WEIRTON
West Virginia

Stormwater Management Design Manual

October 2025

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DEFINITIONS

Best Management Practices (BMPs) are physical, structural, and/or managerial practices that, when used singly or in combination, control site run-off, spillage and leaks, waste disposal and drainage from raw material storage and prevent or reduce the discharge of pollutants directly or indirectly to waters of the State. BMPs may include schedules of activities, prohibition of practices, design standards, educational activities and treatment requirements.

Bioretention- Water quality and water quantity stormwater management practice using chemical, biological and physical properties of plants, microbes and soils for the removal of pollutants from stormwater runoff.

CSO Community- Combined Sewer Overflow- A community in which the sanitary and storm sewers are combined and who own and operate permitted combined sewer overflow location(s).

Detention- The collection and storage of stormwater runoff in a surface or sub-surface facility for subsequent controlled discharge to a watercourse or water body.

Director- City of Weirton's General Manager, or his/her designee.

Ecologically Sensitive Area- Ecologically Sensitive Areas- Stream banks, streams and wetlands, and as it pertains to stormwater in the City of Weirton MS4, an ecologically sensitive area is any area that naturally contributes stormwater runoff directly to waters of the state of West Virginia or designated wetlands without being conveyed first through a stormwater conveyance system or conduit.

Engineered Infiltration- An underground device or system designed to accept stormwater and slowly exfiltrates stormwater into the underlying soil. This device or system is designed based on soil tests that define the infiltration rate.

Evaporation- Water that is changed or converted into a vapor.

Evapotranspiration- The sum of evaporation and transpiration of water from the earth's surface to the atmosphere. It includes evaporation of water plus the transpiration from plants.

Hot Spot- A project or location with a higher than normal potential for stormwater runoff pollutant loading, e.g., fueling stations, maintenance garages, and chemical storage facilities. Potential hot spots may be required to provide water quality treatment for associated pollutants before infiltration.

Illicit Discharge- Means any discharge to a storm drain or into the stormwater collection system that is not composed entirely of stormwater, except for; discharges pursuant to a NPDES permit, discharges resulting from firefighting activities, and other discharges exempted in this article.

Impervious Area- Is land area covered by buildings, pavement, gravel or other material that significantly inhibits the infiltration of stormwater into the ground. Unvegetated clay or clay-like soil surfaces shall be considered impervious for the purposes of this article.

Infiltration- The process by which stormwater penetrates into soil or is absorbed by soil.

Inspection and Maintenance Agreement- A formal document or contract between the City of Weirton and a property owner designed to guarantee that a stormwater management system is operated and maintained within a property once installed and specific maintenance activities are performed to ensure its proper function.

MS4- Municipal Separate Storm Sewer System- Conveyances for stormwater, including, but not limited to, roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human made channels or storm drains owned or operated by any municipality, sewer or sewage board, State agency or Federal agency or other public entity that discharges directly to surface waters of the State of West Virginia. Although much of Weirton is a “CSO community,” a separate storm sewer system is operated and maintained by the City of Weirton.

New Development- Is any construction activity upon previously undisturbed/undeveloped land.

NPDES- National Pollution Discharge Elimination System. The Clean Water Act prohibits the discharge of "pollutants" through a "point source" into a "water of the United States" without an NPDES permit. The permit contains limits on what can be discharged, monitoring and reporting requirements, and other provisions to ensure that the discharge does not harm water quality or public health.

NOI- Notice Of Intent- Construction stormwater permit application for the West Virginia DEP required for sites ranging in size from 1 to 3 acres.

Owner/Operator- The property owner, or his authorized representative, that submits an application for approval to disturb land or vegetation or for encroachment, and the person, if so designated by default or on legal documents, as the responsible party for maintenance of a stormwater management system(s) and/or facility(s). Certification statements must be signed by this person.

Post-Development Conditions- Those conditions which are expected to exist, or do exist, after alteration, of the natural topography, vegetation, and rate, volume or direction of stormwater runoff, (resulting from development activity).

Pre-Development Conditions- Those conditions, in terms of the existing topography, vegetation and rate, volume or direction of stormwater runoff, which exist at the time the applicant submits an application form for a land disturbance permit.

Re-Development- Is any construction of, or modification to, the impervious area of an existing property that requires, or would require, a Stormwater Erosion and Sediment Permit and/or a Stormwater Management and Comprehensive Drainage Permit under the existing ordinance.

Retention- The collection and storage of stormwater runoff without subsequent discharge to surface waters.

Sediment- Fine, particulate material, whether mineral or organic, that is in suspension and is being transported, or has been transported, from its site of origin by water or air.

Site Registration Application- Construction stormwater permit application for the West Virginia DEP required for sites larger than 3 acres.

SWPPP- Stormwater Pollution Prevention Plan- Erosion and sediment control plan for a construction site.

TMDL- Total Maximum Daily Load- A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. A TMDL is the sum of individual waste load allocations for point sources (WLA), load allocations for nonpoint sources and natural background (LA), and must consider seasonal variation and include a margin of safety.

Wetlands- Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions and delineated as freshwater wetlands by the U.S. Army Corps of Engineers.

CHAPTER 1

General Information

1.1 Background

The City of Weirton (COW) has been designated as an MS4 community and therefore is required to comply with the provisions of the State of West Virginia General National Pollution Discharge Elimination System (NPDES) Water Pollution Control Permit WV0116025. The City of Weirton operates a stormwater utility under General Permit Registration Number WVR030021.

The City of Weirton has enacted Article 956 – "Stormwater Management and Surface Water Discharge Control" to protect and enhance water quality in the City of Weirton watershed. This Design Manual is authorized in Article 956 of the Weirton City Code.

