



## 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 May 1, 2009 and will expire on March 31, 2014. 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 (for new facilities only)

#### **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 applicant should retain a copy of all application forms for their records. Three (3) copies of the site registration application form and three (3) copies of all attachments should be mailed to:

Division of Water and Waste Management  
 Permitting Section  
 601 57<sup>th</sup> Street, S.E.  
 Charleston, WV 25304

### **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, 2008 will be rolled over into this new permit and do not need to reapply)

AVERAGE DISCHARGE VOLUME (GPD)	EXISTING FACILITY REGISTERED IN					NEW FACILITY
	2004	2005	2006	2007	2008	
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 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.

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).

$GPD = 7.48 C \times A \times R / 12 \div 365$  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:

<u>Type of Surface</u>	<u>Coefficient</u>
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".

<b>ppm</b>	parts per million	<b>mg/l</b>	milligrams per liter
<b>ppb</b>	parts per billion	<b>ug/l</b>	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 outlets which you did not test are substantially identical to the outlet which you did test.

19. If you are a new facility (one which did not initiate any operations prior to the issuance of this general permit) you 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.

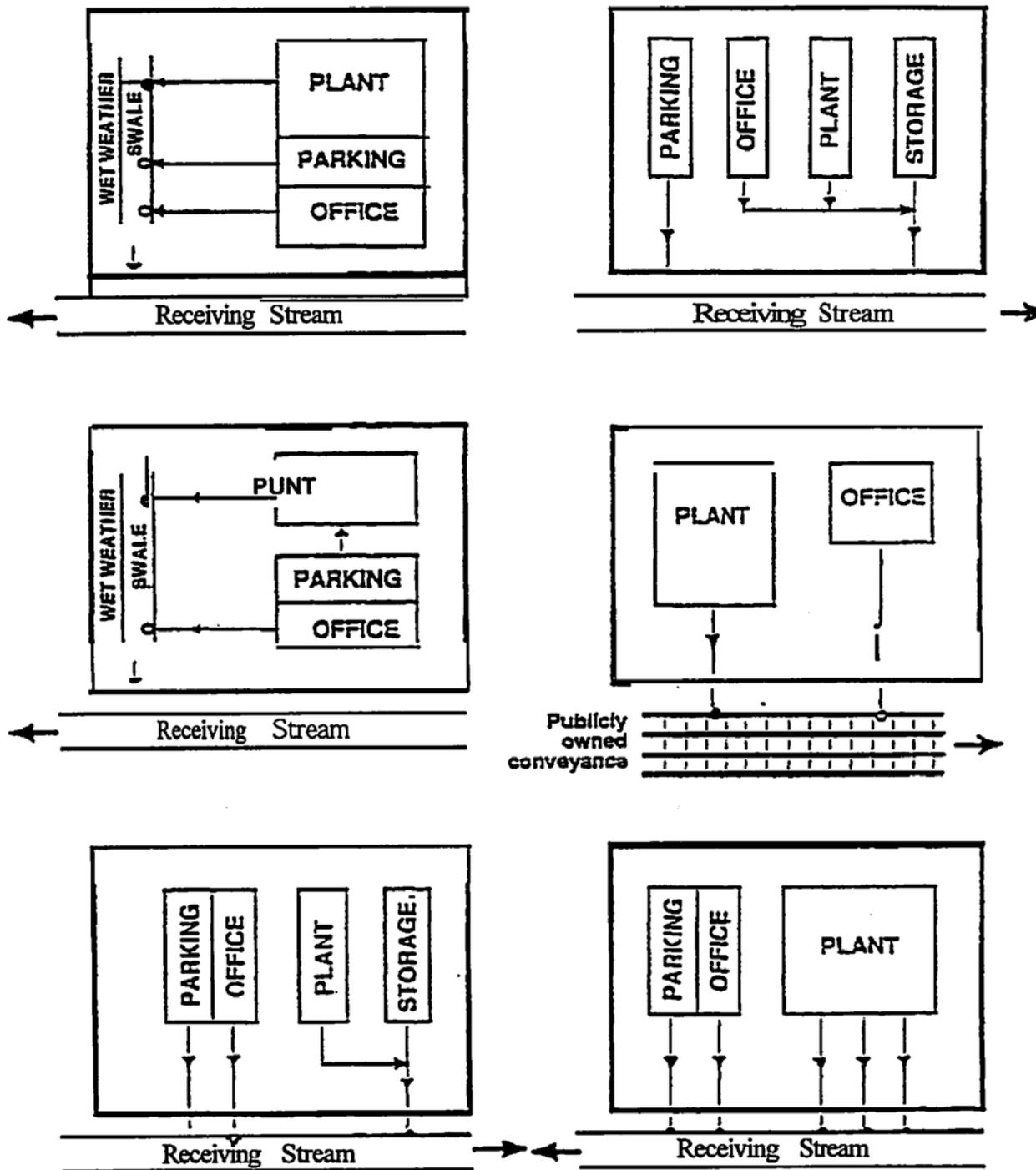
20. Submit with the application a summary of the Discharge Monitoring Report (DMR) data from the previous permit term. If you previously were covered by an individual permit and are now applying under the general permit, summarize any DMR data from the individual permit. Also, see Section B.4. (Low Concentration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

