

# Berkeley County, West Virginia



## 2016 Stormwater Ordinance

Adopted: September 8, 2016  
Effective: November 1, 2016

# TABLE OF CONTENTS

<b>Article I</b>	<b>General Provisions</b> .....	<b>1</b>
A.	Statutory Authority .....	1
B.	Purpose and Objectives .....	1
C.	Administering Entity.....	2
D.	Applicability .....	2
E.	Illicit Discharges.....	4
F.	Severability.....	5
G.	Incorporation by Reference .....	5
<b>Article II</b>	<b>Definitions</b> .....	<b>6</b>
<b>Article III</b>	<b>Stormwater Management Program Procedures and Requirements</b> .....	<b>11</b>
A.	Land Disturbance (Grading) Permit Requirement .....	11
B.	Stormwater Management Concept Plan .....	11
C.	Erosion and Sediment Control Plans .....	12
D.	Stormwater Management Plan Requirements .....	15
E.	Maintenance Requirements.....	18
F.	Permit Approval Procedure.....	21
G.	Plan Review/Permit Fee.....	22
<b>Article IV</b>	<b>Modifications of Requirements</b> .....	<b>23</b>
A.	General .....	23
B.	Request for Modification .....	23
<b>Article V</b>	<b>Stormwater Management Design Criteria</b> .....	<b>25</b>
A.	Reference to the Design Manual .....	25
B.	General Requirements .....	25
C.	Stormwater Quantity Criteria .....	28
D.	Stormwater Quality Criteria.....	29
E.	Soil Studies and Karst Terrain Requirements .....	32
F.	Landscaping.....	33
G.	Riparian Buffers .....	33
<b>Article VI</b>	<b>Construction Inspection</b> .....	<b>34</b>
A.	Performance Bond .....	34
B.	Inspections During Construction.....	34

C. Post-construction Final Inspection and As-Built Plans ..... 35

**Article VII Enforcement and Penalties ..... 37**

a. General Procedures ..... 37

B. Violations ..... 37

C. Stop-Work Orders ..... 37

D. Disapproval of Subsequent Permits ..... 38

E. Holds on Use and Occupancy Permits ..... 38

F. Suspension, Revocation, or Modification of Permit ..... 38

G. Civil and Criminal Penalties ..... 38

H. Procedures ..... 39

**Attachments ..... 40**

A. Stormwater Inspection and Maintenance Agreement ..... 1

B. Stormwater Facility Inspection Report ..... 6

**ARTICLE I GENERAL PROVISIONS****A. STATUTORY AUTHORITY**

---

- (1) Short Title
  - (a) This Ordinance and Ordinances supplemental or amendatory thereto, shall be known and may be cited as the “Stormwater Management and Sediment and Erosion Control Ordinance of Berkeley County”, as amended 2015, and hereinafter referred to as the “Ordinance”.
  - (b) All permits that are issued or materially amended after the date of passage will be required to be compliant with the Ordinance as amended.
- (2) The provisions of this Ordinance are enacted pursuant to West Virginia Code:
  - Chapter 7, County Commissions Generally, Article 7, Combined Systems
  - Chapter 8A, Land Use Planning, Article 4, Subdivision and Land Disturbance Ordinance
  - Chapter 16, Public Health, Article 13, Sewage Works and Stormwater Works
  - Chapter 16, Public Service Districts, Article 13A
- (3) The provisions of this Ordinance are also enacted pursuant to the Chesapeake Bay Restoration Act of 2000.

**B. PURPOSE AND OBJECTIVES**

---

This Ordinance has the following purpose:

- (1) Protect, maintain, and enhance the environment of Berkeley County and the public health, safety, and general welfare of the citizens of Berkeley County by:
  - (a) Controlling non-stormwater discharges to storm drain systems
  - (b) Reduce pollutants in stormwater discharges
  - (c) Control stormwater runoff by providing design, construction and maintenance criteria for permanent and temporary stormwater facilities
  - (d) Maintaining and improving stormwater collection systems in order to protect and improve water quality in the receiving streams
- (2) Enable Berkeley County and the Municipal Separate Storm Sewer System (MS4) entity to comply with the West Virginia DEP-administered National Pollutant Discharge Elimination System (NPDES) stormwater permit program and applicable regulations (40 CFR, §122.26) for stormwater discharges
- (3) Enable Berkeley County to comply with the EPA’s Total Maximum Daily Loads (TMDLs) Water Quality Standards established for the Potomac River Basin
- (4) Enable Berkeley County to comply with the West Virginia Water Pollution Control Act, West Virginia Code, Chapter 22, Article 11
- (5) Allow Berkeley County to exercise the powers granted in West Virginia Code §7-1-1, et seq., §16-13-1, et seq, and§16-13A-1, et seq., which provide, among

other powers municipal corporations have with respect to stormwater systems and stormwater management programs, the power by ordinance or resolution, as the case may require, and by appropriate action based thereon to do the following:

- (a) Exercise general regulation over the planning, location, construction, operation, and maintenance of stormwater facilities in Berkeley County, unless regulated by another MS4 entity.
- (b) Adopt any rules and regulations deemed necessary to accomplish the purposes of this Ordinance, including the adoption of a system of fees for services and permits
- (c) Establish standards to regulate the quantity of stormwater discharged and to regulate stormwater contaminants as may be necessary to protect water quality
- (d) Review and approve plans and plats for stormwater management in proposed residential and nonresidential subdivisions as applicable under Subsection D below
- (e) Issue permits for stormwater discharges, or for the construction, alteration, extension, repair of stormwater facilities, or land disturbance activity
- (f) Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit
- (g) Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated
- (h) Expend funds to remediate or mitigate the detrimental effects of contaminated land or other sources of stormwater contamination, whether public or private

---

**C. ADMINISTERING ENTITY**

- (1) Pursuant to West Virginia Code §8A-4-1, et seq., §8A-5-1, et seq., and §16-13A-1, et seq. any county or sanitary district or public service district in the State of West Virginia is hereby authorized and empowered to own, acquire, construct, equip, operate, and maintain within and/or without the corporate limits of such municipal corporation a stormwater system, stormwater works, and stormwater management program as defined herein.
- (2) Pursuant to the terms of the Memorandum of Understanding, the MS4 Entity and Berkeley County, shall exercise joint authority for administering the provisions of this Ordinance.

---

**D. APPLICABILITY**

- (1) This Ordinance shall be applicable to all land disturbance activities as defined herein. These standards apply to any new development or redevelopment parcel that meets one (1) or more of the following criteria:

- (a) New development or redevelopment that involves:
    - (i) The creation of 5,000 square feet or more of Impervious Cover or;
    - (ii) Involves other land disturbance activities of one (1) acre or more.
  - (b) Redevelopment that includes:
    - (i) The creation, addition, or replacement of 5,000 square feet or more of impervious cover, this includes redevelopment that results in increasing impervious surface on a site to 5,000 square feet or more, or;
    - (ii) Involves other land disturbance activity of one (1) acre or more or activity that results in increasing land disturbance to one (1) acre or more.
  - (c) Land disturbance activities that are smaller than the minimum applicability criteria set forth in items (a) and (b) above, if such activities are part of a larger common plan of development, which cumulatively meet the criteria set forth in items (a) and (b) above, even though multiple, separate, and distinct land disturbance activities may take place at different times on different schedules.
- (2) Compatibility with Other Permits and Ordinance Requirements
- (a) Compliance with the requirements herein does not create exclusion to permitting requirements from the West Virginia DEP, the U.S. Army Corps of Engineers, or any other agency or reviewing body that has jurisdiction over the proposed project area.
  - (b) Whenever this Ordinance imposes a conflicting restriction regarding stormwater regulation, the provisions of the more restrictive ordinance shall control.
- (3) The following activities are exempt from this Ordinance:
- (a) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources
  - (b) Additions or modifications to existing primary or accessory structures that:
    - (i) Do not contain over 5,000 square feet of impervious surface
    - (ii) Will not result in the creation of the cumulative impervious surface area of 5,000 square feet or greater; and
    - (iii) are not part of a development resulting in a total disturbed area of more than one (1) acre.
  - (c) Development or redevelopment that does not result in the creation of 5,000 square feet or more of impervious surface and is not part of a development resulting in a total disturbed area of more than one (1) acre.
  - (d) Any logging or Agricultural Activity that is consistent with an approved farm conservation plan or a timber management plan prepared or approved by the Eastern Panhandle Conservation District
  - (e) Repairs to any Stormwater Management Facility

- (f) Activities occurring on property regulated by another MS4 entity.

## **E. ILLICIT DISCHARGES**

---

This ordinance prohibits non-stormwater illegal discharges or dumping into the municipal storm sewer system. It is prohibited to establish, use, maintain or continue the use of illicit connections to the municipal stormwater system. This ordinance further prohibits non-stormwater illegal discharges or dumping into private systems that discharge, infiltrate or by any other means is conveyed into ground water, ponds, wetlands, basins, waterways or any other facility or feature that does not capture such waste in an impermeable container to be properly disposed of to prevent the introduction of pollutants into the environment.

(1) Authorized Non-Stormwater Discharges:

- a) The following categories of non-stormwater discharge are authorized under this section unless they are identified as a significant source of pollutants to waters of the State.

- Diverted stream flows,
- Rising ground waters,
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)),
- Uncontaminated pumped groundwater,
- Foundation drains,
- Retaining wall/structure drains,
- Air conditioning condensation,
- Irrigation water from agricultural sources
- Springs,
- Water from basement or crawl space sump pumps,
- Footing drains,
- Flows from riparian habitats and wetlands,
- Non-stormwater discharges covered by another NPDES permit,
- Discharges or flows from firefighting activities

(2) Prohibited Non-Stormwater Discharges:

- a) This Ordinance prohibits the following categories of non-stormwater discharges unless the stated conditions are met:

- (1) Discharges from potable or non-potable water sources, including but not limited to; hyper-chlorinated water line flushing, pipeline hydrostatic test water and other water discharges with a potential to violate water quality standards. For planned discharges to the storm sewer system, the discharge shall be dechlorinated to a concentration of 0.1ppm or less, pH adjusted, if necessary, and controlled by volume and velocity to prevent re-suspension of sediments in the storm sewer system.
- (2) At active construction sites, street sweeping must be performed prior to washing the street.

**F. SEVERABILITY**

---

If any section, clause, sentence, part, or provision hereof shall be held to be invalid, or unconstitutional, by any court of competent jurisdiction, such decision of the court shall not affect or impair the remaining sections, clauses, sentences, parts, or provisions of this Ordinance.

**G. INCORPORATION BY REFERENCE**

---

- (1) For the purposes of this Ordinance, Berkeley County has adopted by reference the following published standards:
  - (a) West Virginia Stormwater Management and Design Guidance Manual (November, 2012)
  - (b) Chesapeake Stormwater Network Technical Bulletin No. 1, "Stormwater Design Guidelines for Karst Terrain in the Chesapeake Bay Watershed," version 2.0 (June 2009)
  - (c) Darrin Holmes and Ramesh Chintala, *West Virginia Division of Highways Drainage Manual*, 3rd ed. (Charleston, WV: West Virginia Department of Transportation, Division of Highways, Engineering Division, Hydraulic and Drainage Unit, December 2007),  
[http://www.wvdot.com/engineering/TOC\\_engineering.htm](http://www.wvdot.com/engineering/TOC_engineering.htm)
  - (d) West Virginia Erosion & Sediment Control Best Management Practices Manual, 2006
  - (e) WV/NPDES General Permit Number WV0116025 Small Municipal Storm Sewer System (July 2014).
  - (f) Virginia Stormwater BMP Clearinghouse
  - (g) Maryland Stormwater Design Manual
  - (h) Pennsylvania Stormwater Best Management Practices Manual
- (2) All Land Disturbance Plans shall be consistent with the regulations and design standards established in the listed published standards.