1.2 Purpose

The purpose of this Design Manual is to provide guidance in the application and permitting process in obtaining a Stormwater Permit from the City of Weirton for land disturbance projects located within the Weirton watershed.

This Design Manual provides technical guidance in the design of runoff control structures and for the design of stormwater management structures for projects constructed within the COW watershed.

1.3 Intent

This Design Manual shall serve as a tool for the COW Stormwater Utility to ensure that new and/or redevelopment projects within the Weirton watershed are designed and constructed to meet all Federal, State and local requirements for stormwater management.

This Design Manual describes the standards and procedures used by the Director to implement provisions of Article 956, and the West Virginia Department of Environmental Protection (WVDEP) approved COW Stormwater Management Program (SWMP). These standards and procedures will:

1. Describe the submission requirements and approval process for land disturbance construction activity as it relates to stormwater management.
2. Convey the technical design standards to the engineering community, including standards which address flow rates, runoff volume, and pollutant load/concentration, as well as specific standards during construction and for the long-term performance of stormwater control structures.
3. Provide general information on approaches to improve water quality, prevent illicit discharges, and minimize stormwater runoff impacts due to development and/or redevelopment.
4. Convey other protection provisions related to stormwater discharges such as wetlands and watercourse conservation.

Every effort has been made in the creation of this Design Manual to cover the common issues that exist for land disturbance construction activities and to provide information needed by those involved in the design and implementation of such activities. However, these design standards along with City ordinances should be reviewed carefully by the owner/applicant to ensure that all requirements are being met. Construction activities may also be impacted by Federal and/or State

requirements such as, the NPDES Construction General Permit (CGP) for Stormwater Discharges from sites greater than one (1) acre.

The design standards contained herein are not intended to restrain or inhibit engineering creativity, freedom of design, or engineering judgment. When shown to be applicable, it is encouraged that new methods, techniques, and innovative stormwater BMPs be submitted with supporting documentation. However, the use of such approaches should be substantiated with submitted documentation by design professionals showing that the proposed design is equal to, or exceeds the traditional methods in terms of performance and economic feasibility.

For land disturbance construction activities that require site specific designs pertaining to stormwater management and water quality; site plans, details, calculations, construction specifications, and other technical documents must be prepared and sealed by a Professional Engineer that is registered in the State of West Virginia, having sufficient knowledge and experience to accomplish all design elements of the site plan. Users who are not justly qualified by education or experience in the fields of stormwater control design, construction, or land development should consult with a qualified professional in one or more of these areas prior to planning for construction activities.

1.4 Updates to the Design Manual

This Design Manual is subject to updates by the Director. As design technology and criteria evolve, or change, or it becomes evident that additional measures are needed to ensure the general welfare of the public, this Design Manual will be updated as required. Updates will be approved by the Director. Users of this Design Manual are encouraged to provide comments on the content of this Design Manual at any time in writing to the Director. The comments shall include proposed changes, reasoning, and justification (including any supporting technical documents supporting the changes). All comments will be considered during subsequent updates. An electronic copy of this Design Manual is available on the COW website at www.cityofweirton.com/338/Planning-and-Development

1.5 Authorization

This Design Manual has been prepared under the direction of the Director who has been granted the authority to develop engineering design standards and enact programs and policies to ensure compliance with the NPDES Phase II General Permit for Stormwater Discharges from Regulated Small Municipal Separate Storm Sewer Systems (MS4s), Permit No. WV0116025, and the City of Weirton applicable ordinances.

1.6 NPDES MS4 General Permit No. WV0116025

The City of Weirton is required to have an NPDES MS4 Permit to discharge stormwater. Because land disturbance construction activities contribute to the discharge of pollutants, the NPDES MS4 Permit requires that the City of Weirton implement and regulate certain practices, programs, and procedures for the purpose of reducing or limiting the discharge of pollutants to waters of the State of West Virginia. The NPDES MS4 Permit requires that the City of Weirton develop and implement a Stormwater Management Program (SWMP) to control the discharge of pollutants from the storm sewer system to the maximum extent practicable (MEP). The SWMP has several components that must be met and this Design Manual provides partial compliance with construction and post-construction stormwater management, and public education. The City of Weirton manages and enforces City stormwater ordinance, Article 956, and likewise has served as the author of this document.

1.7 The Need for Stormwater Management

Stormwater runoff from land development projects has the potential to alter the natural drainage patterns, flow rates, volume, and quality of the local water resources. Traditional solutions have removed stormwater from a site as efficiently as possible, while maintaining runoff quantity controls.

Recently, Engineering practices have begun to shift to a more “green” approach to dealing with stormwater runoff. An effort to capture and infiltrate runoff is now required under the WVDEP General Permit along with maintaining runoff quality.

Development and urbanization can have the following impacts on receiving waterbodies:

- Changes to Stream Flow
    - Increased runoff volumes
    - Increased peak runoff discharges
    - Greater runoff velocities
    - Increased flooding frequency
    - Lower dry weather flows (base flow) due to reduction in groundwater recharge
    - Increase in floodplain elevation
- Changes to Stream Geometry
    - Stream channel enlargement
    - Stream channel down cutting
    - Changes in channel bed due to sedimentation
- Degradation of Aquatic Habitat
    - Degradation of habitat structure
    - Decline in stream biological functions
- Water Quality Impacts
    - Reduced oxygen in streams
    - Microbial contamination
    - Hydrocarbons and toxic materials
    - Sedimentation
- Property Damage and Safety Concerns
- Unsightly Aesthetic Stream Channel Conditions and Restricted Use of Recreational Waters

The following sections of this Design Manual discuss the design considerations that are available and encouraged to lessen these impacts on water bodies.