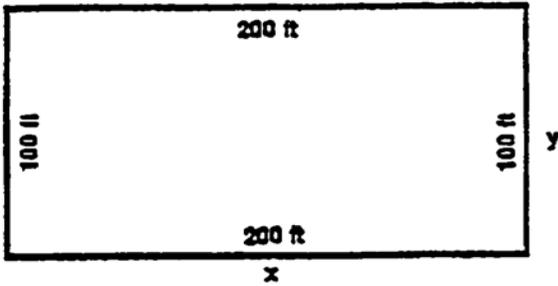


- Outlet discharges storm water associated with industrial activity
- Outlet discharges storm water that is not associated with industrial activity
- ➔ Runoff direction

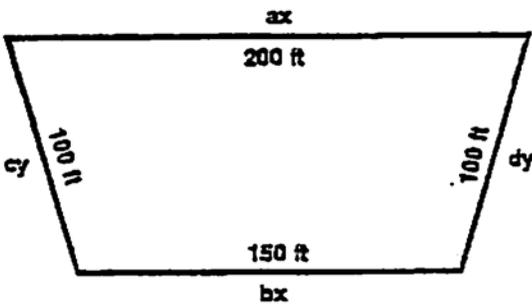
**EXAMPLE INDUSTRIAL STORM RUNOFF OUTLETS WITH STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY**

FIGURE NO. 2

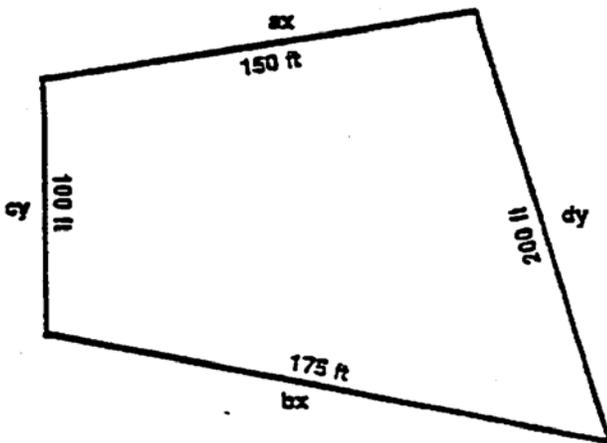
DETERMINATION OF AREAS (EXAMPLES)



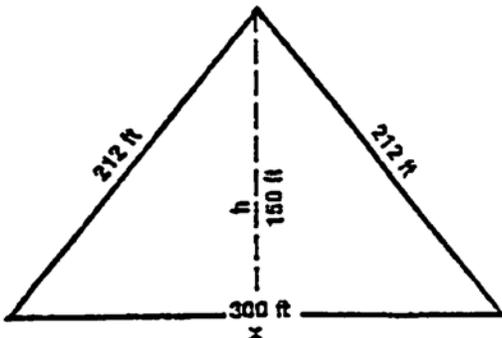
$$\begin{aligned} \text{Area} &= XY \\ &= 200 \text{ FT} \times 100 \text{ FT} \\ &= 20,000 \text{ Square feet} \end{aligned}$$



$$\begin{aligned} \text{Area} &= \frac{ax + bx}{2} \times \frac{cy + dy}{2} \\ &= \frac{200 + 150}{2} \times \frac{100 + 100}{2} \\ &= 175 \times 100 \\ &= 17,500 \text{ (Square feet)} \end{aligned}$$



