INSTRUCTIONS TO COMPLETE A SITE REGISTRATION APPLICATION FORM FOR THE GENERAL WV/NPDES PERMIT FOR CONSTRUCTION STORM WATER ACTIVITY (THREE ACRES AND GREATER ONLY) IN WEST VIRGINIA

A. *GENERAL INSTRUCTIONS*

The Division of Water Resources has developed and issued a General WV/NPDES Water Pollution Control permit to regulate sediment containing storm waters flowing into the waters of the State from discharges associated with construction activity. This General Permit was issued on November 5, 2002, became effective on December 5, 2002, and will expire on December 4, 2007.

Certain establishments which discharge sediment laden storm water and fall under the definition of "Storm Water Associated with Industrial Activity" can elect to be regulated under the General Permit. Those establishments must file a Site Registration Application Form with the Division of Water Resources. Individuals will be regulated under the General Permits only if they agree to do so, and if they satisfy the registration requirements. The Division of Water Resources reserves the right to require any individual to obtain a facility-specific WV/NPDES Permit. Individuals not wishing to be regulated by the General Permit are required to apply for and obtain an individual permit.

After development of a Draft General Permit, the Division of Water Resources advertised its intent to issue this General Permit and has fulfilled its public notice requirements. Applicants need not perform any public notice activities except as detailed in section D and in the Public Notice requirements at CSR 47-10-12.

All permittees will be required to develop a Storm Water Pollution Prevention Plan (SWPPP) for the project to be covered by the permit. Upon receipt of the site registration application form along with the Sediment and Erosion Control Plan, which together comprise the Storm Water Pollution Prevention Plan, a review will be conducted by the Division of Water Resources to determine if the information provided meets the minimum requirements of the permit.

Persons with questions regarding the General Permit for Construction should contact the Division of Water Resources, Permitting Section in Charleston at (304) 558-4086 or Fairmont at (304) 368-3960.

B. *WHO MUST APPLY*

Any establishment, pursuant to Chapter 22, Article 11, where, storm water associated with construction activity is or may be discharged into the waters of the State or, where designated by the Chief, is a contributor to a violation of the Water Quality Standards or that results in a significant pollutant loading to the receiving waters must apply. Any person proposing a construction activity, **three (3) acres or greater** of land disturbance in size, shall submit a site registration application form 45 days prior to commencing operation. **Persons proposing a minor construction project between 1 and less than 3 acres should use the Notice of Intent forms found elsewhere in the packet or by request from the Charleston office or from the DWR website. Construction activities associated with oil and gas operations may register through the existing permitting process with the DEP Office of Oil and Gas.** When the construction activity is owned by one person but operated by another, it is the responsibility of the owner to obtain the permit. A separate registration application form is to be submitted for each construction activity.

C. *WHERE TO FILE*

1. **Two (2) copies** of the site registration application form and **one copy** of the SWPPP and accompanying plans and drawings shall be mailed to the following office below for projects in the listed counties.

Division of Water Resources
Construction WV/NPDES
2031 Pleasant Valley Road, Suite 1
Fairmont, WV 26554
304-368-3960

Barbour	Hancock	Marshall	Pleasants	Tucker	
Berkeley	Hardy	Mineral	Pocahontas	Tyler	
Brooke	Harrison	Monongalia	Preston	Upshur	
Doddridge	Jefferson	Morgan	Randolph	Webster	
Grant	Lewis	Ohio	Ritchie	Wetzel	
Hampshire	Marion	Pendleton	Taylor		

* *For projects in Jefferson County contact:*
Jefferson County Planning Commission
104 E. Washington Street
P.O. Box 338
Charles Town, WV 25414
304-725-9761

One copy of the site registration application form and **one copy** of the SWPPP and accompanying plans and drawings along with the **applicable fee** for project in the listed counties shall be mailed to:

DIVISION OF WATER RESOURCES
PERMITTING SECTION
1201 GREENBRIER STREET
CHARLESTON, WV 25311-1088

2. For projects not listed above, **Two (2) copies** of the site registration application form and **one copy** of the SWPPP and accompanying plans and drawings along with the **applicable fee** shall be mailed to:

DIVISION OF WATER RESOURCES
PERMITTING SECTION
1201 GREENBRIER STREET
CHARLESTON, WV 25311-1088

3. For construction activities associated with oil and gas operations contact:

WV DEP OFFICE OF OIL AND GAS
1356 HANSFORD STREET
CHARLESTON, WV 25301
Telephone number 304-558-6075

D. ***WHEN TO FILE***

The application for construction activities requiring coverage must be submitted at least forty-five (45) days prior to starting the project, except as follows.