1.8 Best Management Practices and Site Management

The first step in addressing stormwater management begins in the site planning and design stage of a land development project. By implementing BMPs during the site planning process, the amount of runoff and pollutants generated from a construction site can be reduced by minimizing the amount of impervious area and utilizing natural on-site treatments. The minimizing of adverse stormwater runoff impacts by the use of BMPs and site planning should be a major consideration of the design professional.

The reduction of runoff volume and stormwater pollutants can decrease the total number and size of stormwater management controls that must be implemented under the guidelines set forth in this Design Manual. BMPs can reduce the amount of total post-development impervious areas and maintain natural characteristics of the pre-development site conditions. Therefore, the post-development runoff coefficient and time of concentration are maintained more closely to the pre-development conditions. This reduces the overall hydrologic and hydraulic impact of the development. The following site planning BMPs are encouraged.

1.8.1 Maintaining Site Resources and Natural Undisturbed Areas

Conservation of site resources and natural undisturbed areas helps to reduce the post development runoff volume and provides areas for natural stormwater management. Some natural site resources that should be maintained include, but are not limited to:

a. Natural drainage ways
b. Vegetated buffer areas along natural waterways
c. Floodplains
d. Areas of undisturbed vegetation
e. Low areas within the site terrain
f. Natural forested infiltration areas
g. Wetlands

1.8.2 Low Impact Site Layout Techniques

Low impact site layout techniques involve identifying and analyzing the location and configuration of proposed impervious areas. Where applicable, the following options that create lower impact layouts should be used:

- Fit the design layout to follow the natural contours of the site to minimize clearing and grading and preserve natural drainage ways and patterns.
- Limit the amount of clearing and grading by identifying the smallest possible area on the site that would require land disturbance.
- Place development areas on the least sensitive areas of the site and avoid steeply sloped areas when possible.
- Utilize non-traditional designs to reduce the overall imperviousness of the site by providing more undisturbed open space and minimizing clear-cutting.
- Consider the utilization of cisterns and rain barrels to collect stormwater for reuse.
- Level spreaders or other energy dissipation devices should be used at all discharge points. Level spreaders should also be considered for discharge points into ponds and other basin-type BMPs.

1.8.3 Minimization of Impervious Cover

The minimization of total impervious area directly relates to a reduction in stormwater runoff volume and the associated pollutants from a development site. The amount of impervious cover on a site can be reduced by the following techniques where applicable:

- Reduce building footprints by constructing some buildings as multi-story.
- Reduce parking lot areas and use porous/pervious pavement surfaces for desired overflow parking where feasible.
- Increase the amount of vegetated parking lot “islands” that can also be utilized for stormwater management practices such as bio-retention areas.

- Disconnect impervious surfaces by directing runoff to adjacent pervious areas so that runoff can be filtered and infiltrated.

1.9 Legal Aspects

If any portion of this Design Manual is ruled to be invalid or unconstitutional by any court with adequate jurisdiction over the City of Weirton, then such portion shall be considered to have been selectively removed from the design standards without affecting this Design Manual's overall applicability and legal standing to the land disturbance process. This Design Manual will be revised on a periodic basis to reflect known changes to laws and regulations. All Federal, State and local laws and/or regulations shall be considered in the use of this Design Manual. In each instance, the more restrictive requirement shall govern unless sound engineering judgment can determine and prove that the more restrictive requirements would be otherwise unnecessary. In most instances, laws and regulations that are phrased more explicitly shall apply over those items that are described in general terms.

1.10 Contact Information

The City of Weirton should be contacted for any questions, clarifications, or other information related to stormwater management and this Design Manual.

Contact for Stormwater Permits:

City of Weirton
Planning and Development
200 Municipal Plaza
Weirton, WV 26062
mmiller@cityofweirton.com
Phone: 304-797-8500 ext. 1020

City Building Permit Application Submittals:

Inspections & Code Enforcement
200 Municipal Plaza
Weirton, WV 26062
Phone:

West Virginia Department of Environmental Protection:

Division of Water and Waste Management
601 57th Street SE
Charleston, WV 25304-2345
Phone: 304-926-0499

1.11 Fees

See Weirton City Code Article 956 for current stormwater rates.

To determine if a certain property is located in the COW MS4 area, a map of the MS4 stormwater boundary is available for public viewing on the COW website. Please note that this boundary extends past the Weirton city limits. The MS4 boundary is based upon the drainage basins of the streams within the regulated MS4.

CHAPTER 2

Plan Submittal and Permit Application

This chapter provides developers, owners, engineers, contractors, and others with the information needed to obtain approval of stormwater management plans for land disturbance construction activities located within the COW MS4 service area as required by Weirton City Code Article 956. This section describes conditions when approval is needed, application package requirements, and when and if waivers of such requirements are applicable for certain exempted activities.

Unless otherwise authorized by Article 956, or this Design Manual, the surface of land in the Weirton MS4 service area shall not be disturbed or altered for any purpose whatsoever, nor any drainage channel or component of the stormwater system impeded or encroached upon without approval from the Director. Land disturbance construction activities cannot commence prior to approval from the Director and issuance of a City of Weirton Stormwater Permit.

2.1 Stormwater Permit Application

Stormwater Permit applications for review and approval under this chapter may be initiated by: (1) the owner(s) of the property on which land disturbance construction activity is planned; or (2) the owner(s) authorized representative. This Design Manual describes the procedures and application submission requirements of the Director. A City Building Permit and COW Stormwater Permit must be obtained from the City of Weirton Code Enforcement Office prior to beginning any construction activities within the city limits of Weirton. The Weirton City Engineer reserves the right to deny or revoke a Building Permit to applicants who fail to conform to the provisions of Weirton City Ordinance Article 956, Stormwater Management and Surface Water Discharge Control, and this Design Manual.