**ARTICLE II DEFINITIONS**

For the purposes of this Ordinance, certain terms and words used herein shall be interpreted as follows:

- (1). Words used in the present tense include the future tense; the singular number includes the plural, and the plural number includes the singular; words of masculine gender include feminine gender; and words of feminine gender include masculine gender.
- (2). The words “includes” or “including” shall not limit the term to the specific example but is intended to extend its meaning to all other instances of like kind and character.
- (3). The words “shall” and “must” are mandatory; the words “may” and “should” are permissive.
- (4). Words defined herein may be listed in a separate ordinance by a different definition. If this occurs, then the word shall be used and interpreted within each code in accordance with the specific definition contained therein.

**Agricultural Activity** - The occupation, business, or science of cultivating the land, producing crops, and raising livestock.

**As-Built** - Drawing or certification of conditions as they were actually constructed.

**Berkeley County** - The entity that holds the permit or any county agency that is assisting the permittee.

**Best Management Practice (BMP)** - Structural or nonstructural practice that is designed to minimize the impacts of changes in land use on surface and groundwater systems. Structural BMP refers to basins or facilities engineered for the purpose of reducing the pollutant load in stormwater runoff, such as bioretention, constructed stormwater wetlands, etc. Nonstructural BMP refers to land use or development practices that are determined to be effective in minimizing the impact on receiving stream systems, such as preservation of open space and stream buffers, disconnection of impervious surfaces, etc.

**Bioretention Basin** - Water quality BMP engineered to filter the water quality volume through an engineered planting bed, consisting of a vegetated surface layer (vegetation, mulch, ground cover), planting soil, and sand bed (optional), and into the in-situ material; also called rain gardens.

**Common Plan of Development** – A contiguous construction project where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The “plan” is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions.

**Constructed Stormwater Wetlands** - Areas intentionally designed and created to emulate the water quality improvement function of wetlands for the primary purpose of removing pollutants from stormwater.

**Curve Number (CN)** - A numerical representation of a given area’s hydrologic soil group, plant cover, impervious cover, interception and surface storage derived in accordance with Natural Resource Conservation Service methods. This number is used to convert rainfall depth into Runoff volume. Sometimes referred to as a Runoff CN.

**Design Storm** - A selected rainfall hyetograph of specified amount, intensity, duration, and frequency that is used as a basis for design.

**Detention** - The temporary impoundment or holding of stormwater runoff.

**Detention Basin** - A stormwater management facility that temporarily impounds runoff and discharges it through a hydraulic outlet structure to a downstream conveyance system. While a certain amount of outflow may also occur via infiltration through the surrounding soil, such amounts are negligible when compared to the outlet structure discharge rates and therefore are not considered in the facility's design. Since an extended detention basin impounds runoff only temporarily, it is normally dry during non-rainfall periods.

**Development** - See "Land Development."

**Diameter at Breast Height (DBH)** - The standard method of expressing the diameter of the trunk of a standing tree.

**EPA** - U.S. Environmental Protection Agency.

**Erosion** - The wearing away of the land surface by running water, wind, ice, or other geological agents.

**Accelerated Erosion** - Erosion in excess of what is presumed or estimated to be naturally occurring levels and is a direct result of human activities.

**Gully Erosion** - Erosion process whereby water accumulates in narrow channels and removes the soil to depths ranging from a few inches to 1 or 2 feet to as much as 75 to 100 feet.

**Rill Erosion** - Erosion process in which numerous small channels only several inches deep are formed.

**Sheet Erosion** - Spattering of small soil particles caused by the impact of raindrops on wet soils. The loosened and spattered particles may subsequently be removed by surface runoff.

**Erosion and Sedimentation Control Plan** - A site-specific plan identifying Best Management Practices or ways in which accelerated erosion and sediment pollution will be minimized.

**Frequency (Design Storm Frequency)** - The recurrence interval of storm events having the same duration and volume. The frequency of a specified design storm can be expressed either in terms of exceedance Probability or Return Period.

**Exceedance Probability** - The probability that an event having a specified volume and duration will be exceeded in one (1) time period, usually assumed to be one (1) year. If a storm has a 1% chance of occurring in any given year, then it has an Exceedance Probability of 0.01.

**Return Period** - The average length of time between events having the same volume and duration. If a storm has a 1% chance of occurring in any given year, then it has a Return Period of 100 years.

**Governing Body** - The body that governs a municipality or county.

**Grading** – See Land Disturbance Activity.

**Homeowners Association** - The association of persons formed by the residents of a housing locality to address their common problems and issues connected with their residence and their living in that area.

**Impervious Cover** - A surface composed of any material that significantly impedes or prevents natural Infiltration of water into soil. Impervious surfaces include but are not limited to roofs, buildings, streets, parking areas, Managed Turf, and any concrete, asphalt, or compacted gravel surface.

**Infiltration** - The downward entry of water into soil.

**Karst Terrain** - Regions that are characterized by formations underlain by carbonate rock and typified by the presence of limestone caverns and sinkholes.

**Land Development** - The development of one (1) or more lots, tracts, or parcels of land by any means and for any purpose, but does not include easements, rights-of-way, or construction of private roads for extraction, harvesting, or transporting of natural resources. This definition includes projects that are part of a larger common plan of development or sale.

**Land Disturbance (Grading) Activity** - Any land change that may result in soil erosion from water or wind or the movement of sediments into state waters or onto lands in the State of West Virginia, including but not limited to clearing, grading, excavating, transporting, and filling of land. In this and other Berkeley County ordinances, Land Disturbance Activity and Grading are interchangeable.

**Landscaping** - The placement of vegetation in and around stormwater management BMPs.

**Low Impact Development (LID)** - Hydrologically functional site design with pollution prevention measures to reduce impacts and compensate for development impacts on hydrology and water quality.

**Managed Turf** - Any of various grasses (such as Kentucky bluegrass or perennial ryegrass) grown to form turf.

**Municipal Separate Storm Sewer System (MS4)** - An MS4 is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) with the following characteristics:

- (1) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created or pursuant to state law), including special districts under state law such as a sewer district, flood control district, or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the Clean Water Act that discharges into waters of the United States
- (2) Designed or used for collecting or conveying stormwater
- (3) Not a combined sewer
- (4) Not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2

**MS4 Entity** – The entity responsible for the MS4 NPDES Permit applicable to Berkeley County.

**National Pollutant Discharge Elimination System (NPDES)** - The national program for issuing, modifying, monitoring, and enforcing permits under Sections 307, 402, 318, and 405 of the Clean Water Act.

**Nonpoint Source Pollution** - Contaminants such as sediment, nitrogen and phosphorous, hydrocarbons, heavy metals, and toxins whose sources cannot be pinpointed but rather are washed from the land surface in a diffuse manner by stormwater runoff.

**Parcel** - A portion of a subdivision or any other lot of land intended as a unit for transfer of ownership or for development or both. The word "Parcel" includes the word "plot" or "lot".

**Peak Discharge** - The maximum rate of flow associated with a given rainfall event or channel.

**Permittee** – Individual or entity that has been issued permits for stormwater discharges, or for the construction, alteration, extension, repair of stormwater facilities, or land disturbance activity by the local jurisdiction having authority.

**Percolation Rate** - The velocity at which water moves through saturated, granular material.

**Post-development** - Refers to conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

**Pre-development** - Refers to the conditions that exist at the time that plans for the Land Development of a tract of land are approved by the plan approval authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time prior to the first item being approved or permitted establishes the Pre-development conditions.

**Professional Engineer** - An engineer who is licensed by the State of West Virginia to offer professional services directly to the public.

**Quality Control** – LID and BMP practices designed to reduce eroded soil and other pollutants, such as metals, fertilizers, pesticides, oils and grease, which accumulate on impervious surfaces, and are flushed off by the early stages of runoff. This involves capturing and treating the first 1-inch of runoff from a site to reduce a bulk of these pollutants from entering into receiving waterways. By capturing and treating the first 1-inch of runoff, up to 90% of pollutants that are washed off of the land can be removed from the storm water before entering the drainage system.

**Quantity Control** - Deals with utilizing traditional stormwater management processes, conveyance systems, LIDs, and BMPs, to capture and detain relatively infrequent, severe runoff events, such as the 10-, 25-, or 100-year frequency storm.

**Redevelopment** - Any construction, alteration, or improvement exceeding 5,000 square feet of land disturbance performed on developed sites where existing land use is commercial, industrial, institutional or multifamily residential.

**Retention** - Permanent storage of stormwater.

**Retention Basin** - A stormwater management facility that includes a permanent impoundment, or normal pool of water, for the purpose of enhancing water quality and therefore is normally wet, even during non-rainfall periods. Storm runoff inflows may be temporarily stored above this permanent impoundment for the purpose of reducing flooding or stream channel erosion.

**Riparian** - Relating to or inhabiting the banks of a natural course of water.

**Runoff** - The portion of precipitation, snow melt, or irrigation water that runs off the land into surface waters.

**Runoff Coefficient** - The fraction of total rainfall that appears as runoff; represented as "C" in the Rational Method formula.

**Runoff Reduction** - The runoff reduction approach that seeks to maintain the same predevelopment runoff volume delivered to a body of water after a site is developed.

**Sand Filter** - A contained bed of sand that acts to filter the first flush of runoff. The runoff is then collected beneath the sand bed and conveyed to an adequate discharge point or infiltrated into the in-situ soils.

**Silt Fence** - A temporary linear sediment barrier of permeable fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff.

**Site** - The parcel of land being developed, or a designated planning area in which a land development project is located.

**Stormwater Hotspot** - An area where the land use or activities are considered to generate runoff with concentrations of pollutants in excess of those typically found in stormwater (see Table 2).

**Stormwater Management Facility** - A device that controls stormwater runoff and changes the characteristics of that runoff, including but not limited to the quantity and quality, the period of release, or the velocity of flow.

**Stormwater Management Plan** - A document containing material for describing existing and proposed site conditions, how runoff characteristics will be affected by a land development project and methods for complying with the requirements of the local program or chapter.

**Stormwater Pollution Prevention Plan (SWPPP)** – The erosion and sediment control plan and the post development plan required in the NPDES General Permit.

**Stream Buffers** - The zones of variable width that are located along both sides of a stream and are designed to provide a protective natural area along a stream corridor.

**Total Maximum Daily Load (TMDL)** - A calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

**Water Quality Standards** - State-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish the water quality criteria that must be met to protect designated uses.

**Watershed** - A defined land area drained by a river, stream, or drainage way, or system of connecting rivers, streams, or drainage ways such that all surface water within the area flows through a single outlet.