In the following scenarios, applications must be submitted at least 90 days prior to start of construction in order to allow time for the public notice procedure:

- Projects with 3 acres or greater disturbance that discharge to or upstream of Tier 2.5 or Tier 3 waters,
- or the project will disturb 100 or more acres,
- or the project will have an initial grading construction phase of 1 year or greater,

E. ***FEES***

Prior to filing the application, you may wish to obtain a copy of the Legislative Rules of the Division of Environmental Protection, Title 47, Series 26, Water Pollution Control Permit Fee Schedules, effective April 13, 1992. A copy of these Rules is available from the Secretary of State's Office, State Capitol Building, Charleston, WV 25305.

To help the applicant, the application fees have been calculated by acreage in each precipitation zone in West Virginia. The following table lists by zone the application fee required for acres of disturbed area. Refer to the Precipitation Zone Map on the next page to determine which zone the project is located. Runoff for construction shall be determined based on the <u>total</u> acreage to be disturbed during the entire project. Subdivisions must include all disturbances, including 1/4 of an acre for each lot.

PERMIT APPLICATION FEES BY PRECIPITATION ZONE

<u>ZONE 1</u>		**<u>ZONE 2</u>**	
3-3.9 Acres	= $ 700	3-4.9 Acres	= $ 700
4-38.9 Acres	= $ 1170	5-43.9 Acres	= $ 1170
39-76.9 Acres	= $ 1400	44-87.9 Acres	= $ 1400
77 Acres or more	= $ 1750	88 Acres or more	= $ 1750
<u>ZONE 3</u>		**<u>ZONE 4</u>**	
3 .9Acres	= $ 700	3-4.9 Acres	= $ 700
4-31.9 Acres	= $ 1170	5-45.9 Acres	= $ 1170
32-63.9 Acres	= $ 1400	46-90.9 Acres	= $ 1400
64 Acres or more	= $ 1750	91 Acres or more	= $ 1750

SEND APPLICATION FEES TO THE ENGINEERING BRANCH AT 1201 GREENBRIER ST. CHARLESTON, WV 25311-1088
These application fees have been prepared using the NPDES Fee structure to simplify the application submittal process. Direct questions to:

WV DEP - Division of Water Resources, Engineering Branch
1201 Greenbrier Street
Charleston, WV 25311-1088
Phone: (304) 558-4086

LINE BY LINE INSTRUCTIONS FOR COMPLETING
THE SITE REGISTRATION APPLICATION FORM

1. ***PROJECT NAME***

The project name is the official name such as “River City Parking Garage Site Preparation Project”, “Jones’ House Site Preparation”.

2. ***APPLICANT/ OPERATORSNAME***

The corporation, company or governmental entity (owner) with day-to-day oversight of the project and who is supplying the capital to finance the project. The owner is responsible for obtaining and complying with the permit. An operator of a construction site is the person (or persons) responsible for obtaining coverage under an NPDES storm water permit for construction activity, and complying with the permit requirements. An operator is the person or persons that meet either of the following criteria:

Has operational control of construction project plans and specifications, including the ability to make modifications to those plans and specifications; or

* Has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a storm water pollution prevention plan (SWPPP) for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

ADDRESS — The address of the APPLICANT, OFFICIALS NAME, AND COMPANY TITLE (typed or printed).

TELEPHONE — The number where the DEVELOPER can be reached. This person should be familiar with project, if not, give name of a knowledgeable person.

3. ***OPERATOR OR CONTRACTOR***

The person/firm that will be doing the earthmoving and also has day-to-day control over operations. The operator can be the same as the developer, but often the contractor is a different firm. If the contractor is unknown at time of application, the developer is required to provide this information after awarding the contract.

4. ***PREPARER’S NAME***

The person/firm that has generated the Storm Water Pollution Prevention Plan (SWPPP). This is normally an engineering firm or architectural firm. Include the name of the individual who prepared the Pollution Prevention Plan.

5. ***TOTAL ACREAGE TO BE DISTURBED, RAINFALL ZONE AND FEE***

Include ALL areas (offsite borrow areas, offsite waste sites, access roads, house sites, utility installation and all other earth disturbances related to the central project) that will be disturbed during the life of the project. For subdivisions use 1/4 acre per lot, unless the lots are less than 1/4 then assume the entire lot will be disturbed. Provide the rainfall zone in which the development occurs and the fee submitted.