The Stormwater Permit application process is described as follows.

2.1.1 Complete COW Stormwater Permit Application Form- See Appendix A.

a. Stormwater Permit applications pertaining to projects within the city limits of Weirton shall be submitted through the City of Weirton Code Enforcement Office when applying for a Building Permit.
b. Stormwater Permit applications pertaining to projects outside of the city limits, but within the Weirton MS4 area, shall be submitted directly to the COW Stormwater Department. Visit www.cityofweirton.com/338/Planning-and-Development to view a map of the City of Weirton limits and the MS4 boundary.

2.1.2 Complete the "Verification of Receipt" form for the COW Stormwater Design Manual and return with Stormwater Permit Application- See Appendix B for form.

2.1.3 Design plans, at a minimum, shall include (Covered further in Chapter 3)

a. Existing site plan.
b. Proposed site plan.
c. Erosion and Sediment Control Plan.
d. Details for post-construction stormwater management system components with supporting design calculations.

2.1.4 Submit copy of NPDES Construction Stormwater Permit approval, if applicable, from West Virginia Department of Environmental Protection for sites greater than 1 acre.

2.1.5 Submit copy of Flood Plain Permit approval, if applicable, from the City of Weirton.

2.1.6 Submit copies of all other required permits, such as, but not limited to; US Army Corps of Engineers, West Virginia Department Natural Resources, etc. as applicable.

2.2 Stormwater Permit Review/Approval Time Period

2.2.1 Stormwater Permit applications shall be considered complete only if they include all mandatory information. Any application that is determined to be incomplete shall be held within the COW Stormwater Department, and the review process halted. The applicant will be notified and given an explanation of the application's deficiencies. No further processing of the application shall occur until the deficiencies are corrected. Once the deficiencies are corrected, the application review will resume, provided that the applicant submits information correcting the deficiencies within six (6) months of the date that the applicant was notified of the deficiencies. If information correcting the deficiencies is submitted more than six (6) months after the date that the applicant was notified of the deficiencies, the permit application submission will be considered as a first submittal and will be reviewed in the order received.

2.2.2 Upon receipt of a completed Stormwater Permit application, the COW Stormwater Department shall attempt to accomplish its review of the initial application and have either the approval or review comments transmitted to the applicant within thirty (30) working days from the date the application was received by COW.

2.2.3 An approved COW Stormwater Permit will remain valid for up to three (3) years from the date of issuance, provided that the project is in compliance with the Article 956 and this Design Manual, and is not inactive for a period of three (3) consecutive months. Construction activity must be initiated within twelve (12) months of the issuance date of the COW Stormwater Permit. Failure to initiate construction within the allotted twelve (12) months, or if the project is inactive for a period of three (3) months, will void the Stormwater Permit.

2.3 Site Construction and Project Closeout

At the conclusion of construction activities the owner is responsible for stabilizing the site with established vegetation, paved areas and/or stormwater conveyances clean of debris and sediment, and to ensure that the permanent stormwater controls are working properly, and that all temporary erosion and sediment control BMPs are removed. The following items are required to be submitted to the COW before a project can be considered complete.

2.3.1 As-built drawings of project in AutoCAD format or approved alternate format.

2.3.2 COW Stormwater Inspection and Maintenance Agreement, see Appendix C, referencing submitted as-built drawings and approved details.

a. Submit two (2) original signed documents printed on legal size, 8 ½" by 14" paper.

2.3.3 Certificate of Occupancy will be issued only after all items in this section are submitted and approved.

CHAPTER 3

Stormwater Permit Application Requirements

A technical report (see Chapter 4), prepared by a certified Professional Engineer registered in the State of West Virginia, shall be submitted as part of the Stormwater Permit application submittal. The report shall consist of maps, supporting design calculations, Erosion and Sediment Control Plan (Section 3.1), Post Construction Stormwater Management Plan (Section 3.2), if required, and any other information necessary to obtain an approved Stormwater Permit.

An "Erosion and Sediment Control Plan," is required for all construction projects that disturb earth for stormwater management during construction. This plan is explained in detail in Section 3.1. The following activities shall be exempt from this requirement.

1. Residential gardens and/or flower beds of less than 1,000 square feet of actual disturbed area;
2. Additions or modifications to existing detached single-family dwellings of a size less than 1,000 square feet of actual disturbed area;
3. Activities that result in an actual disturbed area of less than 1,000 square feet. However, a phased construction project shall be measured by the size of all planned or contemplated phases. Each phase may be required to meet the requirements of this article.
4. Any exemption provided under this section shall relieve only the requirement to apply for and obtain a Stormwater Permit. The activity must still be conducted in such a manner that pollution from erosion and sedimentation as a result of the activity is prevented.

A "Post Construction Stormwater Management Plan," applies to certain projects that meet the criteria that require post construction stormwater management. See the Permitting Flow Chart in Appendix D to help determine what plans are required for each project. This plan is explained in detail in Section 3.2. The following activities shall be exempt from the requirements of this section, except that no activity shall be exempt from the management of the discharge of sediment or any other form of water pollution that may leave any site.

1. Agricultural land management activities;
2. Additions or modifications to existing detached single-family dwellings of a size less than 1,000 square feet;
3. Activities that result in impervious surface area of less than 3,000 square feet, regardless of the ratio of impervious area to total site area. However, a phased construction project shall be measured by the size of all planned or contemplated phases. Each phase may be required to meet the requirements of this article.

