2	100	1.00	0.4	100	2.00	0.4	130	2.60
0.50	0.09	0.2	100	1.80	0.4	100	3.60	0.4	130	4.68
1.00	0.15	0.2	100	3.00	0.4	100	6.00	0.4	130	7.80
2.00	0.28	0.2	100	5.60	0.4	100	11.20	0.4	130	14.56
3.00	0.41	0.2	100	8.20	0.4	100	16.40	0.4	130	21.32
4.00	0.55	0.2	100	11.00	0.4	100	22.00	0.4	130	28.60
5.00	0.68	0.2	100	13.60	0.4	100	27.20	0.4	130	35.36
6.00	0.82	0.2	100	16.40	0.4	100	32.80	0.4	130	42.64
8.00	1.10	0.2	100	22.00	0.4	100	44.00	0.4	130	57.20
10.00	1.46	0.2	100	29.20	0.4	100	58.40	0.4	130	75.92
12.00	1.88	0.2	100	37.60	0.4	100	75.20	0.4	130	97.76
14.00	2.31	0.2	100	46.20	0.4	100	92.40	0.4	130	120.12
16.00	2.73	0.2	100	54.60	0.4	100	109.20	0.4	130	141.96
20.00	3.57	0.2	100	71.40	0.4	100	142.80	0.4	130	185.64
25.00	4.59	0.2	100	91.80	0.4	100	183.60	0.4	130	238.68
30.00	5.58	0.2	100	111.60	0.4	100	223.20	0.4	130	290.16
40.00	7.44	0.2	100	148.80	0.4	100	297.60	0.4	130	386.88
50.00	9.13	0.2	100	182.60	0.4	100	365.20	0.4	130	474.76
60.00	10.63	0.2	100	212.60	0.4	100	425.20	0.4	130	552.76

Slope Length of 70 meter

slope %	LS	K	R	soil loss	K	R	soil loss	K	R	soil loss
0.20	0.06	0.2	100	1.20	0.4	100	2.40	0.4	130	3.12
0.50	0.10	0.2	100	2.00	0.4	100	4.00	0.4	130	5.20
1.00	0.19	0.2	100	3.72	0.4	100	7.44	0.4	130	9.67
2.00	0.39	0.2	100	7.76	0.4	100	15.52	0.4	130	20.18
3.00	0.61	0.2	100	12.24	0.4	100	24.48	0.4	130	31.82
4.00	0.85	0.2	100	17.00	0.4	100	34.00	0.4	130	44.20
5.00	1.10	0.2	100	22.08	0.4	100	44.16	0.4	130	57.41
6.00	1.36	0.2	100	27.16	0.4	100	54.32	0.4	130	70.62
8.00	1.88	0.2	100	37.64	0.4	100	75.28	0.4	130	97.86
10.00	2.57	0.2	100	51.36	0.4	100	102.72	0.4	130	133.54
12.00	3.39	0.2	100	67.76	0.4	100	135.52	0.4	130	176.18
14.00	4.13	0.2	100	82.64	0.4	100	165.28	0.4	130	214.86
16.00	5.05	0.2	100	100.92	0.4	100	201.84	0.4	130	262.39
20.00	6.71	0.2	100	134.24	0.4	100	268.48	0.4	130	349.02
25.00	8.78	0.2	100	175.60	0.4	100	351.20	0.4	130	456.56
30.00	10.80	0.2	100	215.96	0.4	100	431.92	0.4	130	561.50
40.00	14.63	0.2	100	292.60	0.4	100	585.20	0.4	130	760.76
50.00	18.12	0.2	100	362.32	0.4	100	724.64	0.4	130	942.03
60.00	21.24	0.2	100	424.72	0.4	100	849.44	0.4	130	1104.27

Slope Length of 100 meter

slope %	LS	K	R	soil loss	K	R	soil loss	K	R	soil loss
0.20	0.06	0.2	100	1.20	0.4	100	2.40	0.4	130	3.12
0.50	0.10	0.2	100	2.06	0.4	100	4.11	0.4	130	5.35
1.00	0.21	0.2	100	4.11	0.4	100	8.22	0.4	130	10.69
2.00	0.44	0.2	100	8.88	0.4	100	17.76	0.4	130	23.09
3.00	0.72	0.2	100	14.42	0.4	100	28.83	0.4	130	37.48
4.00	1.02	0.2	100	20.50	0.4	100	40.99	0.4	130	53.29
5.00	1.34	0.2	100	26.89	0.4	100	53.78	0.4	130	69.91
6.00	1.68	0.2	100	33.68	0.4	100	67.36	0.4	130	87.57
8.00	2.37	0.2	100	47.38	0.4	100	94.75	0.4	130	123.18
10.00	3.27	0.2	100	65.50	0.4	100	130.99	0.4	130	170.29
12.00	4.35	0.2	100	86.95	0.4	100	173.90	0.4	130	226.08
14.00	5.44	0.2	100	108.86	0.4	100	217.73	0.4	130	283.05
16.00	6.56	0.2	100	131.12	0.4	100	262.24	0.4	130	340.91
20.00	8.79	0.2	100	175.86	0.4	100	351.71	0.4	130	457.23
25.00	11.57	0.2	100	231.43	0.4	100	462.86	0.4	130	601.72
30.00	14.31	0.2	100	286.15	0.4	100	572.30	0.4	130	744.00
40.00	19.51	0.2	100	390.17	0.4	100	780.34	0.4	130	1014.44
50.00	24.26	0.2	100	485.17	0.4	100	970.34	0.4	130	1261.44
60.00	28.51	0.2	100	570.30	0.4	100	1140.59	0.4	130	1482.77

Slope Length of 120 meter

slope %	LS	K	R	soil loss	K	R	soil loss	K	R	soil loss
0.20	0.06	0.2	100	1.20	0.4	100	2.40	0.4	130	3.12
0.50	0.11	0.2	100	2.20	0.4	100	4.40	0.4	130	5.72
1.00	0.22	0.2	100	4.40	0.4	100	8.80	0.4	130	11.44
2.00	0.48	0.2	100	9.60	0.4	100	19.20	0.4	130	24.96
3.00	0.80	0.2	100	16.00	0.4	100	32.00	0.4	130	41.60
4.00	1.14	0.2	100	22.80	0.4	100	45.60	0.4	130	59.28
5.00	1.51	0.2	100	30.20	0.4	100	60.40	0.4	130	78.52
6.00	1.90	0.2	100	38.00	0.4	100	76.00	0.4	130	98.80
8.00	2.70	0.2	100	54.00	0.4	100	108.00	0.4	130	140.40
10.00	3.75	0.2	100	75.00	0.4	100	150.00	0.4	130	195.00
12.00	5.01	0.2	100	100.20	0.4	100	200.40	0.4	130	260.52
14.00	6.30	0.2	100	126.00	0.4	100	252.00	0.4	130	327.60
16.00	7.60	0.2	100	152.00	0.4	100	304.00	0.4	130	395.20
20.00	10.24	0.2	100	204.80	0.4	100	409.60	0.4	130	532.48
25.00	13.53	0.2	100	270.60	0.4	100	541.20	0.4	130	703.56
30.00	16.77	0.2	100	335.40	0.4	100	670.80	0.4	130	872.04
40.00	22.95	0.2	100	459.00	0.4	100	918.00	0.4	130	1193.40
50.00	28.60	0.2	100	572.00	0.4	100	1144.00	0.4	130	1487.20
60.00	33.67	0.2	100	673.40	0.4	100	1346.80	0.4	130	1750.84

Key:

R- Rainfall Erosivity Factor

K- Soil Erodibility Factor

LS- Topographic Factor