6. ***LATITUDE — LONGITUDE***

Locate accurately the center of the construction site on a United States Geologic Survey 7.5 minute topographic map. For precision, latitude and longitude should be given to the nearest seconds. (Example: latitude 38 57' 30", longitude 78 48' 45"). The local Natural Resources Conservation Service office may help if needed.

7. ***NEAREST TOWN*** and *COUNTY* self-explanatory

COUNTY ROUTE The official Division of Highways (DOH) designation. May be found on a road sign at the nearest intersection, on the DOH county road map, or check with county maintenance garage.

8. ***NAME OF RECEIVING STREAM***

Provide the official name from a USGS topographic map of all streams that will receive a storm water discharge. If the discharge is not into a named stream, report the stream as an unnamed tributary of the first named stream that it flows into. (Example: Unnamed tributary (UT) of Laurel Run or UT of Laurel Run of the Pecos River).

In urban areas the discharge may be to a municipal storm sewer. Identify the operator of the storm sewer system, such as “River City” and the ultimate receiving water, i.e. the Flowing River.

9. *STATEMENT OF RIGHT-TO-ENTER (if necessary)*

The state cannot authorize through the issuance of this permit a discharge onto another persons property. If the discharge point is not directly into a stream the developer must make a statement that they have permission from the adjacent property owner(s) to discharge storm waters onto that property prior to entering a stream. This permission must be through a legal and binding agreement with the adjacent property owner(s), including the Department of Transportation, Division of Highways. Permission must be in the form of recorded deeds, right-of-ways, leases, options, real estate contracts or easements.

Attach a statement identifying the source of your right-to-enter in and upon the real property adjacent to the receiving stream to install, construct or discharge the proposed point source.

10. *BRIEF DESCRIPTION OF THE PROJECT*

Provide a description of the nature of the construction activity. Furnish an estimate of the cubic yards of material to be excavated, a soils report and the quality of any known discharge from the site. Include an estimate of excess excavation, if any, and the amount of any possible borrow. Off-site waste and borrow sites are considered part of the permitted site.

11. *PROPOSED CONSTRUCTION SCHEDULE*

Provide an estimated startup date, completion date (or contract duration) and a relative time line of the primary construction activities. These major activities include clearing, grubbing, rough site grade, final grade, temporary and permanent sediment control practices, seeding and mulching, removal of sediment control devices, etc.

12. *CERTIFICATION OF COMPLIANCE WITH APPLICABLE LOCAL LAWS*

Several counties and municipalities in the state have subdivision and storm water management laws or regulations that must be followed in order to be in compliance with this general permit. The application for this permit does not relieve the developer from his or her duty to obtain the proper permits required by these local or state jurisdictions. Certification of Compliance must be attached to this application. This can be in the form of a copy of the local permit, a letter stating that local permitting authorities have been contacted or a letter from the authorities stating that no permits are required or that the permitting process has been initiated. Failure to comply with this provision may delay the permit or cause it to be denied.

13. *USGS TOPOGRAPHIC MAP*

A copy of the part of the topographic map where the site is located must accompany the permit application. The minimum information required on each map will be the name of the map, the boundary of the site, a north arrow and the location of the storm water discharge point(s). (See Number 6).

14. *DETAILED SITE MAP OF TEMPORARY SEDIMENT CONTROLS*

A site map is required and at a minimum contains the following information:

a. The location of all sediment control devices.
b. Size and type of existing and proposed structures, paved areas and vegetated areas.
c. Contour with a maximum interval of five feet.
d. Show existing grade and proposed cuts and fills and final grade in several cross sections.
e. Final storm water management facilities and flow paths.
f. Property boundaries and easements.
g. Separate site plans of all non-contiguous borrow and waste sites.
h. Location of borrow and waste site access roads.
i. The scale should be at least 100 feet to the inch.
j. Legend.
k. Detailed drawings for all sediment control devices such as silt fence installation, stabilized construction entrance, ditch checks, stream crossings, etc.
l. Design criteria and drawings of sediment control structures such as basins, ponds, culverts, ditches, traps, etc. Be sure to include elevations of outlet and inlets structures.

15. *NARRATIVE DESCRIPTION OF SEDIMENT AND EROSION CONTROL PRACTICES AND SEQUENCE OF EVENTS*

The sediment and erosion controls for construction activities in this permit have five goals: (1) limiting the amount of total disturbance, (2) diverting upslope water around disturbed areas of the site, (3) limiting the exposure of disturbed areas to the shortest duration possible, (4) controlling (or mastering) internal water and runoff, and (5) removing sediment from storm water before it leaves the site. The sequence of events describes the timing and manner of installation of the erosion and sediment control.