**WVDEP** - West Virginia Department of Environmental Protection

**ARTICLE III STORMWATER MANAGEMENT PROGRAM PROCEDURES AND REQUIREMENTS****A. LAND DISTURBANCE (GRADING) PERMIT REQUIREMENT**

---

- (1) Any entity proposing to perform any Land Disturbance Activity(ies) pursuant to the applicability standards outlined under Article I of this Ordinance shall submit to Berkeley County an application for a Land Disturbance (Grading) Permit.
  - (a) Berkeley County Land Disturbance Permit is required in addition to any permitting or Notice of Intent issuances required for land disturbance activities in excess of one acre as required by WVDEP.
- (2) Unless specified otherwise by this Ordinance, the Land Disturbance Permit consists of the following:
  - (a) Erosion & Sediment Control Plan in accordance with Article III.B
  - (b) Stormwater Management Plan in accordance with Article III.C.
  - (c) Maintenance requirements in accordance with Article III.D.
  - (d) Performance Bond in accordance with Article VI.A.
  - (e) West Virginia Department of Highways Entrance Permit.
- (3) No application for a Land Disturbance Permit shall be approved until a satisfactory final Erosion and Sediment Control Plan (or agreement in lieu of), Stormwater Management Plan, and Maintenance requirements (or a waiver thereof) shall have undergone a review and been approved Berkeley County after determining that the plan or waivers are consistent with the requirements of this Ordinance.
- (4) No application for Land Disturbance Permit shall be accepted for review by Berkeley County until all associated fees are secured and/or committed to by the property owner or developer. If at any time there is a default regarding required fees, Berkeley County will immediately cease review activities until fee requirements are fully satisfied.
- (5) No owner or developer shall receive a Land Disturbance Permit without first meeting the requirements of this Ordinance prior to commencing the proposed activity.

**B. STORMWATER MANAGEMENT CONCEPT PLAN**

---

- (1) Prior to submission of any Stormwater Management Plan or Land Disturbance Permit Application, the applicant shall be required to submit a Stormwater Management Concept Plan.
- (2) The applicant shall request a consultation meeting with Berkeley County to discuss BMP and post-construction stormwater management. Berkeley County shall schedule the meeting within 15 business days following the applicant's request.
- (3) Discussions, opinions, and/or representations made during the review of a Stormwater Management Concept Plan shall not be a basis for noncompliance with

the applicable requirements for plan approval, and shall not be binding upon Berkeley County when acting upon subsequently submitted Stormwater Management Plans.

- (4) The Stormwater Management Concept Plan shall include at a minimum the following information:
- (a) Existing Conditions Plan and a Proposed Site Plan
    - i. Contour lines and any streams found on U.S. Geological Survey (USGS) topographic mapping
    - ii. Soils, Riparian buffer zones, managed turf and vegetative boundaries
    - iii. Roads, buildings, parking areas, and other Impervious Cover
  - (b) Natural Features Plan(s) (with existing and proposed features)
    - i. Floodplains, rock outcrops, Karst features, large tree canopy
    - ii. Natural drainage areas and wetlands
    - iii. Threatened and/or endangered species
    - iv. Any required setbacks (existing septic areas, wells)
  - (c) Stormwater Management System Plan
    - i. Graphic illustration of the proposed Post-development stormwater facilities and/or nonstructural practices
    - ii. Conveyance system and flow paths
    - iii. Relationship to upstream and downstream properties and drainage
    - iv. Bridge and/or culvert crossings
    - v. Approximate location of stormwater inlets and outlets

### **C. EROSION AND SEDIMENT CONTROL PLANS**

---

- (1) Any owner or developer engaged in clearing, grading, and excavating activities that disturb one (1) acre or more, including smaller sites in a larger common plan of development or sale, are required to obtain a West Virginia NPDES General Water Pollution Control Permit for their stormwater discharges. Construction Sites that result in land disturbance of one (1) acre or greater will require the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) meeting the requirements of the General Permit.
- (2) Review and Approval of Erosion and Sediment Control Plans
- (a) No changes shall be made in the contour of the land and no grading, excavating, removal or destruction of topsoil, trees, or other vegetative cover shall be commenced until an erosion and sediment control plan for stabilizing disturbed areas has been reviewed and approved by Berkeley County
  - (b) The applicant shall submit the Erosion and Sediment Control Plans and any supporting computations to Berkeley County for review and approval. The Erosion and Sediment Control Plans shall contain sufficient

- information and notes to describe how soil erosion and off-site sedimentation will be minimized. Berkeley County shall review the plan to determine compliance with the *West Virginia Erosion & Sediment Control Best Management Practices Manual* and these regulations. The plan shall serve as a basis for all subsequent grading and stabilization.
- (c) All plans must meet the requirements of the West Virginia Department of Environmental Protection's Construction Stormwater NPDES regulations, as applicable. In the event of conflict between this Ordinance and WVDEP requirements, the stricter shall prevail.
  - (d) Particular control device design requirements:
    - (i) Silt fence shall be placed on the contour and shall have a maximum slope above it of 1:10.
    - (ii) Regular silt fence is not acceptable for concentrated flow.
    - (iii) Sediment traps and sediment basins are to contain 3,600 cubic feet per drainage acre. Half of the required storage shall be in wet storage and the other half in dry storage.
  - (e) If a storm water management basin is used for sediment control during construction, details must be provided showing that it can meet the sediment and erosion control requirements.
  - (f) In approving the Erosion and Sediment Control Plans, Berkeley County may impose such conditions thereto as may be deemed necessary to ensure compliance with the provisions of this Ordinance, the standards of the *West Virginia Erosion & Sediment Control Best Management Practices Manual*, and the preservation of public health, safety, and the environment.
- (3) Contents of Erosion and Sediment Control Plans
- (a) The applicant is responsible for submitting Erosion and Sediment Control Plans which meet the requirements of Berkeley County, these regulations, and the *West Virginia Erosion & Sediment Control Best Management Practices Manual*. The plans shall include sufficient information to evaluate the potential impacts of the proposed grading on water resources and the effectiveness and acceptability of measures proposed to minimize soil erosion and off-site sedimentation.
  - (b) The approved Erosion and Sediment Control Plans shall be submitted as a part of the Land Disturbance Permit application. The Erosion and Sediment Control Plans shall include, at a minimum, the following information:

A plan at an appropriate scale indicating at least:

    - (i) Name, address, and telephone number of:
      - 1) The owner of the property where the grading is proposed;
      - 2) The developer;
      - 3) The applicant;
      - 4) The person responsible for the preparation of the plan.



- (ii) North arrow and graphic scale
- (iii) The existing and proposed topography.
- (iv) The proposed grading and earth disturbance including:
  - 1) Surface area involved;
  - 2) Limits of disturbance including limitation of mass clearing and grading whenever possible.
  - 3) Limits of areas where bedrock is to be removed by blasting or hydraulic hammer whenever possible.
  - 4) Total estimated cut and fill volumes
- (v) Storm drainage provisions, including:
  - 1) Velocities and quantities of the Q25 flow at outfalls; and
  - 2) Site conditions around points of all surface water discharge from the site;
- (vi) Erosion and sediment control provisions to minimize erosion and prevent off-site sedimentation including:
  - 1) Provisions to preserve topsoil and limit disturbance;
  - 2) Details of grading practices;
  - 3) Design details for structural controls; and
- (vii) Details of temporary and permanent stabilization measures including placement of the following statement on the plan:  
*“Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within:*
  - 1) *Seven calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1); and*
  - 2) *Seven days as to all other disturbed or graded areas upon reaching final grade or the site being idle.”*
- (viii) Computations as may be necessary to show adequate sizing of erosion and sediment control measures.
- (ix) Details of all required NPDES inspections.
- (c) Temporary and permanent seeding specifications, including:
  - (i) Type of seed (mixture) and application rate;
  - (ii) Type of lime and fertilizer and the associated application rates;
  - (iii) Type of mulching, application rate and type of anchoring.
- (d) Sequence of construction describing the relationship between the implementation and maintenance of controls, including permanent and temporary stabilization and the various stages or phases of land disturbance and construction. Any changes or revisions to the sequence of construction must be approved by Berkeley County Engineering prior to proceeding with construction. The sequence of construction shall, at a minimum, include a schedule and timeframe for the following:

- (i) Contact West Virginia Miss Utility at 800-245-4848 at least three working days prior to beginning work. Locate all utilities.
  - (ii) Contact Berkeley County Engineering at 304-264-1966 at least five working days prior to beginning work.
  - (iii) Clearing and grubbing as necessary for the installation of perimeter controls
  - (iv) Construction and stabilization of perimeter controls
  - (v) Remaining clearing and grubbing within installed perimeter controls
  - (vi) Road Grading
  - (vii) Grading for the remainder of the site;
  - (viii) Utility installation and connections to existing structures
  - (ix) Construction of buildings, roads, and other construction
  - (x) Final grading, landscaping, and stabilization
  - (xi) Installation of storm water management measures
  - (xii) Approval of Berkeley County Engineering prior to removal of sediment controls
- (e) A statement placed on the plan indicating that the developer shall request that Berkeley County approve the work completed in accordance with the approved erosion and sediment control plan, the grading permit, and this Ordinance.
- (i) On all sites with disturbed areas in excess of one (1) acre, approval by Berkeley County shall be requested upon completion of installation of the perimeter erosion and sediment controls, but before proceeding with any other land disturbance or grading.
  - (ii) Approval shall be requested upon final stabilization of all sites with disturbed areas in excess of one (1) acre before removal of controls.
- (f) Certification by the owner or developer that any clearing, grading, construction, or development, or all of these, will be done pursuant to the approved plan and that responsible personnel involved in the construction shall be made aware of such requirements and have a copy of the approved plan at the construction site.
- (4) Modifications to Erosion and Sediment Control Plan.
- (a) Berkeley County may require modifications to an approved plan, require additional items or cause new plans to be submitted as a result of field inspection revealing the approved plans do not provide adequate protection. Modifications may also be requested by the owner or developer due to unforeseen field conditions.

#### **D. STORMWATER MANAGEMENT PLAN REQUIREMENTS**

---

- (1) All applicants as noted in Article I.D. shall submit a complete Stormwater Management Plan to Berkeley County for review and approval. Each plan submittal shall include the minimum content specified in this Section of the ordinance and meet the minimum stormwater design requirements contained in Article V of this Ordinance.
- (2) Berkeley County shall perform a comprehensive review of the applicant's Stormwater Management Plan. Coordinated comments will be provided for each plan phase that reflect input from all appropriate agencies including but not limited to the Eastern Panhandle Conservation District and MS4 Entity.

