Division of Water and Waste Management

INSTRUCTIONS TO COMPLETE A SITE REGISTRATION APPLICATION FORM

WV/NPDES MULTI-SECTOR GENERAL PERMIT FOR STORMWATER ASSOCIATED WITH INDUSTRIAL ACTIVITY IN WEST VIRGINIA

I. GENERAL INFORMATION

The Division of Water and Waste Management (DWWM) has developed and issued a Multi-Sector General WV/NPDES Water Pollution Control Permit to replace the previous Multi-Sector General Permit Number WV0111457. The current reissued WV/NPDES Permit Number WV0111457 will become effective on April 2, 2014 and will expire on February 28, 2019. The purpose of this general permit is to regulate contaminated or potentially contaminated stormwater effluents flowing into the waters of the State from stormwater contamination associated with industrial activity. Establishments which fall under the definition of "Stormwater, Associated with Industrial Activity," and are included in Table 1 of these instructions must file a completed site registration application with the Division of Water and Waste Management to obtain the coverage under this general permit. All facilities previously covered under the Multi-Sector general stormwater permit must also submit a site registration application form.

After development of a draft general permit, the DWWM advertised its intent to issue this general permit and has fulfilled its public notice requirements. Applicants having existing facilities need not perform any public notice activities. Applicants for a proposed new discharge, however, must complete and submit the enclosed "Statement for Billing" form to meet their public notice requirements.

Upon receipt of the completed site registration application form, permit application fee and required Statement for Billing, the DWWM will review the contents to determine if the information provided meets the minimum requirements. Applicants will be notified in writing that their facility is covered under the general permit. This written notification will also include the following:

1. The part of the permit that applies to permittee, including industry-specific sector(s).
2. Discharge monitoring report forms.
3. Any other requirements applicable to permittee.

For a site registration application form to be considered complete, it must have the following attachments:

A. A Topographic map
B. Facility sketch
C. Analytical data for some basic parameters (for new facilities only)
D. Stormwater Pollution Prevention Plan and Ground Water Pollution Prevention Plan
E. Copy of your Spill Prevention and Countermeasures Plan and Facility Response Plan (If your facility is required to have these plans)

II. WHO MUST APPLY

Any establishment, pursuant to Chapter 22, Article 11, where "stormwater associated with industrial activity" as listed in Table 1 is or may be discharged into the waters of the State must apply. When the facility is owned by one person but operated by another, it is the responsibility of the operator to obtain the permit. In this case, the Director will require documentation of the permit responsibility and liability of the owner and

operator and may propose and issue the permit to either one (1) or both the owner and operator, but only after notice to both the owner and operator or, the Director may deny the permit until the responsible party or parties apply for the permit. A separate registration application form is to be submitted for each facility.

III. WHERE TO FILE

The agency is requiring you to complete and submit application(s) electronically. The agency requires the permittee to utilize the electronic application for the resissuance of its permit. The benefits of the electronic system are designed to simplify your reporting requirements by providing the flexibility to enter information at any location. Use of this electronic application system ensures a complete application submittal resulting in a quicker and more efficient permitting process. Please go to https//apps.dep.wv.gov/eplogin.cfm to sign up for a user login identification if the permittee officials currently do not have one. Please contact Mavis Layton at (304) 926-0499 Ext. 1025 between 8:00 A.M. to 4:00 P.M. or by email at Mavis.L.Layton@wv.gov for any questions.

IV. WHEN TO FILE

Any person proposing a new discharge should submit a site registration application form at least 180 days prior to commencing operations. Any person with an existing permit for stormwater only shall submit a site registration application form within 30 days of effective date of this permit. Any person operating an establishment with stormwater associated with industrial activity without an existing permit must submit a site registration application form within 30 days of the effective date of the general permit in order to obtain coverage.

V. FEES

Prior to filing this application, you may wish to obtain a copy of the Legislative Rules of the Department of Environmental Protection, Division of Water and Waste Management, Title 47, Series 26, Water Pollution Control Permit Fee Schedules, effective July 1, 1993, in order to determine the appropriate permit application fee required to accompany your submission of this application. You can obtain a copy of the rules from the Secretary of State's Office, State Capitol Building, Charleston, WV 25305.

The following Table has been derived from the Legislative Rules for facilities that elect to be covered under the General Multi-Sector Permit. You may use the Table to determine your applicable permit application fee.
(Note: Facilities first covered after September 1, 2013 will be rolled over into this new permit and do not need to reapply)

AVERAGE DISCHARGE VOLUME (GPD)	EXISTING FACILITY REGISTERED IN					NEW FACILITY
	2009	2010	2011	2012	2013	
Less than 1,001	$120	$96	$72	$48	$24	$470.00
1,001 to 5,000	$240	$192	$144	$96	$48	$700.00
5,001 to 50,000	$350	$280	$210	$140	$70	$1170.00
50,000 to 100,000	$470	$376	$282	$188	$94	$1400.00
Greater than 100,000	$580	$464	$348	$232	$116	$1750.00

In accordance with Title 47, Legislative Rules of the Department of Environmental Protection, Division of

Water and Waste Management, Series 26, Water Pollution Control Permit Fee Schedules, an existing facility means a facility for which a State water pollution control permit or a NPDES permit has previously been issued. Any other facility is a new facility.

VI. LINE-BY-LINE INSTRUCTIONS FOR COMPLETING THE SITE REGISTRATION FORM

1. Enter the facility's official or legal name.

2. Enter the address or location of the facility identified on line 1. If the facility does not have an applicable street name or route number, give the most accurate alternative information available (e.g. distance from nearest city, town, or community and distance from nearest intersection of county or state routes).

3. Enter the name and title of owner, who is thoroughly familiar with the operation of the facility and with the facts reported in this application and who can be contacted by this agency, if necessary.

4. Enter the telephone number of owner including area code and email address.

5. Enter the same information for operator, if applicable, as requested in 3. If the operator is not the owner of the facility, the operator shall submit documentation with the site registration application form to clarify the liability of the owner and the operator relative to compliance with the regulations and any permit issued. In situations where the owner and operator are different entities, the responsible official for signing the application form is the one having responsibility for compliance with the permit. If the entity which has responsibility for capital expenditures and operating expenses relative to wastewater handling and treatment is different than the official having permit compliance responsibility, the permit will list both parties as co-permittee and hold both parties responsible.