A. *SEQUENCE OF EVENTS*

One of the fundamental parts of the Storm Water Pollution Prevention Plan is the sequence of events. The sequence of events directs the timing of the installation of each sediment and erosion control practice within the framework of the construction project. Construction jobs usually fall into segments defined by time and space. The first operation is clearing and grubbing and/or stripping of topsoil. The sequence of events directs the contractor to concurrently install the first sediment control devices. Other critical events are; reaching final grade **and** seeding and mulching within seven days, ditchline stabilization and outlet protection, interim sediment control such as ditch checks, sediment traps (basins) and temporary diversions, temporary seeding, and directing runoff away from fill slopes in non-erodible waterways, pipes or underdrains.

A basic sequence of events for Erosion and Sediment Control and Storm Water Management includes a plan and time schedule for: clearing and grubbing, installation of temporary storm water control, installation of temporary sediment control structures, seeding and mulching schedules, installation of permanent erosion control, installation of permanent storm water control, inspection schedules, maintenance schedules, and removal of temporary erosion and sediment control structures.

Subdivisions need to adhere to a strict sequence. At many subdivisions lack of space limits the installation of properly sized sediment trapping structures. Erosion control (IE. Seeding and mulching) and smaller trapping structures such as ditch checks, small sediment traps, silt fence and check dams may be the only BMPs available for use. Road cuts and fills and ditches must stabilized as soon as possible. A less ambitious road construction schedule by building the project in phases and continuous reclamation will greatly simplify sediment control.

B. *VEGETATIVE CONTROL (Temporary and Permanent)*

The next section of the narrative is a discussion of the vegetative practices that will be utilized during all phases of the project. As always, the initial effort should be to limit the amount of area disturbed by maintaining as much of the original vegetative cover as possible.

Vegetative Practices - A description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices. Site plans should ensure that existing vegetation is preserved where attainable and that disturbed portions of the site are stabilized as soon as possible. Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, rolled erosion control blankets, sod stabilization, vegetative buffer strips, protection of trees, preservation of mature vegetation, and other appropriate measures. Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 7 days after the construction activity in that portion of the site has temporarily or permanently ceased.

(a) Where the initiation of stabilization measures by the 7th day after construction activities temporary or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as conditions allow.

(b) Where construction activity will resume on a portion of the site within 21 days from when activities ceased, (e.g., The total time period that construction activity is temporarily halted is less than 21 days) then stabilization measures do not have to be initiated on that portion of the site by the 7th day after construction activities have temporarily ceased.

The most useful, cost effective and productive erosion control is a vigorous vegetative cover. Keys to vigorous vegetation are good initial soil conditions, moisture, temperature, correct pH, available macro and micronutrients, organic material, mulch and runoff control. Effective sediment control cannot occur without good erosion control. It cannot be stressed enough that the sooner an area is seeded the better. All slopes should be seeded and mulched as soon as final grade is reached.. Mulching with straw or hay contributes some organic material, retains moisture, and moderates temperatures.

The following items should be considered before vegetative practices are applied.

*1. Soil test results.
2. Lime application rates (based on soil test) or a blanket rate of application.
3. Type of fertilizer (based on soil test) or a broad based fertilizer.
4. Temporary grass seed mixtures and rate of application.
5. Permanent grass seed mixtures and rate of application.
*6. Seed bed preparation.
7. Type of mulch.
8. Mulch rates in tons per acre or pounds per 1000 square feet.
9. The seasonal growing period.

**** THESE ITEMS MUST BE INCLUDED IN THE APPLICATION.***

C. *STRUCTURAL CONTROLS*

Prior to excavation, the contractor will need to install the appropriate structural sediment controls. Structural practices are designed to accomplish three goals. The first is to divert water from undisturbed upslope areas around the disturbed area. Second is to reduce flow path lengths and directions. And third, to remove sediment from runoff before it leaves the site. There are several ways of accomplishing sediment removal, including filtering through silt fence or some of the new silt fence replacement products on the market, ditch checks and check dams and by trapping and settling sediment in traps or basins. Structural devices (especially silt fence) must be installed properly and within the strict watershed limitations set forth in these instructions and must be maintained and cleaned out at regular intervals.

All sediment laden water must pass through an appropriate sediment trapping device.

For locations on a site, which have a drainage area of 5 acres or less, a sediment trap that provides a storage volume equal to 3600 cubic feet per acre of drainage, area shall be installed. Half of the volume of the trap will be in a permanent pool and half will be dry storage. If necessary, diversions will be used to direct runoff to the trapping structure. Sediment traps do not require an engineering design for the outlets. The minimum size for the weir outlet is 4 feet wide and as a rule of thumb the weir should be 2 feet wide plus another 2 feet for every acre of drainage.