- (3) All Stormwater Management Plans shall be appropriately sealed and signed by a Professional Engineer in adherence to all minimum standards and requirements pertaining to the practice of that profession in accordance with West Virginia Code Chapter 30, Professions and Occupations, and attendant regulations certifying that the plan meets all submittal requirements outlined in this Ordinance and is consistent with good engineering practice.
- (4) The Stormwater Management plan shall be accompanied by a report that includes sufficient information to evaluate the environmental characteristics of affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures proposed for managing storm water runoff. The owner shall certify on the drawings that all clearing, grading, drainage, construction, and development shall be conducted in strict accordance with the approved plan.
- (5) The Stormwater Management Plan shall include the following:
  - (a) Name, address, and telephone number of all entities and persons having a legal interest in the property
  - (b) Tax reference number and parcel number of the property or properties affected, including all adjacent properties.
  - (c) Existing and proposed buildings, roads, and parking areas
  - (d) Existing and proposed drainage areas, including areas necessary to determine downstream analysis for proposed stormwater management facilities
  - (e) Existing and proposed utilities, easements, and structural stormwater management and sediment control facilities
  - (f) Proposed land use with tabulation of the percentage of surface area to be adapted to various uses
  - (g) Clearing and grading limit boundaries
  - (h) A 1" = 200' topographical base map of the Site, which extends a minimum of 200 feet beyond the limits of the proposed development
  - (i) Existing surface water drainage including streams, ponds, culverts, ditches, drainage patterns, and wetlands
  - (j) Hydrologic and hydraulic design calculations for the Pre-development and Post-development conditions for the Design Storms specified in this Ordinance. Such calculations shall include the following:
    - i. Description of the Design Storm Frequency, intensity, and duration
    - ii. Time of concentration
    - iii. Soil Curve Numbers (CNs) or Runoff Coefficients
    - iv. Peak Runoff rates and total Runoff volumes for each drainage area.
    - v. Infiltration rates, where applicable
    - vi. Culvert and/or channel capacities

- vii. Flow velocities
  - viii. Data on the increase in rate and volume of Runoff for the specified Design Storms
  - ix. Documentation of sources for all computation methods and field test results
- (k) A written or graphic inventory of the natural resources at the site and surrounding area including, forest cover, wetlands, and other native vegetative areas, as it exists prior to the commencement of the project and a description of the Watershed and its relation to the project Site
  - (l) Environmentally sensitive features (e.g., wetlands, 100-year floodplains, steep slopes, Karst Terrain, threatened and/or endangered species, etc.) that provide particular opportunities or constraints for development
  - (m) A stable access route, including rights-of-way and easements, to all SWM features.
  - (n) All necessary construction specifications, including manufacturer details and specifications;
  - (o) SWM features to meet all NRCS-378 pond design criteria, including embankment width, core trench, anti-seep collars, emergency spillway, etc. as described in the following documents as recommended by the West Virginia Stormwater Management and Design Guidance Manual:
    - (i) West Virginia Erosion and Sediment Control Best Management Practice Manual
    - (ii) Virginia Stormwater BMP Clearinghouse
    - (iii) Maryland Stormwater Design Manual
    - (iv) Pennsylvania Stormwater Best Management Practices Manual
  - (p) Analysis of the impacts of stormwater flows downstream - the design release rate of the structure shall be modified if there is a risk that any increase in flooding or stream channel erosion will occur at a point of an existing drainage constriction, such as a culvert. In this case, the allowable flows and conditions at the constriction (based on the 25-yr storm event) shall be used to determine the release rates and outfall conditionals of the proposed development;
  - (q) A sequence of construction;
  - (r) A plan and profile view through the centerline of each SWM feature including the forebay area, micropool area, embankment and outlet showing existing and proposed grades and all pertinent features at accurate elevations;
  - (s) Geotechnical properties for the hydrologic and structural properties of soils, especially for dam embankments, shall be described in a soils report. The submitted report shall include boring depth, sampling frequency and types, and associated laboratory testing with results and conclusions, and follow the criteria in the Appendix B of the *West Virginia*

*Stormwater Management and Design Guidance Manual*. Soil properties for Infiltration facilities shall also conform to the guidance and specification outlined in the *West Virginia Stormwater Management and Design Guidance Manual*;

- (t) Outlet protection information including: dimensions, depth, geotextile, and stone sizing;
- (u) Tabular summary of all SWM facilities provided in spreadsheet format (Microsoft Excel or equivalent) with the following details;
  - (i) Facility location based upon West Virginia State Plane Coordinate System.
  - (ii) Description of type of system
  - (iii) Total area for which the facility is providing stormwater management control.
- (v) Digital data submissions on a Portable Document Format (.PDF) of the same information found on the printed sets of plans are required in addition to the printed sets of plan submission requirement. Printed sets of plans remain mandatory and will continue to be recognized as the official document.
- (w) Any other information required by Berkeley County or representative thereof.

#### **E. MAINTENANCE REQUIREMENTS**

---

- (1) The design and planning of all stormwater management facilities shall include detailed maintenance procedures to ensure their continued function. These maintenance procedures will identify the parts or components of a stormwater management facility that need to be maintained and the equipment and skills or training necessary. Provisions for the periodic review and evaluation of the effectiveness of the maintenance procedures and the need for revisions or additional maintenance procedures shall be included in the Preliminary Plan / Site Plan.
- (2) The applicant must ensure access to all stormwater management facilities at the site for the purpose of inspection and repair by securing all the maintenance easements needed on a permanent basis and transferring these easements to Berkeley County. These easements shall be recorded and will remain in effect even with the subsequent transfer of title to the property.
- (3) Prior to the approval of any Land Disturbance (Grading) Permit that has a stormwater management facility as one (1) of the requirements, the applicant or owner of the site must execute a maintenance easement agreement that shall be binding on all subsequent owners of land served by the stormwater management facilities. Reference to this agreement shall be noted on plats and plans and a copy provided for recordation at the Office of the Clerk of the Berkeley County Council.

- (4) All maintenance, inspections, and cleaning of stormwater management facilities shall be the responsibility of the Property/Homeowners Association or property owner. The responsible party(ies) shall be specified in the recorded maintenance agreement.
- (5) Berkeley County shall ensure that preventative maintenance is performed by reviewing all inspection reports and conducting inspections on stormwater management systems at its discretion.
- (6) Berkeley County shall provide forms for the conduct of such inspections.
- (7) Inspection and maintenance agreement
  - (a) Prior to the approval of any Land Disturbance (Grading) Permit for which stormwater management is required, Berkeley County shall require the applicant and owner to execute an Inspection and Maintenance Agreement (see Attachment A) binding on all subsequent owners of land served by a private Stormwater Management Facility. Reference to this agreement shall be noted on plats and plans and a copy provided for recordation at the Office of the Clerk of the Berkeley County Council. Such agreement shall confirm that the applicant or owner will have inspections conducted according to the schedule in Section E(8)(d) of this Article, performed on stormwater management facilities to ensure that the facility is maintained in proper working condition to meet design standards. The applicant or owner is responsible for costs associated with these inspections. Inspection reports (see attachment B) are then to be submitted to Berkeley County, within 30 days of the inspection.

The agreement shall also provide for access to the facility at reasonable times by Berkeley County or an authorized representative to ensure that the facility is maintained in proper working condition to meet design standards and that inspections are being conducted on an annual basis or as otherwise required. Scheduled access to the facility by Berkeley County shall also be permitted to inspect facilities after the occurrence of significant events which may have compromised the facility such as flooding, sink holes, or other unforeseen events.
  - (b) The agreement shall be recorded by the applicant and/or owner in the land records of the Office of the Clerk of the Berkeley County Council.
  - (c) The agreement shall also provide that, if after notice by Berkeley County or an authorized representative to correct a violation found during inspection or requiring maintenance work, satisfactory corrections are not made by the owner(s) within a period of 90 days from the date of the inspection or as agreed to by Berkeley County or an authorized representative, Berkeley County or an authorized representative may perform all necessary work to place the facility in proper working condition. The owner(s) of the facility shall be assessed the cost of the work and any penalties, which shall include administrative and legal fees/costs incurred. This may be accomplished by, but is not limited to, placing a lien on property or properties containing or served by

stormwater management facilities, including but not limited to individual property owners within a homeowners association.

- (d) The Inspection and Maintenance Agreement shall be reviewed and approved by Berkeley County or an authorized representative prior to approval of the Land Disturbance (Grading) Permit.
- (8) Inspection and maintenance of stormwater facilities
- (a) The owner and/or party responsible for the maintenance of stormwater management facilities constructed pursuant to this Ordinance shall maintain in good condition and promptly repair and restore all grade surfaces, walls, drains, dams and structures, vegetation, erosion and sediment control measures, and other protective devices. Such repairs or restoration and maintenance shall be in accordance with approved plans.
  - (b) A maintenance schedule shall be developed for the life of any Stormwater Management Facility. This maintenance schedule shall be printed on the approved Stormwater Management Plan. All stormwater maintenance schedules must be adhered to by the owner, Property/Homeowners Association or other responsible entity and included on the deed, Inspection and Maintenance Agreement, plans, offer of sale of real property, and purchase agreement.
  - (c) The party responsible for the maintenance of the stormwater management system shall provide written records of all maintenance and repairs within 30 days of work completion, to Berkeley County or an authorized representative.
  - (d) Berkeley County or an authorized representative shall ensure that preventative maintenance is performed by reviewing all inspection reports for all stormwater management systems. Inspections shall occur according to the following schedule:

**Stormwater Facility Inspection Schedule**

1. After the first year of operation
2. Once every year after the first year of operation
3. After any structural maintenance or maintenance in response to a violation takes place (within 30 days)
4. Within 30 days after a 3-inch rainfall within a 24-hour period storm event (2-year, 24-hour storm event)
5. As requested by Berkeley County or an authorized representative in response to complaints or other notice of possible violations.

- (9) Inspection report requirements (see Attachment B)
- (10) Any homeowners' or business owners' association or property owner, either individual or in concert with others who are responsible for stormwater facility maintenance, must include in their recorded declaration or charter acknowledgement that it cannot dissolve without another entity accepting maintenance responsibility for stormwater facilities. If no other entity accepts

responsibility then all property owners who now or in the future possess properties which utilize the stormwater facilities cited in the declaration or charter, shall be jointly and severally liable for compliance with the ordinance in order to be compliant with the stormwater management ordinance. If maintenance and/or inspections are required at Berkeley County or an authorized representative's expense, the property owners will be charged equally by Berkeley County or an authorized representative for the cost of such activities.

- (11) Any and all applicable inspection and maintenance requirements under NPDES regulations shall be adhered to.

#### **F. PERMIT APPROVAL PROCEDURE**

---

- (1) In order to obtain the Land Disturbance (Grading) Permit approval, all components of the Erosion and Sediment Control Plan, Stormwater Management Plan, and Maintenance requirements must be approved by Berkeley County, or an authorized representative. Multiple copies shall be provided as directed within application documents.
- (2) In cases where a West Virginia DEP Land Disturbance Permit/NOI is required, a copy of the permit application shall be forwarded to Berkeley County or an authorized representative for review. This copy shall be provided by the Applicant.
- (3) The applicant shall provide verification Berkeley County or an authorized representative that all other applicable environmental permits have been acquired for the Site prior to approval of the stormwater management plan.
- (4) Within 45 days of the receipt of a complete application for a Land Disturbance (Grading) Permit, including all documents as required by this Ordinance, Berkeley County or an authorized representative shall inform the applicant whether the Land Disturbance (Grading) Permit is approved or disapproved.
- (5) If the Land Disturbance (Grading) Permit is disapproved, Berkeley County or an authorized representative shall communicate the decision to the applicant in writing. The applicant may then revise the required plan components. If additional information is submitted, Berkeley County or an authorized representative shall have 30 days from the date the additional information is received to inform the applicant that the plan is either approved or disapproved.
- (6) If the Land Disturbance (Grading) Permit is approved by Berkeley County or an authorized representative, the following conditions apply:
  - (a) The applicant shall comply with all applicable requirements of the approved permit and this Ordinance and shall certify that all land clearing, construction, land disturbance, and/or drainage will be done according to the approved plan.
  - (b) The Land Disturbance (Grading) Activity shall be conducted only within the area specified in the approved plan.