6. Enter the telephone number and email of operator, if different than owner.

7. Enter the complete mailing address of the office where correspondence should be sent.

8. Enter the facility contact and their title. This person should be thoroughly knowledgeable of the site and its operation.

9. Check the appropriate box.

10. List the receiving stream(s) and facility outlet(s). If you have only one (1) outlet, it will be identified as Outlet 001. Any subsequent outlets will be numbered 002, 003, etc., as you go downstream. Provide the latitude and longitude for each outlet and the river mile point, if known. If you have more outlets than the space on the form provides, you may put that information on an attached sheet of paper.

11. SIC code numbers are descriptions which may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, which is available from the National Technical Information Service in Springfield, Virginia. Use the current edition (1987) of the manual. If you have any questions, contact the Permitting Section, Division of Water and Waste Management at (304) 926-0495. **NOTE: This code is a four (4) digit number.**

12. List all existing Department of Environmental Protection, Division of Water and Waste Management permits by number, type (NPDES, Solid Waste, Sewage, UIC, etc.) dates of issuance and expiration. If you have previously filed an application but have not yet received a permit, provide the number of the application, if any.

13. Briefly describe the nature of your business (e.g. products produced or services provided) and month and year when operations began.

14. Check the appropriate box.

15. Provide an original topographic map or maps of a reasonable scale of the area extending to at least one mile beyond the property boundaries of the facility which clearly show the outline of the facility including the legal boundaries and the remaining information required by the form. Indicate if your site is in a critical zone of concern for a public drinking water intake. If so provide the name and contact information for that drinking water operator.

16. The following information must be provided and recorded in addition to locating each outlet and any treatment system on the facility site sketch where appropriate:

* Paved areas and buildings at the facility.
* Past and present outdoor areas used for storage or disposal of significant materials.
* Hazardous waste treatment, storage or disposal facilities, or accumulation areas (including those not requiring a RCRA permit).
* Injection wells.
* Material loading and access areas (e.g. loading docks and main truck routes on the facility property).
* Areas where pesticides, herbicides, soil conditioners, and fertilizers are applied.
* Structural control measures to reduce pollutants in stormwater runoff.
* Surface water bodies which receive stormwater discharges from the facility.
* All areas and buildings should be described with lengths, widths, direction, etc., necessary to check the areas of determined by the permittee. See also Figure No. 2.
* Figure No. 1 shows several simple examples of sketches and non-industrial stormwater through a facility to the receiving stream.

17. **Average Runoff in Gallons per Day** = Runoff Coefficient x Drainage Area in Square Feet x Average Annual Rainfall (inches converted to feet) x 7.48 (gallons per cubic foot) divided by 365 (days per year).

GPD = 7.48 C x A x R/12 ÷ 365 where:

C = Runoff Coefficient

A = Area in square feet

R = Average Annual Rainfall (in inches) for your precipitation zone (See Figure No. 3)

For the purpose of estimation on this registration form the following Runoff Coefficients shall be used:

Type of Surface	Coefficient
Paved, roofed or other impervious surface	0.85
Graveled, stone, semi-pervious	0.60
Exposed or barren ground	0.40
Lawns, forests, vegetated areas	0.20

For determination of areas consult Figure No. 2. Runoff should be determined for each type of surface within the facility and then totaled for the final flow rate.

NOTE: This calculation may be used as a substitute for the calculation provided in Title 47, Series 26.

18. FOR NEW FACILITIES or for facilities that significant changes have been made.
This item requires you to collect and report data for each stormwater outlet. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following instructions apply to the entire item.

Part A requires all facilities to report at least one analysis for each pollutant listed.

Part B requires sampling and analysis for any parameter listed in Tables 2, 3, 4 and 5 of these instructions that you know or have reason to believe may be present in the stormwater. Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and byproducts and any previous analyses known to you of your effluent or similar effluent. If you indicate that a parameter is believed present, a sample must be taken.

Sampling: The collection of the samples for the reported analyses should be supervised by a person experienced in performing sampling of industrial wastewater or stormwater discharges. You may contact the Environmental Protection Agency (EPA) or the State permitting authority for detailed guidance on sampling techniques and for answers to specific questions. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative, to the extent feasible, of any treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a specified site, or at any site adequate for the collection of a representative sample. A sample should provide at least 100 milliliters for each parameter to be analyzed.

A grab sample shall be taken during the first hour of the discharge due to a storm event. This sample shall be analyzed for the eight (8) parameters listed in 18.A. of the application. If additional samples are taken after this initial period, the samples should be analyzed and reported separately. During the term of the general permit, additional samples beyond what is being required here, may be required.

All samples shall be collected from the discharge resulting from a storm event that occurs at least 72 hours from the preceding storm event .

A grab sample is a sample collected in less than fifteen (15) minutes.

Data from samples taken in the past may be used, provided that:

All data requirements are met;

Sampling was done within three years before submission; and

All data are representative of the present discharge.

Among the factors which would cause the data to be unrepresentative are significant changes in production levels, changes in raw materials, processes, or final products, and changes in stormwater treatment. When the EPA promulgates new analytical methods in 40 CFR Part 136, the agency will provide information as to when you should use the new methods to generate data on your discharges. Of course, the Director of the Division of Water and Waste Management, may request additional information, including current quantitative data, if they determine it to be necessary to assess your discharges. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rainfall), protocols for collecting samples under 40 CFR Part 136, and additional time for submitting data on a case-by-case basis.

Reporting: All levels must be reported as concentration. You may report the required data by attaching separate sheets of paper to the site registration application form or you may attach a copy of the required data furnished to you by a commercial testing laboratory. Use the following abbreviations for “Units”.

ppm	parts per million	**mg/l**	milligrams per liter
ppb	parts per billion	**ug/l**	micrograms per liter

All reporting of values for metals must be in terms of “total recoverable metal,” unless:

(1) An applicable, promulgated effluent limitation or standard specifies the limitation for the metal in dissolved, valent, or total form: or

(2) All approved analytical methods for the metal inherently measure only its dissolved form (e.g., hexavalent chromium); or
(3) The permitting authority has determined that in establishing case-by-case limitations it is necessary to express the limitations on the metal in dissolved, valent, or total form to carry out the provisions of the Clean Water Act (CWA). The permitting authority may require you to conduct additional analyses to further

characterize your discharges.