For drainage areas of greater than five acres, a sediment basin providing 3600 cubic feet per drainage acre shall be installed. Half of the volume of the basin will be in a permanent pool and half will be dry storage. The riser holes must be designed to drain the dry storage section of the pond in 48 to 72 hours. Several new techniques are available for dewatering sediment basins. A single hole placed at the wet storage elevation will dewater the basin slowly and will increase trap efficiency. The size of the dewater hole may be approximated as follows:

$$A_o = (A_s \times (2h)) / (T \times C_d \times 20{,}428)$$

where:

A_o = surface are of the dewatering hole, ft^2
A_s = surface area of the basin, ft^2
h = head of water above the hole, ft
C_d = coefficient of contraction for orifice, approximately 0.6, and
T = detention time or time needed to dewater the basin, hours (recommended 48-72 hours).

Note: Perforating the riser with multiple holes with a combined surface area equal to A_o is acceptable. Assume maximum head for the calculation. Perforated risers that dewater the basin too rapidly will interfere with sediment trapping efficiency.

The riser outlet, and if necessary an emergency spillway, must be designed to insure that the structure will not overtop. The level of protection from overtopping should be commensurate with the level of liability should the structure fail. At a minimum the outlet(s) should pass the peak discharge from a 25 year-24 hour storm with a one-foot of freeboard. The emergency spillway will be constructed in original ground. Embankments must be built using best engineering and construction standards. A good place to find an embankment construction standard is the NRCS=s Pond Design book.

Provide all calculations used to size the sediment trapping structures.

For drainage locations served by a common drainage location where a detention structure providing 3600 cubic feet of storage is not attainable, silt fences, rock check dams, sediment traps, sediment traps in series or equivalent sediment controls are required for all side slopes and downslope boundaries of the construction area. Justification must be provided for use of any practice other than properly sized sediment basins or traps.

Temporary ditches, waterways, culverts etc. must be sized to handle the peak discharge for a 2 year/24-hour storm.

Hay bales will not be approved for sediment control.

Sediment trapping structures will be eliminated, and the area properly reclaimed and stabilized, when the structures are no longer needed (IE. when the entire contributing drainage area is completely stabilized), unless the structure is converted into a permanent storm water detention/retention structure. All trapped sediments will be disposed of in an upland area where there is no chance of entering nearby streams. Breaching the embankment to dewater the structure is not permitted. Dewatering and removal of the structure should not cause a violation of water quality standards. Provide a description of the procedures that will be used in removing these structures and the time frame.

NOTE: Silt fence must not be used in areas where concentrated flows can be expected or to control areas of greater that 1/4-acre per 100 feet of fence. It is also imperative that silt fence is installed on the contour, perpendicular to the flow of the water.

The following is a sample of some of the practices that can be utilized in the Storm Water Pollution Prevention Plan.

1. Silt fence
2. Check dams
3. Sediment basins/sediment traps
4. Diversions and waterways
5. Slope drains and earth dikes/berms
6. Inlet protection
7. Outlet protection
8. Temporary stream crossing
9. Ditch checks
10. Level spreader
11. Drop inlet sediment control
12. Subsurface drain
13. Rip-rap
14. Mulch
15. Temporary bypass channel/culverts
16. Land grading
17. Super silt fence
18. Any other applicable sediment control device

All devices must be cleaned out when sediment occupies half of the wet capacity of the structure. Access to the structure for cleanouts must be maintained.

Design and build fills so that runoff does not go down the face of the fill. Install berms, waterways, rock under drains, pipe slope drains or other methods to get the water off the fill and into sediment trapping structures without eroding the face. As the fill comes up, slope the top (or berm it) to direct water away from the slope and to a stable conveyance. Seed and mulch every 7 days or 15 feet of fill.

Pumped water from foundations, abutments, utility trenching, sediment basin/trap removal and other dewatering operations must be treated before entering a stream or waterway. There are several new products on the market that provide excellent sediment removal from pumped water.

DO NOT REMOVE SEDIMENT CONTROLS UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

D. *PRESUMPTIVE CONDITIONS FOR DISHCARGES TO TIER 2.5 WATERS*

Projects discharging to Tier 2.5 waters will be deemed not to cause significant degradation if, in addition to the standard General

Permit conditions, the following presumptive conditions are met. Projects that do not meet the presumptive conditions will be required to seek coverage under an individual permit. The plan must discuss in detail how each presumptive condition will be met. As of the date of permit issuance, a final list of Tier 2.5 waters has not been established and approved.