- (c) Berkeley County or an authorized representative shall be allowed, after giving notice to the owner, occupier, or operator of the Land Disturbance (Grading) Activity, to conduct periodic inspections of the project.
  - (d) The person responsible for implementing the approved plan shall conduct monitoring and submit reports as Berkeley County or an authorized representative may require to ensure compliance with the approved plan and to determine whether the plan provides effective stormwater management.
  - (e) No changes may be made to an approved plan without review and written approval by Berkeley County or an authorized representative.
  - (f) An inspection by a West Virginia certified engineer of all aspects of each BMP, including surface As-Built Surveys, and geotechnical inspections during subsurface or backfilling and compaction activities shall be required.
- (7) Land Disturbance (Grading) Permit applications are to be hand delivered to the Berkeley County Building and Engineering Department or an authorized representative located at:

**400 W. Stephen Street, Suite 202  
Martinsburg, WV 25401  
Hours: 8:00am - 5:00pm Monday - Friday**

#### **G. PLAN REVIEW/PERMIT FEE**

---

A non-refundable permit fee will be collected at the time the Stormwater Management Plan is submitted. The permit fee will provide for the cost of plan review, administration, and management of the permitting process and inspection. A permit fee schedule shall be established by Berkeley County based upon the complexity of the project and may be amended from time to time.

**ARTICLE IV MODIFICATIONS OF REQUIREMENTS****A. GENERAL**

---

- (1) This Article is intended to provide a procedure to achieve the water quality and quantity objectives of this Ordinance while providing reasonable flexibility for difficult site conditions and innovative site design approaches.
- (2) The provisions of this Ordinance are the minimum requirements for the protection of the public's health, safety, and welfare, and should be strictly adhered to. Written requests for modifications of these requirements should be granted only where an alternative standard can be demonstrated to provide equal or better results.
- (3) All requests for modifications will be reviewed with the consideration of the cumulative effects of previous and current modifications being granted.

**B. REQUEST FOR MODIFICATION**

---

- (1) Every applicant defined under Article I.D. of this Ordinance shall submit a Stormwater Management Plan.
- (2) If the applicant demonstrates to the satisfaction of Berkeley County or an authorized representative that its proposed modification of any stormwater management requirements of this Ordinance provides equal or better results. Berkeley County or an authorized representative may grant relief to such standards provided that such relief meets the findings specified under Section B.(5) below.
- (3) The applicant shall submit all requests for modification in writing to Berkeley County or an authorized representative and shall include such requests as a part of the Stormwater Management Plan review and approval process as defined under Article III.D. of this Ordinance. The applicant shall state in full the facts on which the request is based, the provision or provisions of the Ordinance that are involved, and the minimum modification or relief that is necessary. The applicant shall demonstrate how the requested modifications and how the applicant's proposal shall result in an equal or better means of complying with the water quality and quantity objectives and requirements of this Ordinance.
- (4) A separate written modification request shall be required in accordance with the provisions of this section if there are subsequent additions, extensions, or modifications to a development.
- (5) Berkeley County may grant a modification of requirements when the following findings are made, as relevant:
  - (a) The modification will not create an adverse impact to water quality and water quantity.
  - (b) The modification is the minimum necessary to provide relief.
  - (c) The applicant is *not* requesting a waiver based on cost considerations.
  - (d) Existing off-site stormwater problems will not be exacerbated.
  - (e) Runoff is not being diverted to a different drainage area.

- (f) Increased flooding or ponding on off-site properties or roadways will not occur.
- (g) Increased risk of icing conditions will not occur.
- (h) Increase of total peak flow or total volume from the site will not occur.
- (i) Erosive conditions will not be increased.
- (j) Increased 100-year floodplain levels will not result.
- (k) Increased or unusual maintenance expenses for Berkeley County or MS4 Entity will not result from the modification.
- (l) The amount of stormwater generated has been minimized to the greatest extent allowed.
- (m) Infiltration of runoff throughout the proposed site has been provided where practicable, and pre-development groundwater recharge protected at a minimum.
- (n) Peak flow attenuation of runoff has been provided.
- (o) Long-term operation and maintenance activities are established.
- (p) No immediate downstream waterways will be subject to the following effects.
  - (i) Deterioration of existing culverts, bridges, dams, and other structures
  - (ii) Deterioration of biological functions or habitat
  - (iii) Accelerated streambank or streambed erosion or siltation
  - (iv) Increased threat of flood damage to public health, life, and property

**ARTICLE V STORMWATER MANAGEMENT DESIGN CRITERIA****A. REFERENCE TO THE DESIGN MANUAL**

---

- (1) Berkeley County or an authorized representative shall use the technical specifications and standards in the *West Virginia Stormwater Management and Design Guidance Manual* as the tool for making decisions about Stormwater Management and Erosion and Sediment Control Plans and about the design, implementation, and performance of structural and nonstructural stormwater BMPs.
- (2) The *West Virginia Stormwater Management and Design Guidance Manual* includes a list of stormwater treatment practices, including the specific design criteria for each stormwater practice. Stormwater treatment practices that are designed, constructed, and maintained in accordance with these design and sizing criteria will be presumed to meet the minimum water quality performance standards.

**B. GENERAL REQUIREMENTS**

---

- (1) Stormwater management measures shall capture and treat the first one inch of rainfall from a 24-hour storm preceded by 48 hours of no measurable precipitation. Runoff reduction can be achieved through a combination of Low Impact Development (LID) practices and Best Management Practices (BMPs). This one inch of rainfall must be 100% retained and managed with no discharge to surface water. This can be achieved through on site utilization of practices that alone or combined will capture the first one inch of rainfall runoff volume. Extended filtration practices that are designed to capture and retain up to one inch of rainfall may discharge volume in excess of the first inch through an under drain system.
- (2) LID is a stormwater management method that is modeled after nature. LID is unique to each site and uses both structural and nonstructural practices to control runoff close to where it falls. LID is recommended as the standard stormwater management practice.
  - (a) The use of LID and BMPs in conjunction with traditional stormwater management shall control stormwater runoff at the source and more closely approximate pre-development runoff conditions.
  - (b) LID practices include:
    - Impervious surface reduction
    - Green roofs and Rooftop gardens
    - Rooftop disconnection
    - Rain barrels, rain tanks, and cisterns
    - Rain gardens and bioretention
    - Vegetated swales, grass channels, buffers, and strips
    - Tree preservation, and reforestation
    - Permeable pavers, and porous concrete / pavement
    - Sidewalk storage

- Soil amendments
  - and other practices that alone or combined will capture the first one inch of rainfall runoff volume.
- (c) LID stormwater management plans developed consistent with the requirements of this subsection shall satisfy the water quality and quantity performance criteria of this ordinance.
- (d) The design criteria, hydrologic analysis, and computational procedures for LID stormwater management design plans shall be those of the latest edition of the *West Virginia Stormwater Management and Design Guidance Manual* or any documents referenced therein.
- (e) LID stormwater management design plans shall not conflict with existing state or local laws, ordinances, regulations, or policies.
- (f) Storm drainage easements shall be recorded to identify the locations of integrated stormwater management practices on lots or parcels. The property owner shall not remove or structurally alter integrated stormwater management practices without prior written approval from the Berkeley County or an authorized representative.
- (g) Stormwater runoff from parking lots shall utilize stormwater management infiltration facilities and/or stormwater management filtering systems. These shall be placed within or near the parking lot islands.
- (h) *Stormwater from parking lots may be infiltrated into the groundwater, provided that they do not meet the definition of a Class V well with regard to stormwater. A list of stormwater BMPs that are considered Class V wells is found at the following link:*
- [http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/permits/Documents/ClassV\\_Well\\_IdentificationGuide\[1\].pdf](http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/permits/Documents/ClassV_Well_IdentificationGuide[1].pdf)
- If the BMP is considered a Class V well, an Underground Injection Control Permit (UIC Permit) will be required from the DEP.*
- (3) All applicants shall design stormwater management facilities to achieve post-development hydrologic conditions that are consistent with pre-development conditions and to improve runoff conditions for redevelopment through the use of LID practices described in Article V, B(2) or BMPs cited in documents identified in Article I.G of this Ordinance.
- (4) The site shall maintain, as closely as possible, the pre-development infiltration processes and rates by implementing infiltration close to the source of runoff.
- (5) Structural and nonstructural stormwater management practices that promote or otherwise make best possible use of on-site infiltration shall be considered first.
- (6) Infiltration areas shall be designed to encourage broad and even infiltration patterns similar to what existed in pre-development conditions.

- (7) Above-ground infiltration facilities shall be as shallow as possible while still complying with this Ordinance.
- (8) Site hydrology and natural infiltration patterns shall guide site design, construction, and vegetation decisions.
- (9) Karst Terrain Considerations
  - a. Developers and designers shall minimize the amount of Impervious Cover created at the Site to reduce the volume and velocity of stormwater Runoff generated.
  - b. Developers and designers shall place a high priority on preserving as much of the length of natural Karst swales present on the Site to increase Infiltration and accommodate flows from major storm events.
  - c. Developers and designers should consider small-scale LID practices as prescribed in the latest version of the Chesapeake Stormwater Network Technical Bulletin No. 1, "Stormwater Design Guidelines for Karst Terrain in the Chesapeake Bay Watershed."
  - d. An underground injection control permit is not required for stormwater management ponds unless there is a sinkhole in the pond or if the discharge from the pond discharges into a sinkhole. Liners are not required in all ponds, but a liner may be required by the WVDEP.
  - e. Infiltration into Karst Terrain is encouraged only when it is determined that the possibility for subsidence and sinkholes is minimal as determined by a professional geologist or professional engineer. Concentrated flows, points of discharge, and/or ponding are discouraged in these areas (refer to Article V, Section E).
  - f. Peak flows shall be attenuated to prevent high runoff rates and subsequent flooding of the receiving stream.
- (10) Site design should implement runoff reduction techniques to reduce the amount of stormwater that must be collected, conveyed, and treated by stormwater management facilities including buffers.
- (11) Any project that discharges or proposes to discharge to any surface water or groundwater that is used as a source of drinking water must comply with all applicable requirements relating to source water protection.
- (12) The recharge volume shall be in accordance with the soil types of the site and the *West Virginia Stormwater Management and Design Guidance Manual* or any documents referenced therein.
- (13) Stormwater shall be infiltrated and/or discharged within the same drainage area of the stream receiving the Runoff prior to development.
- (14) Drainage easements that will establish area of operation and maintenance for on-site properties shall be obtained.
- (15) Berkeley County or an authorized representative may require more than the general requirements specified in the Ordinance if hydrologic or topographic

conditions warrant or if flooding, stream channel erosion, or water quality problems exist downstream from a proposed project due to the unique characteristics of the receiving area. Modifications to the minimum controls of the site being developed can be made to keep the existing conditions as a status quo or reduce the current flooding, stream erosion or water quality problems. Additional requirements may be considered and conveyed to the applicant upon plan review.