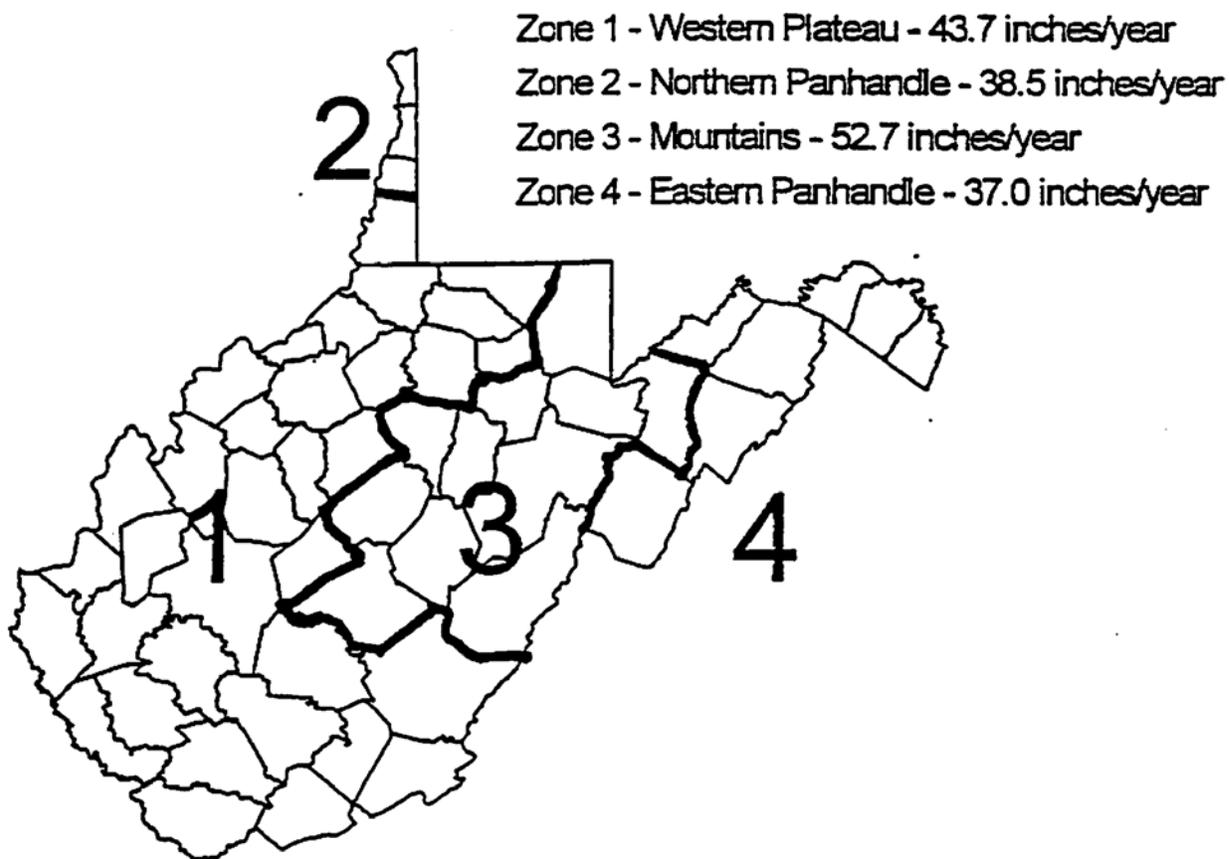
$$\begin{aligned} \text{Approximate Area} &= \frac{ax + bx}{2} \times \frac{cy + dy}{2} \\ &= \frac{150 + 175}{2} \times \frac{100 + 200}{2} \\ &= 162.5 \times 150 \\ &= 24,375 \text{ Square feet} \end{aligned}$$



$$\begin{aligned} \text{Area} &= 1/2 \times h \\ &= 1/2 (300 \times 150) \\ &= 22,500 \text{ Square feet} \end{aligned}$$

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**

<b>Industrial Activity</b>	<b>Sector</b>
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
UNCATEGORIZED	V

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

GC/MS Fraction Volatile Compounds

Acrolein	1,3-Dichloropropylene
Acrylonitrile	Ethylbenzene
Benzene	Methyl Bromide
Bromoform	Methyl Chloride
Carbon Tetrachloride	Methylene Chloride
Chlorobenzene	1,1,2,2-Tetrachloroethane
Chlorobromomethane	Tetrachloroethylene
Chloromethane	Toluene
2-Chloromethylvinyl Ether	1,2-Trans-Dichloroethylene
Chloroform	1,1,1-Trichloroethane
Dichlorobromomethane	1,1,2-Trichloroethylene
1,1-Dichloroethane	Trichloroethylene
1,2-Dichloroethane	Vinyl Chloride
1,1-Dichloroethylene	1,2 Dichloropropane

Acid Compounds

2-Chlorophenol	2-Nitrophenol
2,4-Dichlorophenol	4-Nitrophenol
4,6-Dinitro-O-Cresol	p-Chloro-M-Cresol
2,4-Dinitrophenol	Pentachlorophenol
Phenol	2,4,6-Trichlorophenol
2,4-Dimethylphenol	

TABLE NO. 2 (continued)

Base/Neutral

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

Pesticides

Aldrin	PCB-1260
Alpha-BHC	PCB-1016
Gamma-BHC	Toxaphene
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	

TABLE NO. 3

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

Asbestos

**HAZARDOUS SUBSTANCES**

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

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

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



TABLE NO. 5 (Continued)

<u>CAS Number</u>	<u>Common Name</u>
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)-dimethyl ester]
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- 1018 ©	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 ©	.010 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.