1. An undisturbed buffer zone shall be maintained between the construction activity and the stream of at least 100 feet. The location of the buffer zone must be delineated on the plans. Certain limited construction activities may be allowed within the buffer zone and considered consistent with these criteria, if it is demonstrated that such construction is necessary and unavoidable. Examples would include road construction necessary to access the site, installation of water quality protective measures that could not otherwise be constructed, or the construction of linear projects such as utility lines or highways, whose alignment cannot avoid the stream. In those circumstances, any buffer waiver would apply only to the area needed to construct that portion of the facility. Any temporary structures allowed within the buffer zone must be removed upon completion of construction and the area re-vegetated, preferably with native or non-invasive plants. A detailed description and justification must be provided for any activities proposed within the undisturbed buffer zone.

2. Permanent structural measures shall be provided to attenuate storm water runoff such that the pre-construction peak discharge rate is not exceeded for the 1 year, 24 hour storm. The storm water management plan shall also discuss BMP's to be implemented to reduce potential storm water pollutants from the site.

3. All disturbed areas shall be seeded and mulched immediately upon reaching final grade. In the event the construction activity stops for 2 weeks or more in an area, that area will be immediately seeded and mulched with a temporary vegetative cover.

E. *DISCHARGES TO IMPAIRED WATERS*

Sites discharging to impaired waters must demonstrate consistency with the approved Total Maximum Daily Load (TMDL) and applicable state law. Impaired waters are those that do not meet applicable water quality standards and are listed on the Clean Water Act Section 303(d) list. The current list of 303(d) waters and those with approved TMDL's is available on the DEP website or by request from this office. Pollutants of concern are those constituents for which the water body is listed as impaired. Discharges of pollutants of concern to impaired water bodies for which there is an approved total maximum daily load (TMDL) are not eligible for coverage under this permit unless they are consistent with the approved TMDL. Within six months of the TMDL approval, permittees must incorporate any limitations, conditions, or requirements applicable to their discharges necessary for compliance with the TMDL, including any monitoring or reporting required by DWR rules, into their storm water pollution prevention plan in order to be eligible for coverage under this general permit. In most cases, providing appropriate best management practices, as noted Items 15 and 18 of the instructions will fulfill those requirements.

Sites that discharge into a receiving water which has been listed on the Clean Water Act 303(d) list of impaired waters, and with discharges that contain the pollutant(s) for which the water body is impaired, must document in the SWPPP how the BMP's will control the discharge of the pollutant(s) of concern.

F. *ENDANGERED AND THREATENED SPECIES*

If the project will discharge to a stream where a Federally endangered or threatened species or its habitat are present, the applicant should contact the US Fish and Wildlife Service to insure that requirements of the Federal Endangered Species Act are met. A list of streams in West Virginia with the presence or possible presence of endangered/threatened species (Attachment A) is provided to assist applicants in determining when that issue should be considered.

G. *MAINTENANCE*

A detailed plan and schedule for maintenance of all permanent and temporary sediment control structures is required by the permit. A description of procedures to maintain in good and effective condition and promptly repair or restore all grade surfaces, walls, dams and structures, vegetation, erosion and sediment control measures and other protective devices must be identified on the site plan. At a minimum, procedures in the plan shall provide that all erosion controls on the site are inspected at least once every seven calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24 hour period.

16. *SITE MAP OF FINAL STORM WATER*

Attach a site map that includes all permanent storm water management facilities. These structures include all ditches, pipes and culverts, ponds, basins and any other anticipated storm water management structure. Delineate and identify each watershed and sub-watershed influenced by the project. Label or identify structures. (See next section)

17. ***INCREASE IN IMPERVIOUS AREA***

Submit accurate measurements of the impervious area that will be created during the construction of the project. Impervious areas are rooftops, driveways, parking lots and walkways and similar areas that will impede or prevent rainfall from infiltrating into the ground. Residential subdivisions must consider the estimated impervious total at build out (homes constructed on all lots). Industrial or commercial subdivisions must also consider the estimated impervious surface at build out. If industrial or commercial lots are greater than 3 acres in size and are to be developed by separate entities, the applicant may elect to exclude that impervious area from consideration until the lots are permitted for final construction.

NEW IMPERVIOUS AREA AS A PERCENTAGE OF THE PROJECT AREA

Submit the percentage of the impervious area created within the project area. This must be computed separately for each drainage area or discharge point from the site.

THE PRE AND POST DEVELOPMENT RCNs AND PEAK DISCHARGES

The following information must be submitted as part of the SWPPP for the General Permit.