### C. STORMWATER QUANTITY CRITERIA

---

- (1) **Redevelopment** – As applicable under Article I, Part D. All components and requirements described under Article V, C(2) of this Ordinance are applicable to redevelopment activities requiring stormwater management compliance.
- (2) **Development** – As applicable under Article I, Part D
  - (a) Figures for determining the rainfall amounts for the Design Storms shall be obtained from the National Oceanic and Atmospheric Administration (NOAA) point precipitation frequency estimates. The NOAA site for these estimates is provided below:  
<http://hdsc.nws.noaa.gov/hdsc/pfds/index.html>
  - (b) Wooded sites shall use a ground cover of woodland in good condition. Portions of a Site having more than one (1) viable tree of a DBH of six (6) inches per 1,500 square feet shall be considered wooded where such trees existed within three (3) years of application.
  - (c) Non-structural quantity control and conveyance methods should be utilized whenever possible.
  - (d) The applicant must demonstrate that adequate downstream conveyance facilities are present.
  - (e) A hydrologic analysis for calculating the water shed runoff for both the pre-development and post-development conditions shall be provided and based on the 24-hour rainfall event. This may be done using the NRCS methodologies (i.e., TR-20 & TR-55, etc.) that takes into consideration the ground cover, time of concentration, area of the watershed, and the 24-hour rainfall amount and rainfall distribution for the region; or the modified calculation method provided in Appendix E of the West Virginia Stormwater Management and Design Guidance Manual to help prevent overestimations under the TR-20 and TR-55 methods; or any other acceptable methodology in the public domain and approved Berkeley County or an authorized representative.
  - (f) For all new land development projects, the post-development peak discharge rate shall not exceed the pre-development peak discharge rate for the 2-year and 10-year storm events.
  - (g) The channel protection storage volume (Cpv) shall be the 1-year storm event where the 24-hour rainfall depth shall be 2.5 inches.

- (h) The overbank flood protection volume (Qp) shall be the 10-year storm event. The overbank flood protection volume (Qp) shall be the 10-year post-development peak discharge being discharged at the 10-year predevelopment peak rate.
- (i) The extreme flood volume (Qf) shall be the 100-year storm event. This is the storm event which a structure must be capable of passing safely.
- (k) Areas mapped in flood hazard zones (Inwood, Pikeside, et.al.) as determined by the county engineer shall be required to detain the 10-year event storm with zero discharge. If this is not feasible then the entire 10-year event volume shall be stored and the 10-year event peak discharge shall be released at less than the 2-year event pre-development peak discharge rate. In Addition, the 25-year storm shall be evaluated to insure that the post development peak discharge is less than the 25-year. pre-development peak discharge. Alternatively, A SWM facility may be designed by retaining 100 percent of the first one inch of rainfall from a 24-hour storm proceeded by 48 hours of no measurable precipitation. A more conservative result, produced by either one of these methods governs.

#### **D. STORMWATER QUALITY CRITERIA**

(1) Some developments will meet incentive criteria and thus receive a reduction in the amount of stormwater that must be managed. If your site meets any of the following criteria, a reduction may be applied.

A reduction of 0.2 inches from the one inch runoff volume reduction standard may be applied to the following types of development:

- Redevelopment
- Brownfield redevelopment
- High Density (>7 units per acre)
- Vertical density, (Floor to Area Ratio of 2 or > 18 units per acre)
- Mixed use and transit oriented development (with 1/2 mile of transit)

Reductions may not exceed 0.75 inches. That means sites meeting four or more of the incentives will be required to manage on-site a minimum of .25 inches. It is at the discretion of Berkeley County to allow incentives.

(2) **Redevelopment** – As applicable under Article 1, Part D

- (a) All components and requirements described under Article V, D (3) of this Ordinance are applicable to redevelopment activities requiring stormwater management compliance except where variations are permitted as described in this section (Article V, D(1)).

(3) **Development** – As applicable under Article 1, Part D

- (a) Stormwater quantity control, including conveyance, should provide for stormwater quality control. If stormwater quantity control does not



provide for stormwater quality control, then a BMP shall be utilized prior to the runoff entering the quantity control facility.

- (b) Stormwater quality control facilities shall reduce solids, sediment, nutrients, and other pollutants from the stormwater. This shall be presumed to occur when each of the following criteria is met:
- (i) The facility or facilities are sized to capture the volume of the first one inch of water at the site.
  - (ii) The facility is designed per the requirements and engineering calculations in the latest edition of the *West Virginia Stormwater Management and Design Guidance Manual* or any documents referenced therein.
  - (iii) The facility is constructed in accordance with all approved plans and permits.
  - (iv) The facility is maintained per an approved Inspection and Maintenance Agreement.
  - (v) Pollutant removal through utilization of BMPs can be estimated based on the spreadsheet provided through the West Virginia Department of Environmental Protection. included in the website below.  
  
<http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/permits/Pages/ToolsandGuidance.aspx>
  - (vi) Where a stormwater management system discharges into a water body with an approved TMDL, and the TMDL contains requirements for control of pollutants from the MS4 stormwater discharges, then the Stormwater Management Plan must include BMPs specifically targeted to achieve the wasteload allocations prescribed by the TMDL.
  - (vi) Total Dissolved Solid (TDS) control standards shall be achieved through NPDES Regulations, in any, as prescribed in the NPDES Permit.
- (c) Water quality improvements shall be achieved in conjunction with or as part of infiltration design.
- (d) Infiltration of runoff shall be as close to the source of runoff as possible via infiltration testing and analysis of infiltration rates. Preference shall be given to a combination of surface and subsurface infiltration measures.
- (e) Stormwater discharges from land uses or activities with a high potential for pollutant loadings (Stormwater Hotspots) identified in Table 2, require the use of specific filtering or bioretention BMPs prior to infiltration. Stormwater control from these hotspots shall be controlled by the following:
- (i) Stormwater Pollution Prevention Plan (SWPPP) - The SWPPP outlines pollution prevention and treatment practices that will be implemented to minimize polluted discharges from the Site. All

SWPPPs shall be prepared following the guidelines in the West Virginia NPDES General Permit regulations even if an NPDES permit is not required. The SWPPP shall be required in addition to a Stormwater Management Plan as required in Article III.A.(2).

- (ii) Restricted Infiltration - A minimum of 50% of the total water quality volume must be treated by a filtering or bioretention practice prior to any infiltration. Portions of the site that are not associated with the hotspot generating area should be diverted away and treated by an acceptable stormwater BMP.
- (iii) Infiltration Prohibited - In these cases, an alternative stormwater practice such as closed bioretention, sand filters, or constructed wetland must be used to filter the entire water quality volume before it reaches surface or groundwater.

**Table 2: Potential Stormwater Hotspot Land Uses**

Potential Stormwater Hotspot Operation	SWPPP Required	Restricted Infiltration	Infiltration Prohibited
Facilities with NPDES industrial permits	Yes	0	0
Public works yard	Yes		✓
Auto and metal recyclers/scrap yards	Yes		✓
Petroleum storage facilities	Yes		✓
Highway maintenance facilities	Yes		✓
Wastewater, solid waste, composting facilities	Yes		✓
Industrial machinery and equipment	Yes	✓	
Trucks and trailers	Yes	✓	
Aircraft maintenance areas	Yes		✓
Fleet storage areas	Yes		✓
Parking lots (40 or more parking spaces)	Yes	✓	
Gas stations	Yes		✓
Highways (2,500 Average Daily Traffic)	Yes	✓	
Construction business (paving, heavy equipment storage and maintenance)	Yes	✓	
Retail/wholesale vehicle/equipment dealers	Yes	✓	
Convenience stores/fast food restaurants	Yes	✓	
Vehicle maintenance facilities	Yes		✓
Car washes (unless discharged to sanitary sewer)	Yes		✓
Nurseries and garden centers	Yes	✓	
Golf courses	Yes	✓	

Key: 0 depends on facility; ✓ Yes

Source: Chesapeake Stormwater Network Technical Bulletin No. 1, "Stormwater Design Guidelines for Karst Terrain in the Chesapeake Bay Watershed," version 2.0 (June 2009)

- (f) Natural wetlands shall not be used to meet minimum requirements. When used at the end of an outfall pipe, the velocity shall not exceed two (2) feet per second for the two (2)-year storm event and it shall be demonstrated that the discharge will not create erosion.
- (g) Stormwater quality management practices shall be designed to capture and treat the first 1 inch of stormwater runoff except where described otherwise in Article V, D(1)(b) where specific types of development may permit reduced capture quantities.
- (h) Stormwater quality may be achieved with or as part of infiltration practices.
- (i) Stormwater quality improvement shall be provided for on-site drainage areas not otherwise addressed by Infiltration practices.
- (j) Infiltration methods should be designed to infiltrate all of the stored volume within 48 hours of the storm event.
- (k) All inflows to an infiltration area shall utilize conveyance methods which reduce sediment or be treated to prevent the discharge of sediment into the infiltration practice.
- (l) During Site construction, the infiltration area shall be protected from compaction, storage of fill, or construction materials. Where sediment transport in the stormwater runoff is anticipated to reach the infiltration system, appropriate permanent measures to prevent or collect sediment shall be installed prior to discharge to the infiltration system.
- (m) If a high water table or other constraints exist, the following hierarchy should be followed in order of preference:
  - (i) BMPs that capture and infiltrate or permanently retain on-site the total volume of the first 1.5-inches
  - (ii) If the applicant can demonstrate through on-site soil evaluations that conditions do not allow for item (m)(i), then BMPs that capture and infiltrate or otherwise permanently retain the largest percentage of the total volume of the 1.5-inch, 24-hour storm event
  - (iii) Infiltration practices shall be designed that capture and infiltrate at least the volume of the first 0.5 inches of runoff from all impervious areas. If the volume of runoff is greater than the volume to be infiltrated or retained, the difference should be treated by an acceptable BMP.

#### **E. SOIL STUDIES AND KARST TERRAIN REQUIREMENTS**

---

- (1) Soil infiltration testing shall be completed for all developments or redevelopments that are proposing to utilize infiltration methods for stormwater management. Soil

infiltration testing shall be performed to determine the rate at which stormwater will permeate into the ground, thus preventing stormwater runoff.

- (a) Soil infiltration testing shall be performed at the same depth as the bottom of the proposed infiltration area.
  - (b) The location and method of soil infiltration testing should be determined using percolation test techniques described in West Virginia Title 64, Bureau for Public Health Series 47, Sewage Treatment and Collection System Design Standards.
- (2) Prior to soil infiltration testing, a soil evaluation shall be completed to determine where the Infiltration testing should take place. Soil evaluations shall be performed by a West Virginia professional engineer.
  - (3) At a minimum, the soil evaluation shall address soil types, soil permeability, depth to bedrock, limitations of soils, presence/absence of Karst Terrain susceptibility to subsidence and/or sinkhole formation and subgrade stability. This analysis should be completed during the preliminary design stage.
  - (4) In regions underlain by Karst Terrain, a preliminary site investigation regarding site-specific conditions shall be completed. If necessary, the preliminary site investigation shall be followed by a detailed site investigation.
    - (a) The preliminary site investigation(s) shall be completed as noted in the latest version of the Chesapeake Stormwater Network Technical Bulletin No. 1, "Stormwater Design Guidelines for Karst Terrain in the Chesapeake Bay Watershed"
    - (b) All necessary site investigations as noted in the above-referenced bulletin shall be completed by a qualified professional engineer or geologist, licensed by the State of West Virginia and experienced in working in Karst Terrain.