3.1 Erosion and Sediment Control Plan (E&S Plan)

All land disturbance construction activities, except those described above, require an approved erosion and sediment control plan. The E&S Plan for the project shall be submitted for review and approval as part of the Stormwater Permit application process. The permit requires that the owner, or the owner's representative, install E&S control measures prior to starting any project and maintain them for the duration of the project so as to prevent the discharge of pollutants and sediment-laden runoff from the site, and to ensure, as applicable, that the construction activities will not cause any non-compliance for any discharge from the City of Weirton MS4 stormwater conveyance system to waters of the State of West Virginia. The E&S Plan shall, at a minimum, meet the following.

3.1.1 E&S Plans shall be designed to control all runoff from the site.

3.1.2 BMPs shall at a minimum meet the requirements of the 2006 West Virginia Department of Environmental Protection (WVDEP) Erosion and Sediment Control Best Management Practice Manual.

a. The Director may not accept all BMPs proposed in the 2006 DEP Manual and may require BMPs above the requirements of the DEP manual. For example, hay/straw bales are not permitted to be used as an E&S control.

3.1.3 The Director will review the proposed E&S Plan in accordance with this Design Manual and local knowledge for plan approval.

3.1.4 If at any time during construction the E&S Plan is determined inadequate by COW, steps must be taken immediately by the owner or the owner's representative to correct the inadequacy and prevent future noncompliance. If steps are not taken in a timely manner, COW may take action on behalf of the owner to correct the inadequacies and invoice the owner the cost of time and materials for protecting the public storm sewer system and the environment.

3.1.5 COW will determine which projects will require a "Site Log" based on project duration and disturbed area. When required, the E&S Plan shall note that a "Site Log" is to be maintained on site for the duration of construction where BMP maintenance and inspections are documented by the contractor/owner.

3.1.6 Rock construction entrances (RCE's) are required for all construction sites.

3.1.7 A concrete washout area is required to be designated on the E&S Plan.

3.1.8 All sites must utilize a sediment trap or basin appropriately sized in accordance with the 2006 WVDEP Erosion and Sediment Control Best Management Practice Manual to treat construction stormwater runoff before allowing it to enter the storm sewer system.

a. Discharges from a sediment trap or basin must be from an approved outlet structure.
b. Sediment traps or basins must have a control structure in place to limit the discharge flow rate to no greater than the existing discharge flow rate.
c. The Director may waive this requirement when site conditions warrant such action.

3.1.9 All dewatering via a pump must discharge through a dewatering filter bag. No direct connections to the storm sewer or sanitary sewer are permitted.

3.1.10 Storing of construction materials or portable toilets is not permitted on storm inlets or within structures of the storm system, such as ditches.

3.1.11 Post Construction Stormwater management structures are not permitted to be utilized as construction site erosion and sediment controls unless they are designed to be used as such and proper practices take place to ensure that the long term functioning of the system will not be negatively affected.

3.1.12 Temporary Seeding shall be applied to stabilize disturbed areas that will not be used or constructed upon for periods longer than fourteen (14) days.

a. Temporary seeding prevents and limits costly maintenance and repairs of sediment control devices. Maintenance to these structures is greatly reduced when disturbed earth is temporarily seeded while grading and construction operations are not taking place.

3.1.13 General E&S Notes:

a. COW does not consider sweeping roadways at the end of a work shift an acceptable BMP. Sweeping should be used as a last resort BMP when the onsite BMPs fail to contain sediment to the site. Failed BMPs shall be repaired or replaced immediately.
b. Straw wattles or wood/fiber mulched wattles should be used in place of silt fence when possible.
c. The owner shall designate to COW an on-site contact person to discuss any deficiencies with the erosion and sediment plan that may be noted during any inspection that requires corrective actions.
d. Hay/straw bales are not permitted to be used as an E&S Control.

3.2 Post Construction Stormwater Management Plan

The Post Construction Stormwater Management Plan is comprised of two (2) requirements. The first requirement is the "First 1-Inch Capture Requirement" and is covered further in section 3.2.1. The second requirement is the "10% Peak Runoff Rate Reduction Requirement" and is covered further in section 3.2.2. Both requirements shall be met in order to obtain approval for the post construction stormwater management plan. However, storage provided to meet the "10% Peak Runoff Rate Reduction Requirement" can be used to satisfy the storage required for the "First One-Inch Capture Requirement". It is not intended for the amount of storage to equal the sum of the two volumes of storages required.

3.2.1 The first requirement is the volumetric flow reduction requirement known as the "First 1-Inch Capture Requirement" as described in the NPDES General Permit Part II, section 7.e)11)(a) and as follows;

a. The first 1-inch of rainfall from any rain event preceded by 48 hours of no measurable precipitation is to be captured and managed on site with no discharge to surface waters.

b. The first 1-inch capture volume to be managed shall be calculated by taking the disturbed site's area in square feet and multiplying by 1 inch. For example, a project with 10,000 square feet of disturbed area will be calculated by 10,000 sq. ft. x (1 inch/12 inch/foot) = 833 cubic feet of storage needed for this project.

c. Alternative approaches to the "First 1-Inch Capture Requirement" that allow for discharge to surface waters are as follows.
    i. Stormwater is treated via extended engineered infiltration and drained through an underdrain.
    ii. Off-site mitigation within the same watershed approved by the Director.

d. Runoff volume reduction can be achieved by the following.
    i. Canopy interception.
    ii. Soil amendments.
    iii. Evaporation.
    iv. Evapotranspiration.
    v. Rainfall harvesting such as rain tanks and cisterns.
    vi. Grass channels and swales.
    vii. Reforestation.
    viii. Green/live roofs.
    ix. Rooftop disconnections.
    x. Permeable pavers.
    xi. Porous concrete.
    xii. Engineered infiltration through bioretention cells.

e. Reductions to “First 1-Inch Capture Requirement” - as listed in the General Permit No. WV0116025, dated August 11, 2014, under section II d) 13) (b); the following incentive standards may be applied to the projects that require the “First One-Inch Capture Requirement” to allow a reduction of 0.2 inches for each type of development a project may qualify. Reductions are additive up to 0.4 inches. If reductions are approved, the minimum volume of stormwater a developer will be responsible for capturing is 0.6 inches.
    i. Redevelopment.
    ii. Brownfield redevelopment.
    iii. High density (>7 units per acre).
    iv. Vertical Density, (Floor to Area Ratio (FAR) of 2, or >18 units per acre).
    v. Mixed use and Transit Oriented Development (within ½ mile of transit).