If you measure more than one value for a sample at a given outlet and those values are representative of your discharge, you must report them. You must also describe your method of testing and data analysis. You also must determine the average of all values within the last year and report the concentration and the total number of storm events sampled.

Analysis: You must use test methods promulgated in 40 CFR Part 136; however, if none have been promulgated for a particular pollutant, you may use any suitable method for measuring the level of the pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding time, preservation techniques, and the quality control measures which you used. If you have two or more substantially identical outlets, you may request permission from DWWM to sample and analyze only one outlet and submit the results of the analysis or other substantially identical outlets. If your request is granted by DWWM, on a separate sheet attached to the application form, identify which outlet you did test, and describe why the outlet which you did not test are substantially identical to the outlet which you did test.

19. All facilities must develop and complete a Stormwater Pollution Prevention Plan (SWPPP) and a Groundwater Protection Plan (GPP) prior to submitting this site registration application form to obtain general permit coverage. The plan must provide for compliance upon initiation of operation of the facility. The plan must be signed with a certification exactly like that at the end of the site registration application form. The plan is to be retained on site and be made available, upon request, to the Director, or authorized representative. In addition, a copy of the SWPPP and GPP must be submitted with the application to the Division of Water and Waste Management for review.

You should review Section B.11 of the enclosed copy of the general permit to determine the required elements of a SWPPP and a GPP. Where data is requested that is not applicable for new facilities, e.g., a list of spills and leaks, etc., obviously, no documentation is warranted in your plan.

20. Submit with the application a summary of the Discharge Monitoring Report (DMR) data from the previous permit term. If you previously were covered by an individual permit and are now applying under the general permit, summarize any DMR data from the individual permit. Also, see Section B.4. (Low Concentration Waiver) of the general permit. If you are eligible for this waiver, submit the request with the reissuance application.

21. A wet pond is a basin for storing water and has a permanent pool of water for most of the year.
A dry pond is a basin for storing water and does not have a pool of water for most of the year.
An oil water separator is a device specifically designed to separate oil from water.

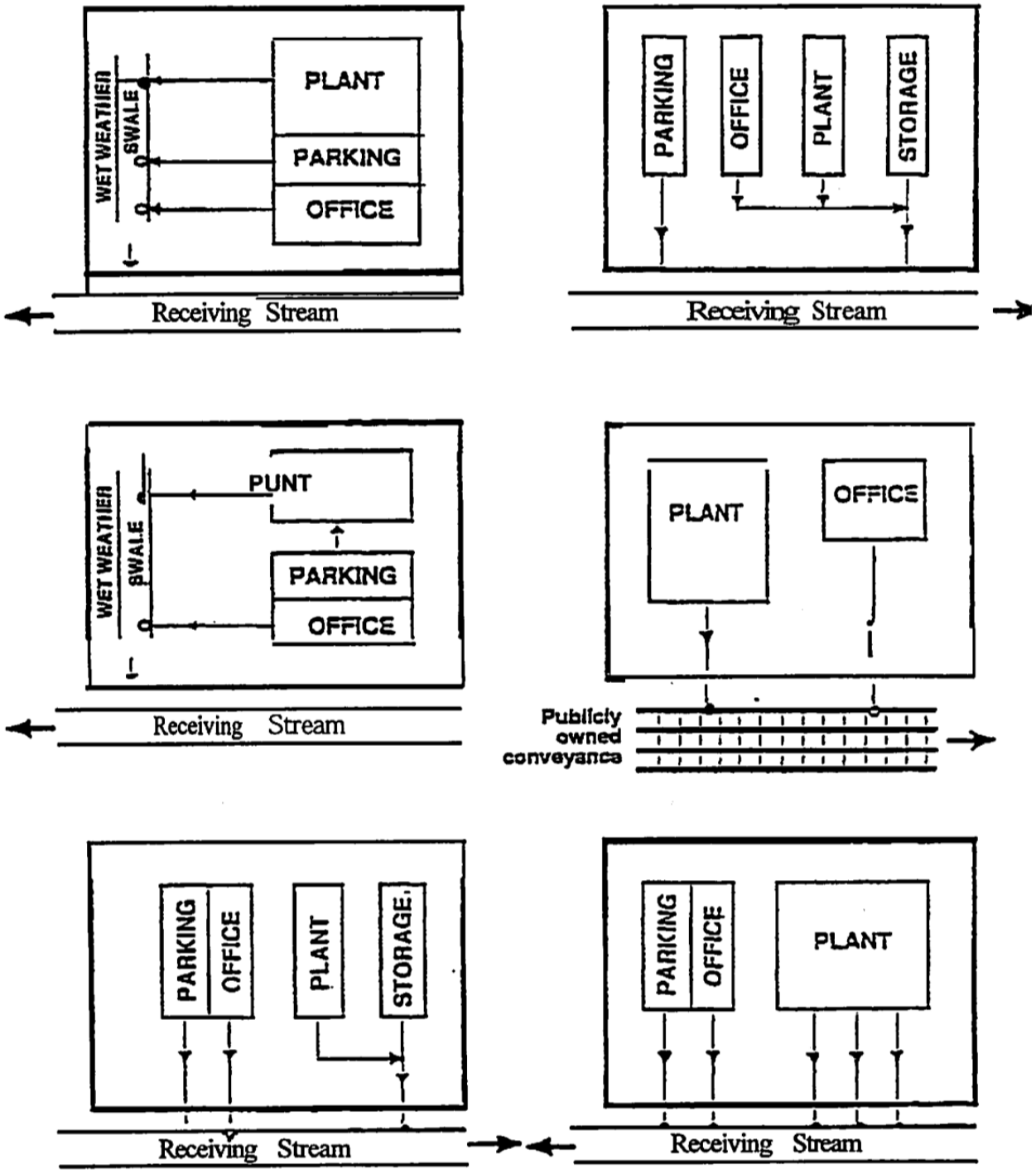
22. A. List the number of chemical, fuel and lubricant storage tanks located at your facility that can hold 1,320 or more gallons.