1. Pre-construction RCNs,
2. Post-construction RCNs,
3. Methodology and calculations,
4. Pre-construction peak discharge in cubic feet per second for a 1 year, 24-hour storm at each discharge point,
5. Post-construction peak discharge in cubic feet per second for a 1 year, 24-hour storm at each discharge point,
6. Area of new impervious area (including roofs and driveways for houses in subdivisions) in square feet or acres.
7. Percentage of new impervious area in watershed above the point(s) of discharge

18. ***NARRATIVE DESCRIPTION OF FINAL STORM WATER MANAGEMENT AND POLLUTION PREVENTION***

The applicant shall submit a description of measures that will be installed during construction to control storm water discharges after the project is completed. The completed project shall convey storm water runoff in a manner that will protect both the site and the receiving stream from post-construction erosion. All waterways and other runoff conveyance structures shall be permanently stabilized as appropriate for expected flows. In developing structural practices for storm water control, the operator shall consider the use of, but not limited to: infiltration of runoff onsite; flow attenuation by use of open vegetated swales and natural depressions; storm water retention structures and storm water detention structures. A combination of practices may be utilized**.** Low impact development technology is encouraged to minimize alteration of the pre-construction site hydrology. Velocity dissipation devices shall be placed at the outlet of all detention or retention structures and along the length of any outlet channel as necessary to provide a non-erosive velocity flow from the structure to a natural water course. Projects that increase the impervious surface on the project area by fifteen percent (15%) or more shall demonstrate that existing channel characteristics in the natural watercourse will not be altered by the storm water discharge. This provision may be complied with by:

A. Providing structural measures to attenuate the storm water runoff so that the pre-construction peak discharge rate is not exceeded; or

B. Providing a hydrologic and/or geomorphic assessment that demonstrates that the increased peak discharge rate can be accommodated by the receiving stream without altering the existing channel characteristics (increased bank erosion or channel instability).

Projects located in areas that have local government requirements and/or criteria for post construction storm water management may address Item A by meeting those requirements. If local storm water management criteria have not been established, the design shall address maintenance of pre-construction flows for the 1 year, 24-hour storm. Alternative design measures will be considered with technical justification provided by the applicant. All designs for this provision should consider reduction of both the frequency and duration of peak flow rates. Item B should be addressed by demonstration that the receiving natural channel can convey the developed condition 1 year, 24-hour storm within the channel banks and at a non-erosive velocity. A detailed assessment will not be required for Item B if

the proposed discharge rate is one (1) percent or less of the expected flow rate for the receiving stream at the point of discharge (for the 1 year, 24 hour storm) or the project is less than (3) acres in size (unless required by local government).

Projects that are expected to significantly increase peak storm water discharge rates should also consider control of storm water discharges for flood protection purposes (out of bank flooding). Flood protection would be considered at a minimum as control of the post-construction peak discharge rate for a 10-year, 24-hour storm to the pre-construction peak discharge rate. However, the level of protection should be based on the hazard involved to downstream life and property. The permittee shall be required to meet any local government or other agency requirements for storm water management and provide verification thereof.

The applicant shall submit all calculations, watershed mapping, design drawings, and any other information necessary to explain the technical basis for the storm water management plan. Since development site conditions vary widely, plan preparers will have significant latitude in designing practices to comply with this provision of the permit. However, design procedures shall follow professionally accepted engineering and hydrologic methodologies. Permanent storm water management structures that will impound water (detention/retention basins or similar structures) shall be designed and certified by a Registered Professional Engineer. These structures shall also have a certified as-built drawing submitted with the Notice of Termination at the completion of the project. Permittees are only responsible for the installation and maintenance of storm water management facilities prior to final stabilization of the site and termination of General Permit coverage, however the entity responsible for post-construction maintenance shall be identified.

The following items are the minimum that must be considered in the storm water management:

1. Existing and proposed watersheds, delineated and labeled. Label and relate culverts, ditches, ponds, etc. to these watersheds.
2. Existing water flow paths.
3. Proposed water flow paths.
4. Permanent Storm Water Pollution Control Measures. These measures should be installed as soon as practical.

    a. Permanent seeding specifications.

    b. All waterways must be permanently stabilized: i.e. ditchline protection w/grass and/or a rolled erosion control blanket specifically designed for concentrated water flows and/or properly sized rip-rap. Specific engineering requirements are needed to insure that the waterway will remain stable and not erode.