3.2.2 The second requirement is the peak runoff rate reduction known as the "10% Peak Runoff Rate Reduction Requirement" for the 2 year-24 hour, the 10 year-24 hour, and the 50 year-24 hour storms for all redevelopment projects within the Weirton MS4 boundary.

New development projects are under the requirement that the peak runoff rate of flow for post construction cannot exceed that prior to construction.

a. A 10% reduction on the peak runoff rate of flow is required for the 2-year/24-hour, the 10-year/24-hour, and the 50-year/24-hour storms for redevelopment projects.
b. Post peak runoff rate of flow cannot exceed the preconstruction conditions for new development projects for the 10-year/24-hour and the 50-year/24-hour storms.
c. The Rational Method is the preferred method to be used to calculate the runoff and required storage volume. Calculations must be submitted with the Stormwater Permit application packet.
d. The minimum "time of concentration" to be used in the calculations shall be six (6) minutes.

3.3 Permanent Maintenance Plan

In addition, the owner/operator, a Homeowners Association (HOA), or other responsible party as applicable, must enter into a permanent maintenance agreement (Operating and Maintenance Agreement for Stormwater Facilities) with the City of Weirton. This Agreement is a legal document, recorded in the permanent land records with Brooke or Hancock County, in addition to being fully described on the final plat. A sample copy of the COW Inspection and Maintenance Agreement is provided in Appendix C. The Agreement must be

signed and executed prior to the issuance of a Certificate of Occupancy. This Agreement requires that periodic maintenance be performed on the stormwater management system. The owner must be listed in the Agreement and is ultimately responsible for adherence to the maintenance requirements. The Director will provide oversight of these Agreements to ensure adherence by the owner or other responsible party. The City of Weirton will inspect systems as the Director deems necessary to ensure maintenance is being performed in accordance with this Agreement.

3.4 Additional Requirements

3.4.1 For sites greater than one (1) acre, verification must be provided to COW that coverage under a WVDEP Construction Stormwater Permit has been obtained.

a. A Notice of Intent is required by the WVDEP for sites 1-3 acres.
b. Site Registration Application and approval is required by the WVDEP for sites greater than three (3) acres.

3.4.2 For sites within the 100-year floodplain, verification must be provided to COW that a City of Weirton Floodplain Permit has been obtained.

3.4.3 Any work that will impact a stream or change the physical characteristics of a stream must be approved by the United States Army Corps of Engineers (USACE) and the West Virginia Department of Natural Resources Public Lands Corporation (WVDNR). Approval from USACE/WVDNR must be provided to COW.

3.5 Hot Spots

3.5.1 For developments that pose a particular threat to water quality, additional requirements or BMPs will be required to ensure that protection from specific pollutants is provided. "Hot Spots" are establishments including, but not limited to, the following:

a. Refueling Stations
b. Vehicle Maintenance Shops
c. Chemical Storage

d. Road Salt Storage
e. Restaurants

3.6 Ecologically Sensitive Areas

3.6.1 COW considers all stream banks and riparian corridors as ecologically sensitive areas. The following areas shall not be disturbed.

a. A 20 foot setback from the edge of stream banks is required for all commercial developments.
b. A 10 foot setback from the edge of stream banks is required for all residential projects.
c. Streambanks shall not be mowed or cleared to prevent erosion and damage to stream.
d. Pesticides shall not be applied within 50 feet of a stream, and shall be used strictly in accordance with manufacturer's specifications.
e. No structure shall be built within the setback distance of any stream without approval from the Director.

CHAPTER 4

Technical Report

Calculations shall be provided for site runoff, and for the sizing of all stormwater systems and structures. The Rational Method is the preferred method for calculating stormwater runoff. The following information will be required for each design submittal.

4.1 Narrative- A detailed description of the project and the process used to arrive at the system design and verification that the standards of this Design Manual, and applicable City ordinances are met shall be included in the technical report. Information to be included shall be; owner, engineer, description of existing conditions, description of proposed conditions, scope of work, phasing of a project if applicable, and any known obstacles or difficulties discovered during design.

4.2 Site plan/overview map- A site plan shall be of a noted scale and show the project location relative to neighboring properties. A north arrow shall be present as well as any public roadways. Existing utilities shall be shown and distinguished from proposed work. Property lines shall be clearly shown. Limits of construction shall be clearly shown.

4.3 Calculations- Calculations shall be submitted as part of the technical report. This information shall be detailed and with enough information that the calculations can be understood during the review process. All calculations shall be provided in a cohesive, organized, and easy to follow format. Note any assumed conditions or interpolated values.

4.3.1 Required calculations for review are as follows.

a. Hydrologic analysis for both pre-development and post-development conditions.

b. Stormwater management system sizing and any other system elements.

c. Construction stormwater erosion and sediment control BMPs sizing/placement.

4.4 Reference and Supporting Material- Include copies of any tables or charts used for calculations and site the publication where this information can be found. Information and values should be obtained from recent publications and/or latest editions of publications of reputable sources.

CHAPTER 5

Waiver for Providing Stormwater Management

5.1 Every applicant shall provide for stormwater management as required by the Weirton City Code Article 956 and this Design Manual.