B. For each tank of 1,320 or more gallons indicate each tanks size, material stored, date of integrity testing and any observed release. Note: This will not need to be submitted if the information is already included in a above ground storage tank registration or other permitting program.

C. For each tank of 1,320 or more gallons indicate weather secondary containment is provided for each tank, the size and type of containment, date of integrity testing of the containment and any observed release.
If there are any tanks of 5,000 or more gallons not included in pollution control plans then spill prevention and control measures for those tanks must be indicated. Note: This will not need to be submitted if the information is already included in a above ground storage tank registration or other permitting program.

23. Please sign and date the application form on the line provided. Also, please PRINT the name and title of the signatory on the line provided.

FIGURE NO. 1

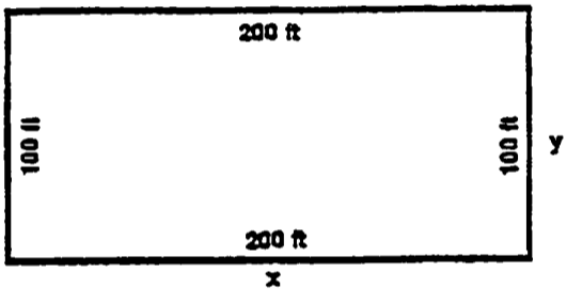


● Outlet discharges storm water associated with industriai activity
o Outlet discharges storm water that is not associated with industrial activity
➔ Runoff direction

EXAMPLE INDUSTRIAL STORM RUNOFF OUTLETS WITH STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY

FIGURE NO. 2

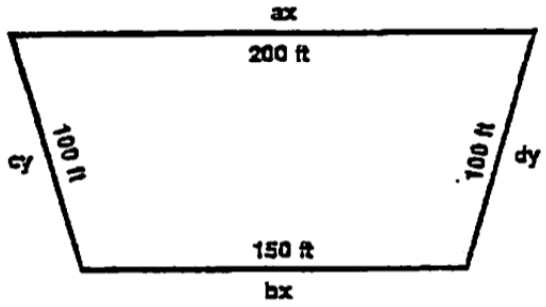
DETERMINATION OF AREAS (EXAMPLES)



Area = XY

= 200 FT X 100 FT

=20,000 Square feet

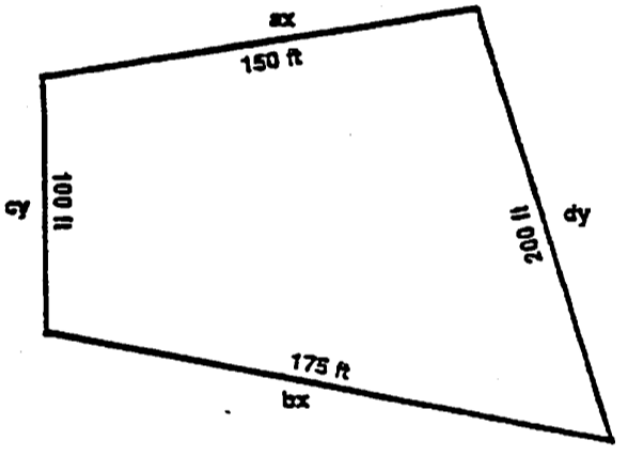


$$\text{Area} = \frac{ax + bx}{2} \times \frac{cy + dy}{2}$$

$$= \frac{200 + 150}{2} \times \frac{100 + 100}{2}$$

$$= 175 \times 100$$

= 17,500 (Square feet)

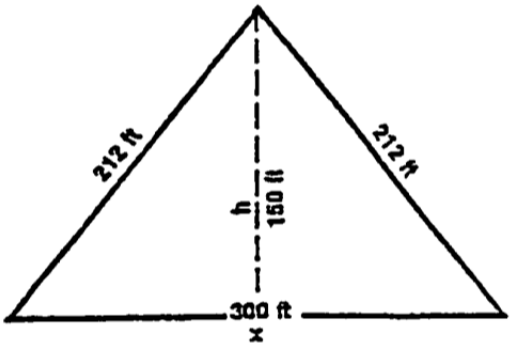


Approximate Area $= \frac{ax + bx}{2} \times \frac{cy + dy}{2}$

$$= \frac{150 + 175}{2} \times \frac{100 + 200}{2}$$

$$= 162.5 \times 150$$

= 24,375 Square feet



Area = 1/2 x h

= 1/2 (300 x 150)