#### **F. LANDSCAPING**

---

- (1) The applicant must present a landscaping plan as part of the Stormwater Management Plan describing the woody and herbaceous vegetative stabilization and management techniques to be used within and adjacent to the stormwater facilities. The landscaping plan must also describe who will be responsible for the maintenance of vegetation at the site and what practices will be employed to ensure that adequate vegetative cover is preserved. This plan must be prepared by a qualified individual familiar with the selection of emergent and upland vegetation appropriate for the selected BMP.
- (2) Landscaping shall be required in and around all constructed stormwater management practices with a minimum surface area of 1,000 square feet.
- (3) No woody plants shall be planted within the saturated zone or on a berm constructed for impounded water.

#### **G. RIPARIAN BUFFERS**

---

See Section 402.5.5 Stream Buffers of the Berkeley County Subdivision Ordinance

**ARTICLE VI CONSTRUCTION INSPECTION****A. PERFORMANCE BOND**

---

- (1) Berkeley County shall require from the developer a surety, irrevocable letter of credit, or other means of security acceptable to Berkeley County prior to the issuance of any permits for the construction of a development or other improvements requiring a Stormwater Management and/or Erosion and Sediment Control Plan.
- (2) The amount of the security shall not be less than the total estimated construction cost of the required items covered in this Ordinance, plus a 15% contingency factor to cover administrative and engineering costs in the event of default and potential damage to existing roads or utilities.
  - (a) The amount of security shall be based upon the current market rates plus labor rates for installation. The total estimated construction cost should be reviewed, signed, and sealed by a West Virginia licensed professional engineer prior to submission to Berkeley County
  - (b) The amount of security based on the current market rates plus labor rates for installation shall be reviewed and approved by Berkeley County prior to approval of the performance bond.
- (3) The bond required in this section shall include provisions relative to the forfeiture for failure to complete work specified in the approved plans, permits, compliance with the provisions of this Ordinance, and other applicable laws and regulations and any time limitations.
- (4) The bond shall not be fully released without each of the following:
  - (a) A final inspection of the completed work by Berkeley County
  - (b) Submission of "As-Built" plans by the applicant and certification of completion by Berkeley County that the Stormwater Management Plan and facilities comply with the requirements of the approved Land Disturbance (Grading) Permit and the provisions of this Ordinance.
- (5) A provision may be made for partial release of the deposit or the amount of the surety upon completion and acceptance of the various stages of development as delineated, described and scheduled on the required plans and specifications.

**B. INSPECTIONS DURING CONSTRUCTION**

---

- (1) Periodic inspections of the stormwater management facilities during construction shall be conducted by Berkeley County. Construction inspections shall utilize the approved Stormwater Management Plan to establish whether the applicant is in compliance.
- (2) All inspections shall be documented by a written report prepared Berkeley County and include each of the following
  - (a) The date of the inspection
  - (b) The project location

- (c) A statement regarding compliance with the approved stormwater plan
  - (d) Documentation of any variations from the approved stormwater plan
  - (e) Any other variations or violations regarding the on-site conditions as compared to the approved stormwater plan
- (3) The applicant shall be notified in writing of any violations and the required corrective actions.
- (4) Additional work shall not proceed Berkeley County inspect and approve all the facilities in violation. The applicant shall be notified in writing of the inspection and any outstanding violations.
- (5) For enforcement purposes, Berkeley County may utilize any combination of the following:
- (a) A notice of violation that specifies the need for correction may be used.
  - (b) A stop-work order may be Berkeley County.
  - (c) The bonds or securities may be held or the case can be referred for legal action if reasonable efforts to correct the violation have not been attempted.
  - (d) A civil action or criminal prosecution may be brought against any person in violation of this Ordinance.

#### **C. POST-CONSTRUCTION FINAL INSPECTION AND AS-BUILT PLANS**

---

- (1) Upon completion of a project the applicant is required to certify that the completed project is in accordance with the approved Stormwater Management Plan.
- (2) All applicants shall submit "As-Built" plans and a checklist from the professional engineer for all stormwater management facilities or practices after final construction is completed. Submittal shall include the following:
- (a) Two (2) printed sets of plans. The plan shall include final design specifications for all stormwater management facilities and must be certified by a West Virginia professional engineer.
  - (b) Digital specifications for stormwater facilities in a Geographic Information System (GIS) compatible format synced to the West Virginia State Plane Coordinate System . The following digital formats are acceptable:
    - i DXF: AutoCAD Drawing Exchange Format,  
DWG:AutoCAD Drawing File,
    - ii Data formats that are native to GIS (i.e., shapefiles and geodatabases) are also acceptable, though not required. Additional formats will only be accepted if they are compatible with GIS and increase the efficiency for data capture and integration.
  - (d) An electronic spreadsheet (Microsoft Excel or equivalent) identifying all BMP facilities with associated coordinates based upon the West Virginia State Plane Coordinate System.

- (e) The As-Built plans and certification shall accompany the request for bond release in accordance with Article VI.A. of this Ordinance.
- (f) The required certification must state that the conditions on the site and the As-Built plan conform to the final approved Stormwater Management Plan except where approved changes have been permitted.
  - i. Changes made during the construction process will not be permitted without prior written approval from Berkeley County.
  - ii. At a minimum, all As-Built plans and certifications shall include a red-lined set of drawings that compare the approved Stormwater Management Plan with what was constructed. Final acceptance and approval will not be given until all final inspections and As-Built plans have been approved.
- (g) The following items shall be surveyed to determine actual field conditions, and the approved plans as annotated to reflect such actual field conditions shall constitute the As-Built plans.
  - i. The location, material, and size of all piping and all manholes, inlets, cleanouts, and points of connection to the existing system shall be referenced in two (2) perpendicular directions.
  - ii. The location of mains located within the public right-of-way shall be surveyed.
  - iii. Horizontal dimensions shall be to the nearest tenth of a foot, and vertical dimensions shall be to the nearest hundredth of a foot.
  - iv. Runs of storm sewers shall be identified.
  - v. Elevations shall be given for the center of the top of all manhole covers, inlets, and catch basins, and all manhole, inlet, and catch basin inverts.
  - vi. Elevations shall be given for all invert outlet structures.
  - vii. Storm drain, manhole, inlet, and catch basin type, size, and material shall be identified.
  - viii. All infiltration and runoff reduction facilities including nonstructural practices.
  - ix. Each BMP facility identified in the plans shall include coordinates based upon the West Virginia State Plane Coordinate System.
  - x. Volume of the proposed facilities
  - xi. LID details and structures
- (3) Berkeley County shall perform a final inspection prior to the release of any performance bonds or securities.

**ARTICLE VII ENFORCEMENT AND PENALTIES****A. GENERAL PROCEDURES**

---

Any failure to comply with the requirements of this Ordinance or the requirements of an approved Stormwater Management Plan or permit may be subject to the enforcement actions outlined in this article. Any such action or inaction that is continuous with respect to time is deemed to be a public nuisance and may be abated by injunctive or other equitable relief. The imposition of any of the penalties described below shall not prevent such equitable relief.

**B. VIOLATIONS**

---

- (1) When a person or persons has failed to comply with the terms and conditions of an approved Land Disturbance (Grading) Permit, or the provisions of this Ordinance, Berkeley County shall issue a written notice of violation, and may also issue a Stop-Work Order pursuant to Article VII Section C., to the applicant or responsible party. Method of service shall be satisfied by either hand delivery of notice upon the applicant or responsible party, or by sending notice to applicant or responsible party via first class mail to the address provided within permit documents or obtained from records available to Berkeley County .
- (2) When a person or persons is engaged in an activity covered by this Ordinance without having Land Disturbance (Grading) Permit approval for such, a Stop-Work Order shall issue and a notice of violation shall be served on the owner or the responsible person in charge of the activity being conducted on the site.
- (3) A Notice of Violation shall contain the following information:
  - (a) The name and address of the landowner or the person responsible for the activity
  - (b) The physical address and location of the activity and a description of the activity
  - (c) A statement that explains the violation
  - (d) A written statement explaining how to bring the action or inaction into compliance with the approved Land Disturbance Permit, Stormwater Management Plan, or the Ordinance, and the deadline for compliance.
  - (e) Penalty or penalties that may be assessed.
  - (f) A statement that the determination of violation may be appealed through a 2 step process.
    - (i) An appeal may be submitted to Berkeley County within twenty (20) days of the Notice of Violation issuance.
    - (ii) If, upon Berkeley County review, the issue remains unresolved the appeal will be presented to the Berkeley County Circuit Court.

**C. STOP-WORK ORDERS**

---

- (1) Berkeley County may issue a stop-work order that shall be posted visibly on the property, and a copy thereof served on the applicant or other responsible person.



- (2) The stop-work order shall remain in effect until the applicant has cured the violation or violations described therein.
- (3) The stop-work order may be modified to enable the applicant or other responsible person to take the necessary remedial measures to cure such violation or violations.
- (4) Any individual(s) that continue working at the subject property after a stop-work order is issued, except for the performance of authorized remedial measures, shall be charged and may be arrested by the Berkeley County Sheriffs Department for maintaining a public nuisance. In addition, notice of the violation shall be submitted to the owner and the applicable licensing board, in any.
- (5) Anyone who removes or tampers with the posted stop-work order shall be charged and may be arrested by the Berkeley County Sheriffs Department for destruction of property.
- (6) Stop-work orders may be removed by Berkeley County once overall compliance is demonstrated, and removal fees are paid. Removal fees are administrative fees charged by Berkeley County or its authorized for removal of a stop-work order.

---

**D. DISAPPROVAL OF SUBSEQUENT PERMITS**

---

As long as a violation of this Ordinance continues and remains uncorrected, Berkeley County may withhold or disapprove any request for permit or development approval or authorization required by this Ordinance, the Subdivision and Land Development Ordinance, or a building code regulation for the land on which the violation occurs and any other projects permits under Berkeley County 's jurisdiction.

---

**E. HOLDS ON USE AND OCCUPANCY PERMITS**

---

Berkeley County may refuse to issue any use and occupancy (U&O) permit for the building, tenant area, or other improvements constructed or being constructed on the Site and served by the stormwater practices in question until the applicant has cured the violations described therein.

---

**F. SUSPENSION, REVOCATION, OR MODIFICATION OF PERMIT**

---

Berkeley County may suspend or revoke the permit authorizing the Land Development project. A suspended or revoked permit may be reinstated after the applicant or other responsible person has cured the violations described therein.