5.2 Offsite mitigation may be considered once a written request for consideration has been submitted to the Director with reasonable proof that the minimum on-site stormwater management requirements are not feasible due to the unique natural or existing physical characteristics of the site. The applicant must then also demonstrate to the satisfaction of the Director that the waiver will not result in any of the following impacts to downstream waterways:

a. Deterioration of existing culverts, bridges, dams, and other structures.
b. Degradation of biological functions or habitat.
c. Accelerated stream bank or streambed erosion.
d. Increased threat of flood damage to public health, life and/or property.

CHAPTER 6

Construction Materials and Methods

Storm sewer system components not privately owned shall be constructed by the City of Weirton unless approval is obtained from the Director by satisfying all requirements of the Weirton City Code Article 956, section 956.14 “Construction”. Design of storm sewer systems or system components is required to be completed by a licensed Professional Engineer registered in the State of West Virginia. The design of storm sewer systems and/or storm components must be reviewed and approved by COW prior to the start of any project.

6.1 Pipe - Storm sewer pipe shall be of the following materials.

i. HDPE - High Density Polyethylene Pipe.
ii. PVC - Polyvinylchloride SDR35.
iii. RCP - Reinforced Concrete Pipe.
iv. Elliptical RCP.

6.2 Structures - Storm sewer system structure specifications are as follows.

i. Precast concrete structures required (manholes, drop inlets, catch basins).
ii. Cast in place concrete structures, if approved.
    a. Minimum 3000 psi concrete.
iii. A structure shall be installed at all changes in direction.
iv. A structure shall be installed at all changes in slope.
v. An access to storm sewer system is required for maintenance at all structures.
vi. The maximum distance between access structures.
    a. 12 inch to 36 inch pipe – 300 feet.
    b. 36 inch pipe and greater – 500 feet.

6.3 Construction Standards.

i. Reduction in pipe diameter downstream is not allowed unless part of an approved retention system.
ii. Minimum pipe cover within roadways shall be three (3) feet.
iii. Minimum pipe cover outside of roadways is based on manufacturer specifications.
iv. Minimum separation between existing utilities shall be three (3) feet, unless approved by the Director.
v. Driveway culverts shall be a minimum diameter of 12-inches.
vi. Erosion control/energy dissipaters are required at all new system outfalls and shall be designed in accordance with the WV DEP BMP Manual 2006.

6.4 Required Easement for Storm Sewers.

i. 15-inch to 48-inch pipe – 20 foot easement, ten (10) feet either side of pipe centerline.
ii. Greater than 48-inch pipe – 25 foot easement, or storm sewer width plus 20 feet, whichever is greater, the centerline of which is the pipe.
    a. For depths to top of buried storm sewer greater than 6 feet – Additional 5 feet of easement width will be required for each 5 feet increment of additional depth.
iii. All open channels/ditches will require a minimum easement of the maximum width of the channel or ditch plus fifteen (15) feet, the centerline of which is the centerline of the ditch.
iv. Easements shall be shown on a recorded plat.

6.5 Detention Ponds/Reservoirs

i. Ponds with vegetated embankments shall be less than 15-feet in height, from the natural bed of a stream or watercourse measured at the downstream toe of the barrier, and shall have side slopes no steeper than 3 horizontal to 1 vertical. Embankments protected with Erosion Control Blankets or Turf Reinforcement Matting shall be no steeper than 2 horizontal to1 vertical. Geotechnical slope stability analysis is required for embankments greater than 10-feet in height which have steeper slopes than those indicated above. Access inside a pond shall be provided with at least one side slope at 3 horizontal to 1 vertical or flatter.

ii. A minimum freeboard of 1-foot above the design storm high water elevation shall be provided for all impoundments.

iii. The bottom of detention structures shall be graded towards the outlet structure(s) to prevent standing water conditions with a minimum 0.5% bottom slope.

iv. The maximum depth of permanent storage facilities with a permanent pool shall be determined by site conditions, design constraints, and environmental needs. The facility should provide a permanent pool of water with a depth sufficient to discourage weed and mosquito growth without creating undue potential for anaerobic bottom conditions. A minimum depth of six (6) inches is reasonable. Aeration or other means shall be used as necessary to prevent anaerobic conditions.

v. The owner of any detention structure is solely responsible for maintaining the facility in a manner that does not present a safety hazard to the public and/or the environment.

vi. Nothing in this Design Manual shall be construed to supersede the rules and regulations of the West Virginia Department of Environmental Protection Dam Safety Division. Where a discrepancy exists, the WVDEP Dam Safety Rules shall take precedence.

6.6 Underground Detention Systems and Infiltration Systems

i. Underground detention systems shall be designed using the following criteria:
   a. Underground detention systems shall be located downstream of other stormwater controls providing treatment.
   b. The maximum contributing drainage area to be served by a single underground detention vault or tank is five (5) acres.
   c. All systems shall be designed and located to facilitate maintenance. Systems shall be cleaned out (sediment removal) by the owner at least once a year, but more frequently if necessary.
   d. The minimum pipe diameter for underground detention tanks is 24 inches or equivalent.
   e. Underground detention systems must meet structural requirements for overburden support and traffic loading if appropriate.
   f. Access must be provided over the inlet pipe and outflow structure. Access openings can consist of a standard frame, grate and solid cover, or preferably a removable panel.

ii. Any development that uses a parking area or other feature for detention storage capacity shall clearly identify the limits and depths of the proposed detention pool.

iii. Basin configurations which create stagnant water conditions shall be avoided.

iv. Post-development discharge rates for redevelopment projects shall achieve a 10% reduction compared to the pre-development discharge rates for the 2, 10, and 50-year frequency 24-hour duration storm events. The same hydrologic procedures shall be used in determining both the pre-development and post-development peak flow rates.