= 22,500 Square feet

FIGURE NO. 3

Precipitation Zones in West Virginia

with their Annual Median Rainfall

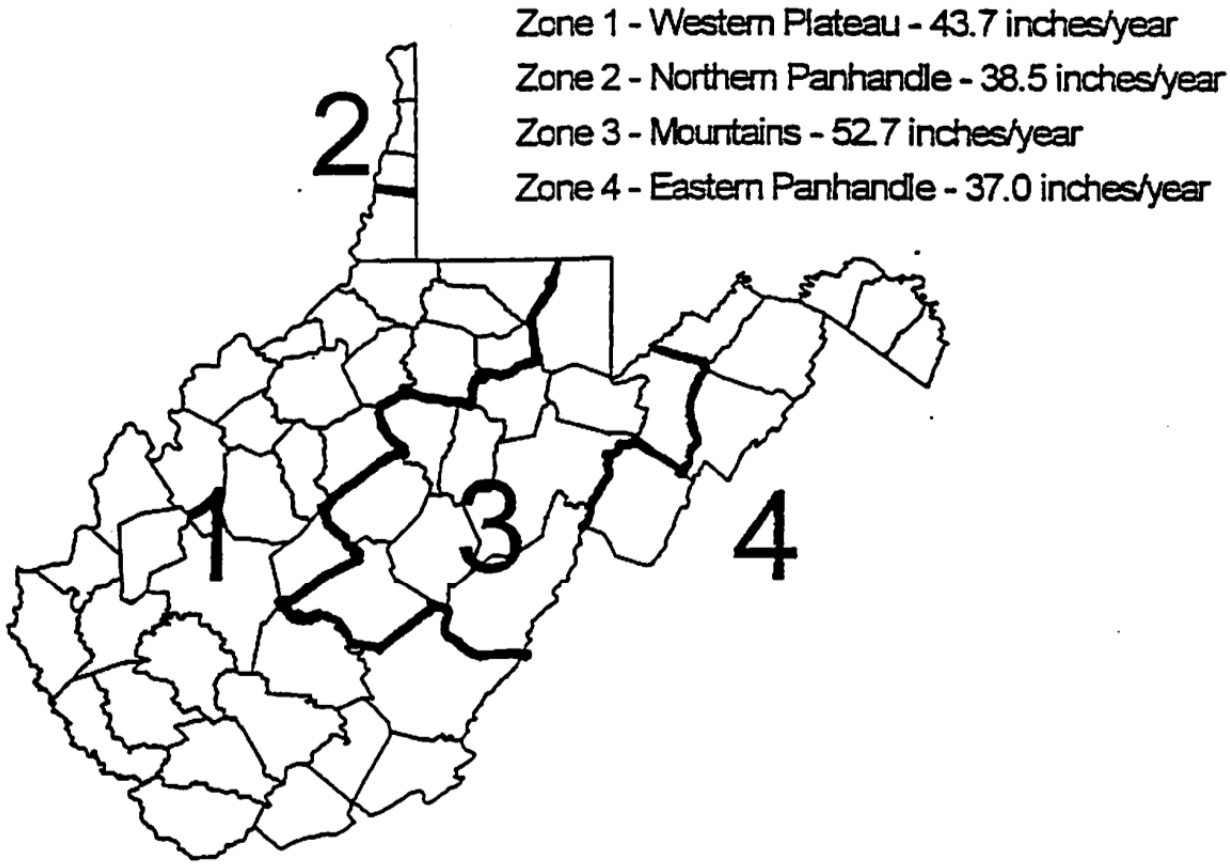


TABLE NO.1
INDUSTRIAL ACTIVITY ELIGIBLE FOR COVERAGE UNDER WV MULTI-SECTOR STORMWATER PERMIT

Industrial Code and Governing Sub-Section

Industrial Activity		Sector
Food and Kindred Products. Major SIC Codes 20 & 21		J
Textile Mill Products and other finished products made from fabrics and similar materials. Major SIC Codes 22 & 23.		K
Lumber and Wood Products. Major SIC Code 24.		A
Wood and Metal Furniture and Fixture Manufacturing. SIC Codes 251, 252, 253, 254, 259.		L
Paper and Allied Products. Major SIC Code 26.		B
Printing and Publishing Facilities. Major SIC Code 27.		M
Chemical and Allied Products. Major SIC Code 28		C
Asphalt Paving & Roofing Materials. Major SIC Code 29		D
Rubber & Miscellaneous Plastic Products Major SIC Code 30		N
Manufacturing,	Major SIC Code 32	E
	Major SIC Code 33	R
	Major SIC Code 34	O
	Major SIC Codes 35 & 37	P
	Major SIC Codes 36 & 38	Q
Transportation:		
a) Motor Freight and Vehicle Maintenance. Major SIC Codes 40, 41, 42, 43 and 5171.		I
b) Air Transportation. Major SIC Code 45		H
Wholesale Trade. Durable Goods.	SIC Codes 5015	F
	SIC Codes 5093	G
Motorsports Complexes	SIC Codes 7948	S
Mining of Shale (Non Manufacturing)	SIC Code 1459	T
Salt Storage (50 tons or less)	SIC Code 5169	U
Trasloading of Ammonia Nitrate	SIC Code 5169	V

UNCATEGORIZED W

In addition to the facilities with SIC Codes listed above, this sector could also include any SIC Codes or categories affected by stormwater associated with industrial activity that the Director (DWWM) may designate.

TABLE NO. 2

Toxic Pollutants required to be identified by applicant if expected to be present

Toxic Pollutants and Total Phenols

Total Antimony
Total Arsenic
Total Beryllium
Total Cadmium
Total Chromium
Total Copper
Total Lead
Total Mercury
Total Nickel
Total Selenium
Total Silver
Total Thallium
Total Zinc
Total Cyanide
Total Phenols

GC/MS Fraction Volatile Compounds

Acrolein
Acrylonitrile
Benzene
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chlorobromomethane
Chloromethane
2-Chloromethylvinyl Ether
Chloroform
Dichlorobromomethane
1.1-Dichloroethane
1.2-Dichloroethane
1.1-Dichloroethylene
1.3-Dichloropropylene
Ethylbenzene
Meythl Bromide
Meythl Chloride
Methylene Chloride
1.1.2.2-Tetrachloroethane
Tetrachloroethylene
Toluene
1.2-Trans-Dichloroethylene
1.1.1-Trichloroethane
1.1.2-Trichloroethylene
Trichloroethylene
Vinyl Chloride
1.2 Dichloropropane

Acid Compounds

2-Chlorophenol
2.4-Dichlorophenol
4.6-Dinitro-O-Cresol
2.4-Dinitrophenol
Phenol
2,4-Dimethylphenol
2-Nitrophenol
4-Nitrophenol
p-Chloro-M-Cresol
Pentachlorophenol
2.4.6-Trichlorophenol

TABLE NO. 2 (continued)

Base/Neutral

Acenaphthene
Acenaphthylene
Anthracene
Benzidine
1,2-Diphenylthydrazine (as Azobenzene)
Benzo(a)anthracene
Benzo(a)pyrene
3,4-Benzofluoranthene
Benzo(k)fluoranthene
Benzo(ghi)perylene
Bis(Bischloroethyl)ether
Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl)ether
Bis(2-chloroethoxy)methane
Bis(2-ethylyhexyl)phthalate
4-Bromophenyl Phenyl Ether
Butylbenzyl Phthalate
2-Dinitrophenol
4-Chlorophenyl Phenyl Ether
2-Chloronaphthalene
Chrysene
Dibenzo(a.h)anthracene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3.3-Dichlorobenzidine
Diethyl Phthalate
Dimethyl Phthalate
Di-N-Butyl Phthalate
Di-N-Octylphthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Benzo(a)anthracene
Fluorene
Fluoranthene
Hexachlorobenzene
Hexachlorobutadiene
Hexachloroethane
Indeno(1.2.3cd)pyrene
Isophorone
Napthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodi-N-Propylamine
N-Nitrosodiphenylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene

Pesticides

Aldrin
Alpha-BHC
Gamma-BHC
Delta-BHC
Chlorodane
4,4-DDT
4,4-DDE
4,4-DDO
Dieldrin
Alpha-Endosulfan
Beta-Endosulfan
Endosulfan Sulfate
Beta-BHC
Endrin
Endrin Aldehyde
Heptachlor
Heptachlor Epoxide
PCB-1242
PCB-1254
PCB-1221
PCB-1232
PCB-1248
PCB-1260
PCB-1016
Toxaphene

TABLE NO. 3

Hazardous Substances and Toxic Pollutant required to be identified by applicant if present

TOXIC POLLUTANT

Asbestos

HAZARDOUS SUBSTANCES

Acetaldhyde
Allyl Alcohol
Allyl Chloride
Amyl Acetate
Aniline
Benzonitrile
Benzyl Chloride
Butyl Acetate
Butylamine
Captan
Carbaryl
Carbofuran
Carbon Disulfide
Chloropyrifos
Coumaphos
Cresol
Crotonaldehyde
Cyclohexane
2,4-D (2,4-Dichlorophenoxyacetic acid)
Diazinon
Dicamba
Dichlobenil
Dichlone
2,2-Dichloropropionic acid
Dichlorves
Diethyl Amine
Dimethyl Amine
Dinitrobenzene
Diquat
Disulfoton
Diuron
Epichlorohydrin
Ethanolamine
Ethion
Ethylene Diamine
Ethylene Dibromine
Formaldehyde
Furfural
Guthion
Isoprene
Isopropanolamine
Kelthane
Kepone
Malathion
Mercaptodimethur
Methoxchlor
Methyl Mercaptan
Methyl Methacrylate
Methy Parathion
Mevinphos
Mexacarbate
Monoethyl Amine
Monomethyl Amine
Naled
Napthenic Acid
Nitrotoluene
Parathion
Phenolsulfonate
Phosgene
Propargite
Propylene Oxide
Pyrethrins
Quinoline
Resorcinol
Strontium
Strychnine
Styrene
TDE (Tetrachlorodiphenyl ethane)
2.4.5-TP (2.4.5-Trichlorophenoxy acetic acid)
Trichlorofon
Triethanolamine
Triethylamine
Triemethylamine
Uranium
Vanadium
Vinyl Acetate
Xylene
Xylenol
Zirconium

TABLE No. 4

CONVENTIONAL AND NONCONVENTIONAL POLLUTANTS REQUIRED TO BE TESTED BY EXISTING DISCHARGER IF EXPECTED TO BE PRESENT

Bromide

Chlorine, Total Residual

Color

Fecal Coliform

Fluoride

Nitrate-Nitrite

Nitrogen, Total Kjeldahl

Oil and Grease

Sulfate

Sulfide

Sulfite

Surfactant

Aluminum, Total

Barium, Total

Boron, Total

Cobalt, Total

Iron, Total

Manganese, Total

Molybdenum, Total

Magnesium, Total

Tin, Total

Titanium, Total

TABLE NO. 5
SECTION 313 WATER PRIORITY CHEMICALS

CAS Number	Common Name
75-07-0	Acetaldehyde
107-02-8	Acrolein
107-13-1	Acrylonitrile
309-00-2	Aldrin[1,4:5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1.alpha.,4.alpha.,4a.beta.,5.alpha.,8.alpha.,8a .beta.)-]
107-05-1	Allyl Chloride
7429-90-5	Aluminum (fume or dust)
7664-41-7	Ammonia
62-53-3	Aniline
120-12-7	Anthracene
7440-36-0	Antimony
7647189	Antimony pentachloride
28300745	Antimony potassium tartrate
7789619	Antimony tribromide
10025919	Antimony trichloride
7783564	Antimony trifluoride
1309644	Antimony trioxide
7440-38-2	Arsenic
1303328	Arsenic disulfide
1303282	Arsenic pentoxide
7784341	Arsenic trichloride
1327533	Arsenic trioxide
1303339	Arsenic trisulfide
1332-21-4	Asbestos (friable)
542621	Barium cyanide
71-43-2	Benzene
92-87-5	Benzidine
100470	Benzonitrile
218019	Benzo(a)phenanthrene
50328	Benzo(a)pyrene
205992	Benzo(b)fluoranthene
205823	Benzo(j)fluoranthene
207089	Benzo(k)fluoranthene
189559	Benzo(rst)pentaphene
56553	Benzo(a)anthracene
100-44-7	Benzyl chloride
7440-41-7	Beryllium
7787475	Beryllium chloride
7787497	Beryllium fluoride
7787555	Beryllium nitrate
111-44-4	Bis(2-chloroethyl) ether
75-25-2	Bromoform
74-83-9	Bromomethane (Methyl bromide)
85-68-7	Butyl benzyl phthalate
7440-43-9	Cadmium
543908	Cadmium acetate
7789426	Cadmium bromide
10108642	Cadmium chloride
7778441	Calcium arsenate
52740166	Calcium arsenite
13765190	Calcium chromate
592018	Calcium cyanide
133-06-2	Captan [1H-Isoindole-1,3(2H)-dione,3a,4,7,7a-tetrahydro-2-[(trichloromethyl)thio]-]
63-25-2	Carbaryl [1-Naphthalenol, methylcarbamate]
75-15-0	Carbon disulfide
1563662	Carbofuran
56-23-5	Carbon tetrachloride
57-74-9	Chlordane [4,7-Methanoindan,1,2,4,5,6,7,8,8- octachloro-2,3,3a,4,7,7a-hexahydro-]
7782-50-5	Chlorine
59-50-7	4-Chloro 3-methyl phenol p-Chloro-m-cresol
108-90-7	Chlorobenzene
75-00-3	Chloroethane (Ethyl chloride)
67-66-3	Chloroform
74-87-3	Chloromethane (Methyl chloride)
95-57-8	2-Chlorophenol
106-48-9	4-Chlorophenol
75729	Chlorotrifluoromethane
1066304	Chromic acetate
11115745	Chromic acid
10101538	Chromic sulfate
7440-47-3	Chromium
1308-14-1	Chromium (Tri)
10049055	Chromous chloride
7789437	Cobaltous bromide
544183	Cobaltous formate
14017415	Cobaltous sulfamate
7440-50-8	Copper
108-39-4	m-Cresol
9548-7	o-Cresol
106-44-5	p-Cresol
4170303	Crotonaldehyde
1319-77-3	Cresol (mixed isomers)
142712	Cupric acetate
12002038	Cupric acetoarsenite
7447394	Cupric chloride
3251238	Cupric nitrate
5893663	Cupric oxalate
7758987	Cupric sulfate
10380297	Cupric sulfate, ammoniated
815827	Cupric tartrate
57-12-5	Cyanide
506774	Cyanogen chloride
333415	Diazinon
94-75-7	2,4-D [Acetic acid, (2,4-dichlorophenoxy)-]
226368	Dibenz(a,h)acridine
224420	Dibenz(a,j)acridene
5385751	Dibenzo(a,e)fluoranthene
192654	Dibenzo(a,e)pyrene
53703	Dibenzo(a,h)anthracene
189640	Dibenzo(a,l)pyrene
191300	Dibenzo(a,h)pyrene
194592	7, H-Dibenzo(c,g)carbazole
106-93-4	1,2-Dibromoethane (Ethylene dibromide)
84-74-2	Dibutyl phthalate
1929733	2,4 D Butoxyethyl ester
94804	2,4 D Butyl ester
2971382	2,4 D Chlorocrotyl ester
1918009	Dicamba