---

**G. CIVIL AND CRIMINAL PENALTIES**

---

Any person or persons violating the provisions of this Ordinance or any of the requirements thereof, shall be found guilty of a misdemeanor and prosecuted in accordance with state and local laws, to include but not limited to the following:

- (1) When found guilty of a misdemeanor and upon conviction thereof, shall be subject to a fine of not less than five hundred dollars (\$500.00) nor more than five thousand (\$5,000.00) for each and every violation with costs imposed in the discretion of the court.

- (2) Each day that the violation continues shall be a separate offense.
- (3) In addition to other remedies described herein, Berkeley County may institute injunctive, mandamus or other appropriate action or proceedings at law or equity for the enforcement of this Ordinance or to correct violations of this Ordinance. A court of competent jurisdiction shall have the right to issue restraining orders, temporary or permanent, injunctions or mandamus or other appropriate forms of remedy or relief.
- (4) In the event the applicant or other responsible person fails to cure the violation described therein within 10 days, or such greater period as Berkeley County shall deem appropriate after Berkeley County has taken one (1) or more of the actions described in Article VII.B. through F., Berkeley County may impose a penalty not less than five hundred dollars (\$500.00) nor more than five thousand (\$5,000.00) (depending on the severity of the violation) for each day the violation remains after receipt of the notice of violation.
- (5) For intentional and flagrant violations of this Ordinance, Berkeley County may issue a citation to the applicant or other responsible person, requiring such person to appear in court to answer charges for such violation. Upon conviction, such person shall be punished by a fine not less than one thousand dollars (\$1,000.00) nor more than ten thousand (\$5,000.00). Each act of violation and each day upon which any violation shall occur shall constitute a separate offense.

#### **H. PROCEDURES**

---

- (1) When a violation of this Ordinance occurs, or is alleged to have occurred, any person may file a written complaint. Such complaint shall state fully the alleged violation and the basis thereof, and shall be filed with Berkeley County, which shall record the complaint. Berkeley County shall subsequently investigate the complaint. If Berkeley County determines that a violation should be prosecuted, it shall submit its findings to the Prosecuting Attorney of Berkeley County.
- (2) Berkeley County shall have the authority, upon presentation of proper credentials, to enter and inspect any land, building, structure, or premises to ensure compliance with this Ordinance.

**ATTACHMENTS**

**A. STORMWATER INSPECTION AND MAINTENANCE AGREEMENT**

---

**STORMWATER MANAGEMENT FACILITIES  
MAINTENANCE AGREEMENT**

THIS STORMWATER MANAGEMENT FACILITIES MAINTENANCE AGREEMENT

made this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by \_\_\_\_\_  
(month) (year) (individual, partnership, association, corporation, LLC)

(the "Covenantor", and for indexing purposes "Grantor"); Berkeley County, a political subdivision of the State of West Virginia, and \_\_\_\_\_, Berkeley County MS4 Permit Holder (

"Berkeley County" and "MS4 Permit Holder", and for indexing purposes "Grantee");

\_\_\_\_\_ (the "Trustee", and for indexing purposes "Grantor"); and

\_\_\_\_\_ (the "Noteholder", and for indexing purposes "Grantor").

**WITNESSETH:**

WHEREAS, Berkeley County and the MS4 Permit Holder are authorized and required to regulate and control the disposition of storm and surface waters as set forth in the Berkeley County Stormwater Management Ordinance effective <INSERT DATE>, as amended (the "Ordinance"), adopted pursuant to Chapter 8A, Land Use Planning, Article 4, Subdivision and Land disturbance Ordinance, as amended (the "Act"); and

WHEREAS, the Covenantor is the owner and is seized in fee simple of a certain tract or parcel of land more particularly described on Schedule A attached hereto (the "Property"); and

WHEREAS, Covenantor desires to construct certain improvements on the Property which will alter existing storm and surface water conditions on both the Property and adjacent lands; and

WHEREAS, in order to accommodate and regulate these anticipated changes in existing storm and surface water flow conditions, the Covenantor desires to build and maintain at Covenantor's expense a storm and surface water management facility and system (the "Facility and System") more particularly described and shown on plans titled sheets \_\_\_ through \_\_\_ of \_\_\_\_\_ prepared by \_\_\_\_\_ and dated \_\_\_\_\_, which plans and any amendments thereto, are on file with the Office of the Clerk of the County Council of Berkeley County as required, and are hereby incorporated by reference (the "Site Plan"); and

WHEREAS, Berkeley County and the MS4 Permit Holder have reviewed and approved the Site Plan subject to the execution of this Agreement.

NOW, THEREFORE, in consideration of the benefit received and to be received by the Covenantor, its successors and assigns, as a result of Berkeley County and the MS4 Permit Holder approval of the Site Plan, the Covenantor, hereby covenants and agrees with Berkeley County and the MS4 Permit Holder as follows:

1. At their sole expense, the Covenantor, its successors and assigns, shall construct and perpetually maintain the Facility and System in strict accordance with the Site Plan and any amendments thereto which have been approved by Berkeley County and the MS4 Permit Holder, the Ordinance and the Act.

2. At their sole expense, the Covenantor, its successors and assigns, shall make such changes or modifications to the Facility and System as may be determined as reasonably necessary by Berkeley County and the MS4 Permit Holder to ensure that the Facility and System is properly maintained and continues to operate as originally designed and approved.

3. At reasonable times and in a reasonable manner as provided in Article VI Section A (1) of the Ordinance, Berkeley County and the MS4 Permit Holder, their agents, employees and contractors, shall have the right of ingress and egress over the Property and the right to inspect the Facility and System in order to ensure that the Facility and System is being properly maintained, is continuing to perform in an adequate manner and is in compliance with the Act, the Ordinance and Site Plan and any amendments thereto approved by Berkeley County and the MS4 Permit Holder.

4. Should either the Covenantor or its successors and assigns, fail to correct any defects in the Facility and System within the time specified in a written notice from Berkeley County that the Covenantor or its successors and assigns has/have failed to maintain the Facility and System in accordance with the approved design standards and/or the Site Plan and in accordance with the law and applicable regulations of the Act and the Ordinance, Berkeley County may pursue such remedies as provided by law, including, but not limited to, such civil and criminal remedies set forth in Article VII of the Ordinance.

5. The Covenantor, its successors and assigns, shall indemnify, hold harmless and defend Berkeley County and the MS4 Permit Holder from and against any and all claims, demands, suits, liabilities, losses, damages and payments, including reasonable attorney fees claimed or made against Berkeley County and the MS4 Permit Holder that are alleged or proven to result or arise from the Covenantor's, its successors' and/or assigns', construction, operations or maintenance of the Facility and System.

6. This Agreement and the covenants and agreements contained herein shall run with

the title to the land and whenever the Property shall be held, sold, conveyed or otherwise transferred, it shall be subject to the covenants, stipulations, agreements and provisions of this Agreement which shall apply to, bind and be obligatory upon the Covenantor hereto, its successors and assigns, and shall bind all present and subsequent owners of the Property described herein.

Initially, the Covenantor is solely responsible for the performance of the obligations required hereunder and, to the extent permitted under applicable law, the payment of any and all fees, fines, and penalties associated with such performance or failure to perform under this Agreement.

Notwithstanding any provisions of this Agreement to the contrary, upon the recordation of a deed or other instrument of sale, transfer or other conveyance of fee simple title to the Property or any portion thereof (a "Transfer") to a third party (the "Transferee"), the Covenantor shall be released of all of its obligations and responsibilities under this Agreement accruing after the date of such Transfer to the extent such obligations and responsibilities are applicable to that portion of the Property included in such Transfer, but such release shall be expressly conditioned upon the Transferee assuming such obligations and responsibilities by recorded written agreement for the benefit of Berkeley County and the MS4 Permit Holder. Such written agreement may be included in the Transfer deed or instrument, provided that the Transferee joins in the execution of such deed or instrument. A certified copy of such deed, instrument or agreement shall be provided to Berkeley County and the MS4 Permit Holder. The provisions of the preceding three sentences shall be applicable to the original Covenantor and any successor Transferee who has assumed the obligations and responsibilities of the Covenantor under this Agreement as provided above.

7. Nothing herein shall be construed to prohibit a transfer by the Covenantor to subsequent owners and assigns.

8. The provisions of this Agreement shall be severable and if any phrase, clause, sentence or provision is declared unconstitutional, or the applicability thereof to the Covenantor, its successors and assigns, is held invalid, the remainder of this Covenant shall not be affected thereby. This Agreement shall be interpreted under the laws of the State of West Virginia.

9. \_\_\_\_\_, the Noteholder, being the holder of a note or notes secured by a lien on the Property through a deed of trust dated \_\_\_\_\_, from \_\_\_\_\_ to \_\_\_\_\_ and \_\_\_\_\_, Trustees, either of whom may act, recorded in the land records of Office of the Clerk of the County Council of Berkeley County as required in Deed Book \_\_\_\_\_, at page \_\_\_\_\_ (the "Deed of Trust"), joins in the execution of this Agreement to evidence its consent to the provisions hereof and to direct the Trustee to execute same for subordination purposes. At the direction of the Noteholder, the Trustee joins herein to subordinate

the lien of the Deed of Trust, and the Noteholder and the Trustee hereby acknowledge and agree that the lien of the Deed of Trust is hereby subordinated to this Agreement, the covenants created or set forth herein and all of the rights of Berkeley County and the MS4 Permit Holder hereunder.

10. This Agreement shall be recorded in the Office of the Clerk of the County Council of Berkeley County.

11. In the event that Berkeley County shall determine at its sole discretion at any future time that the Facility and System is no longer required, then at the request of the Covenantor, its successors and/or assigns, Berkeley County shall execute a release of this Agreement which the Covenantor, its successors and/or assigns, shall record in the Clerk's Office, at its/their expense.

12. This Agreement shall be deemed to be a West Virginia contract and shall be governed as to all matters whether of validity, interpretations, obligations, performance or otherwise exclusively by the laws of the State of West Virginia, and all questions arising with respect thereto shall be determined in accordance with such laws. Regardless of where actually delivered and accepted, this Agreement shall be deemed to have been delivered and accepted by the parties in the State of West Virginia.

13. Any and all suits for any claims or for any and every breach or dispute arising out of this Agreement shall be maintained in the appropriate court of competent jurisdiction in Berkeley County, WV.

14. This Agreement shall not be modified except by written instrument executed by Berkeley County and the MS4 Permit Holder and the owner(s) of the Property at the time of modification, and no modification shall be effective until recorded in the Clerk's Office.

IN WITNESS WHEREOF, the Covenantor has executed this Agreement as of the date first set forth above.



**B. STORMWATER FACILITY INSPECTION REPORT**

---

<b>Stormwater Facility Inspection Report</b>				
Address of facility:			Date of Inspection:	
Associated Business or Property Owner's Name:				
Company Conducting Inspection:				
Name of Inspector:				
	<b>Condition</b>			
	-Substandard- Requires replacement or significant repairs	-Fair- Minor structural maintenance required	-Satisfactory- Minor debris removal and/or weeding recommended	-Good- No action or considerations to be taken
Vegetation or filter media				
Fences or other safety devices				
Spillways, valves, or other control structures				
Embankments, slopes, and safety benches				
Reservoir or treatment areas				
Inlet and outlet channels or structures				
Underground drainage				
Forebay areas				
Sand Filters				
Swales and conveyance systems				
Permeable pavements				
Signage			NA	
Other				