        Recommended waterway protection based on grade (the protection should based on an engineering study of the particular characteristics of the waterway, soils and chosen protection)

        1. Less than 3% - grassed
        2. 3 - 8% - grass with rolled erosion control blanket
        3. Greater than 9% - riprap or equivalent geotextile (must submit manufacturers specifications and calculated velocities) or manufactured concrete blocks.

5. Waterway design calculations. Peak discharges of the watershed and flow characteristics of each waterway must be calculated to insure proper capacity. Use labels from site map to identify each calculation.

A 10 year, 24-hour storm should be used to calculate sizes of all permanent waterways and culverts.

6. Outlet protection from a pond, waterway, diversion or a culvert must extend as a properly stabilized waterway to a natural stable waterway.
7. Pipe and culvert sizing and outlet protection. Use labels from site map to identify each calculation.
8. Storm water detention or retention structures design and calculations. Use labels from site map to identify each calculation.

Some resources available on the web are:

http://www.cwp.org/ **Center For Watershed Protection**
http://www.dec.state.ny.us/website/dow/swmanual/swmanual.html **State of New York's Storm Water Management Handbook**
http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/home/index.asp
Maryland's Storm Water Program
http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp
Maryland's Storm Water Management Manual
http://www.lowimpactdevelopment.org/mainhome.html **Home page for Low Impact Development**
http://www.lid-stormwater.net/intro/background.htm **Another LID site**
http://www.anr.state.vt.us/dec/waterq/stormwater.htm **State of Vermont's Storm Water Program**
http://www.georgiastormwater.com/ **State of Georgia's Storm Water Manual**
http://cfpub.epa.gov/npdes/home.cfm?program_id=6 **EPA's Storm Water Web Site**

19. *GROUNDWATER PROTECTION PLAN*

All establishments holding NPDES permits are required to develop and implement a Groundwater Protection Plan (GPP). A generic Groundwater Protection Plan for Construction is provided for guidance. Sites that will have permanent storm water management ponds or basins shall submit a GPP for review by the DWR Groundwater Section. Assistance with GPP's is available from the Groundwater Section at (304) 558-2108.

OTHER CONSIDERATIONS TO BE ADDRESSED IN THE PLAN:

1. Minimize in-stream construction.
2. Proper disposal of solid wastes.
3. Proper handling of hazardous waste.
4. Proper methods for disposal of excess cement.
5. Dust control.
6. Burning permit.
7. Permit for cement batch plants.
* 8. Are any local permits needed, i.e. subdivision, flood plain, storm water, etc.
9. Will there be any stream work that would require a Public Lands Corporation Right-of Entry from the Real Estate Management Section of the Division of Natural Resources or a U.S. Army Corps of Engineers 404 permit?
10. Are there any wetlands? Wetland fills require a 404 permit from the Corps and 401 Water Quality Certification from the Division of Water Resources.

* Every county or municipality in the state has flood plain regulations. It is up to the developer to check with the local authorities (county commission, planning commission, etc.) to see if the planned construction is within the 100-year flood plain.

POLLUTION PREVENTION PLAN CHECKLIST

- Is the check made out to the Department of Environmental Protection?
- Is the check being sent to the Charleston address, 1201 Greenbrier St., Charleston, WV 25311?
- Is the plan signed by a responsible party such as a president, vice-president, secretary, treasurer or owner of the development? For public institutions, the plan should be signed by a person with similar duties, such as a director, chief, or a corresponding upper level management position. Local, lower level positions of statewide organizations are not allowed to sign the Pollution Prevention Plan.
- Are the correct number of copies of the Site Registration Applications being sent to the proper locations. See page two of the instructions above.
- Is a detailed sequence of construction events included that clearly details when and where sediment controls will be installed?

  Install sediment control before or concurrently with initial clearing and grubbing. Do not remove sediment control until the contributing drainage is stabilized.
- Are standards and specifications for seeding and mulching, both permanent and temporary, included?
- Is silt fence installed in areas of concentrated flows? **Do not use silt fence in areas of concentrated flow**. The minimum standard is a maximum of 110 feet of slope above the fence. Do not use silt fence to control runoff from slopes greater than 2 to 1. Use rock check dams or sediment traps in areas of concentrated flows.
- Are all the hydrologic calculations for pre and post development storms and for storm water facilities and sediment basins and traps included? Are the volume calculations included for the basins and traps?
- Is storm water routing clearly shown on the drawings?
- Are all waste and borrow sites included in the plans? Will there be a need for additional haul roads not shown in the plans?
- Is the discharge directly to the waters of the state? If not, do you have a right-of-way from the adjoining landowner to the nearest stream?

No sediment-laden water will be allowed to leave the site without going through an appropriate device.