TABLE NO. 5 (Continued)

CAS Number	Common Name
95-50-1	1,2-Dichlorobenzene
541-73-1	1,3-Dichlorobenzene
106-46-7	1,4-Dichlorobenzene
91-94-1	3,3'-Dichlorobenzidine
75-27-4	Dichlorobromomethane
107-06-2	1,2-Dichloroethane (Ethylene dichloride)
75434	Dichlorofluoromethane
540-59-0	1,2-Dichloroethylene
120-83-2	2,4-Dichlorophenol
78-87-5	1,2-Dichloropropane
10061026	trans-1,3-Dichloropropene
542-75-6	1,3-Dichloropropylene
62-73-7	Dichlorvos [Phosphoric acid, 2,2-dichloroethenyl dimethyl ester]
115-32-2	Dicofol [Benzenemethanol, 4-chloro-.alpha.-(4-chlorophenyl)-.alpha.-(trichloromethyl)-]
177-81-7	Di-(2-ethylhexyl) phthalate (DEHP)
84-66-2	Diethyl phthalate
124403	Dimethylamine
57976	7,12-Dimethylbenz(a)anthracene
105-67-9	2,4-Dimethylphenol
131-11-3	Dimethyl phthalate
534-52-1	4,6-Dinitro-o-cresol
51-28-5	2,4-Dinitrophenol
121-14-2	2,4-Dinitrotoluene
606-20-2	2,6-Dinitrotoluene
117-84-0	n-Dioctyl phthalate
122-66-7	1,2-Diphenylhydrazine (Hydrazobenzene)
94111	2,4-D Isopropyl ester
106-89-8	Epichlorohydrin
1320189	2,4-D Propylene glycol butyl ether ester
330541	Diuron
100-41-4	Ethylbenzene
106934	Ethylene dibromide
50-00-0	Formaldehyde
76-44-8	Heptachlor [1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene]
118-74-1	Hexachlorobenzene
319846	alpha-Hexachlorocyclohexane
87-68-3	Hexachloro-1,3-butadiene
77-47-4	Hexachlorocyclopentadiene
67-72-1	Hexachloroethane
7647-01-0	Hydrochloric acid
74-90-8	Hydrogen cyanide
7664-39-3	Hydrogen fluoride
193395	Indeno[1,2,3-cd]pyrene
7439-92-1	Lead
301042	Lead acetate
7784409	Lead arsenate
7645252	" "
10102484	" "
7758954	Lead chloride
13814965	Lead fluoborate
7783462	Lead fluoride
10101630	Lead iodide
10099748	Lead nitrate
7428480	Lead stearate
1072351	" "
52652592	" "
7446142	Lead sulfate
1314870	Lead sulfide
592870	Lead thiocyanate
58-89-9	Lindane [Cyclohexane, 1,2,3,4,5,6-hexachloro-(1.alpha.,3.beta.,4.alpha.,5.alpha.,6.beta.)-]
14307258	Lithium chromate
121755	Malathion
108-31-6	Maleic anhydride
592041	Mercuric cyanide
10045940	Mercuric nitrate
7783359	Mercuric sulfate
592858	Mercuric thiocyanate
7782867	Mercurous nitrate
7439-97-6	Mercury
72-43-5	Methoxychlor [Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-]
80-62-6	Methyl methacrylate
75865	2-Methyllactonitrile
3697243	5-Methylchrysene
298000	Methyl parathion
7786347	Mevinphos
300765	Naled
91-20-3	Naphthalene
7440-02-0	Nickel
15699180	Nickel ammonium sulfate
37211055	Nickel chloride
7718549	" "
12054487	Nickel hydroxide
14216752	Nickel nitrate
7786814	Nickel sulfate
7697-37-2	Nitric acid
98-95-3	Nitrobenzene
88-75-5	2-Nitrophenol
100-02-7	4-Nitrophenol
5522430	1-Nitropyrene
62-75-9	N-Nitrosodimethylamine
86-30-6	N-Nitrosodiphenylamine
621-64-7	N-Nitrosodi-n-propylamine
56-38-2	Parathion [Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester]
87-86-5	Pentachlorophenol (PCP)
85018	Phenanthrene
108-95-2	Phenol
7664-38-2	Phosphoric acid
7723-14-0	Phosphorus (yellow or white)
1336-36-3	Polychlorinated biphenyls (PCBs)
7784410	Potassium arsenate
10124502	Potassium arsenite
7778509	Potassium bichromate
7789006	Potassium chromate
151508	Potassium cyanide
2312358	Propargite
75-56-9	Propylene oxide
91-22-5	Quinoline
7782-49-2	Selenium
7446084	Selenium oxide
7440-22-4	Silver
7761888	Silver nitrate
7631892	Sodium arsenate
7784465	Sodium arsenite
10588019	Sodium bichromate
7775113	Sodium chromate
143339	Sodium cyanide
7632000	Sodium nitrite

TABLE NO. 5 (Continued)

CAS Number	Common Name

10102188	**Sodium selenite**
7782823	" "
7789062	**Strontium chromate**
NA	**Strychnine & salts**
100-42-5	**Styrene**
7664-93-9	**Sulfuric acid**
79-34-5	**1,1,2,2-Tetrachloroethane**
127-18-4	**Tetrachloroethylene (Perchloroethylene)**
935-95-5	**2,3,5,6-Tetrachlorophenol**
78002	**Tetraethyl lead**
7440-28-0	**Thallium**
10031591	**Thallium sulfate**
108-88-3	**Toluene**
8001-35-2	**Toxaphene**
52-68-6	**Trichlorfon [Phosphonic acid, (2,2,2-trichloro-1-hydroxyethyl)-dimethylester]**
120-82-1	**1,2,4-Trichlorobenzene**
71-55-6	**1,1,1-Trichloroethane (Methyl chloroform)**
79-00-5	**1,1,2-Trichloroethane**
79-01-6	**Trichloroethylene**
95-95-4	**2,4,5-Trichlorophenol**
88-06-2	**2,4,6-Trichlorophenol**
121448	**Triethylamine**
7440-62-2	**Vanadium (fume or dust)**
108-05-4	**Vinyl acetate**
75-01-4	**Vinyl chloride**
75-35-4	Vinylidene chloride
108-38-3	m-Xylene
95-47-6	o-Xylene
106-42-3	p-Xylene
1330-20-7	Xylene (mixed isomers)
7440-66-6	Zinc (fume or dust)
557346	Zinc acetate
14639975	Zinc ammonium chloride
14639986	" " "
52628258	" " "
1332076	Zinc borate
7699458	Zinc bromide
3486359	Zinc carbonate
7646857	Zinc chloride
557211	Zinc cyanide
7783495	Zinc fluoride
557415	Zinc formate
7779864	Zinc hydrosulfite
7779886	Zinc nitrate
127822	Zinc phenolsulfonate
1314847	Zinc phosphide
16871719	Zinc silicofluoride
7733020	Zinc sulfate

TABLE NO. 6

Parameter Benchmark Values

Parameter Name	Benchmark Level	Source
Biochemical Oxygen Demand (5)	30 mg/L	4
Chemical Oxygen Demand	120 mg/L	5
Total Suspended Solids	100 mg/L	7
Oil and Grease	15 mg/L	8
Nitrate + Nitrite Nitrogen	0.68 mg/L	7
Total Phosphorus	2.0 mg/L	6
pH	6.0-9.0 s.u	4
Acrylonitrile ©	7.55 mg/L	2
Aluminum, Total (pH 6.5 - 9)	0.75 mg/L	1
Ammonia	19 mg/L	1
Antimony, Total	0.638 mg/L	9
Arsenic, Total ©	0.16854 mg/L	9
Benzene	0.01 mg/L	10
Beryllium, Total ©	0.13 mg/L	2
Butylbenzyl Phthalate	3 mg/L	3
Cadmium, Total (H)	0.0159 mg/L	9
Chloride	860 mg/L	1
Copper, Total (H)	0.0636 mg/L	9
Dimethyl Phthalate	1.0 mg/L	11
Ethylbenzene	3.1 mg/L	3
Fluoranthene	0.042 mg/L	3
Fluoride	1.8 mg/L	6
Iron, Total	1.0 mg/L	12
Lead, Total (H)	0.0816 mg/L	1
Manganese	1.0 mg/L	13
Mercury, Total	0.000127 mg/L	1
Nickel, Total (H)	1.417 mg/L	1
PCB- 1O18 ©	0.000127 mg/L	9
PCB- 1221 ©	0.10 mg/L	10
PCB- 1232 ©	0.000318 mg/L	9
PCB- 1242 ©	0.00020 mg/L	10
PCB- 1248 ©	0.002544 mg/L	9
PCB- 1254 ©	.0.10 mg/L	10
PCB- 1260 ©	0.000477 mg/L	9
Phenols, Total	1.0 mg/L	11
Pyrene (PAH,.c)	0.01 mg/L	10
Selenium, Total (*)	0.2385 mg/L	9
Silver, Total (H)	0.0318 mg/L	9
Toluene	10.0 mg/L	3
Trichloroethylene ©	0.0027 mg/L	3
Zinc, Total (H)	0.117 mg/L	1

Sources:

1. “EPA Recommended Ambient Water Quality Criteria.” Acute Aquatic Life Freshwater.
2. “EPA Recommended Ambient Water Quality Criteria.” LOEL Acute Freshwater.
3. “EPA Recommended Ambient Water Quality Criteria.” Human Health Criteria for Consumption of Water and Organisms.
4. Secondary Treatment Regulations (40 CFR 133).
5. Factor of 4 times BOD5 Concentration--North Carolina Benchmark
6. North Carolina stormwater benchmark derived from NC Water Quality Standards.
7. National Urban Runoff Program (NURP) median concentration.
8. Median concentration of Stormwater Effluent Limitation Guideline (40 CFR Part 419).
9. Minimum Level (ML) based upon highest Method Detection Limit (MDL) times a factor of 3.18.
10. Laboratory derived Minimum Level (ML).
11. Discharge limitations and compliance data.
12. “EPA Recommended Ambient Water Quality Criteria.” Chronic Aquatic Life Freshwater.
13. Colorado--Chronic Aquatic Life Freshwater--Water Quality Criteria.

Notes:

(*) Limit established for oil and gas exploration and production facilities only.
© carcinogen.
(H) Hardness dependent.
(PAH) Polynuclear Aromatic Hydrocarbon.

Assumptions:

Receiving water temperature-20 C.
Receiving water pH-- 7.8
Receiving water hardness CaCo3. 100 mg/L
Receiving water salinity 20 g/kg.
Acute to Chronic Ratio (ACR)--10.