v. Post-development discharge rates for new development projects shall not exceed the pre-development discharge rates for the 2, 10, and 50-year frequency 24-hour

duration storm events. The same hydrologic procedures shall be used in determining both the pre-development and post-development peak flow rates.

vi. Post-development discharge velocities shall be reduced to provide non-erosive flow velocities from structures, channels or other control measures.

vii. Detention systems used for water quantity control shall be designed to drain after the cessation of a rain event within 72 hours (assuming no additional rainfall occurs) via infiltration or an underdrain.

viii. Infiltration system design shall be based on soils characteristics of the first twelve (12) inches below the proposed bottom of the system (not necessarily the first twelve (12) inches below ground surface).

ix. Areas draining to these systems must be stabilized, and vegetative filters established prior to runoff entering the system. Infiltration practices shall not be used if a suspended solids filter system does not accompany the infiltration system. If vegetation is the intended filter, there shall be, at least a twenty (20) foot length of vegetative filter prior to stormwater runoff entering the infiltration system. Fore-bays or other engineered devices for sediment removal may be necessary.

x. Each system shall be designed to prevent clogging by fine material and for ease of maintenance.

xi. Infiltration systems shall be designed to completely drain of water after the cessation of a rain event within 72 hours (assuming no additional rainfall occurs).

xii. Soils must have adequate permeability to allow water to infiltrate. Infiltration systems are limited to soils having an infiltration rate of at least 0.30 inches per hour. If the infiltration rate is greater than 0.3 inches/hour but less than 2.0 inches/hour, then an underdrain system must be installed. Initial consideration will be based on a review of the appropriate soil survey, and proposed depths of excavation. The soil survey may serve as a basis for rejection. On-site soil borings and textural classifications are recommended to verify the actual site and seasonal high water table conditions when infiltration is to be utilized.

xiii. Infiltration systems installed deeper than three (3) feet deep are recommended to be located at least twenty-five (25) feet from the nearest basement wall unless additional engineering practices are put into place to protect the foundation from the additional pore water pressure.

xiv. The design of an infiltration system shall have a properly sized overflow or bypass for larger storm events. Measures to provide a non-erosive velocity of flow along its length and at the outfall shall also be included as necessary. Additional control systems will typically be necessary prior to a release to a stream or waterway to meet water quality requirements.

xv. The slope of the bottom of the infiltration system shall not exceed one-half of one (0.5) percent. Also, the system shall not be installed in fill material as piping along the fill/natural ground interface may cause slope failure.

xvi. An infiltration system shall not be installed on or atop a slope whose natural or existing angle of incline exceeds twenty (20) percent.

xvii. If an underdrain system is required, access points will be provided at no greater than every one hundred (100) feet along the infiltration system to allow for access and maintenance.

xviii. In cases where such criteria or limitations make the use of infiltration systems inappropriate, the Director shall be contacted for guidance on the appropriate controls to employ or other mutually accepted best management practices.

CHAPTER 7

Stormwater Facility Ownership and Maintenance

7.1 Ownership of a Stormwater Management Facility

Stormwater systems installed including all associated BMPs (water quantity and quality basins/devices/non-structural practices) in new and re-development projects shall be privately owned and maintained by the owner(s) of the parcel(s), or a homeowners association (HOA), or other responsible party under or on which it exists.

Ownership of the proposed stormwater facilities shall be clearly designated before a COW Stormwater Permit will be issued. Ownership shall also be recorded on the final plat. Ownership shall imply responsibility for routine inspections and maintaining the stormwater system, including all ponds and other BMPs used for controlling runoff quantity and quality. Ownership does not imply that the owner(s) may in any way alter the size, or function of any component of the stormwater system without consent from the City of Weirton. Owners found altering such components will be required to remove any alterations.

7.2 Maintenance of Privately Owned Stormwater Management Facilities

Each component of the stormwater management plan (pipes, inlets, control structures) shall have a maintenance plan (activities and associated schedule) as part of the application package for a COW Stormwater Permit approval. The plan shall also cover temporary measures used during construction in addition to the long term maintenance of the system.

The owner, HOA, or other responsible party, as applicable, must enter into a permanent maintenance agreement (Operating and Maintenance Agreement for Stormwater Facilities) with the City of Weirton. This Agreement is a legal document, recorded in the permanent land records with Brooke or Hancock County, in addition to being fully described on the final

plat. A sample copy of the COW Inspection and Maintenance Agreement is provided in Appendix C. The Agreement must be signed and executed prior to the issuance of a Certificate of Occupancy. This Agreement requires maintenance to be performed by the owner, HOA, or other responsible party. However, the owner must be listed and shall be ultimately responsible for adherence to the maintenance requirements. The Director will provide oversight of these Agreements to ensure adherence by the owner, HOA, or other responsible party. The Director will inspect a system as he deems necessary to ensure maintenance is being performed in accordance with this Agreement.

CHAPTER 8

Inspections and Enforcement

8.1 Stormwater Management Inspections

The City of Weirton Stormwater Department will inspect construction sites from initial land clearing to final stabilization. The purpose of these inspections is to check for compliance with conditions of the approved Stormwater Permit. Inspections to confirm that regular maintenance is being performed by the owner will also be performed on stormwater management systems and facilities throughout their useful life. For each system or facility installed or retrofitted during an approved construction project, the applicant must have submitted a maintenance plan approved by COW. COW Stormwater Department inspectors will be checking for adherence to the maintenance plan and notify the owner of any necessary changes that may arise after installation. COW Stormwater Department inspections are not to be construed as a relaxation of the requirements on owners to conduct self-inspections in accordance with any applicable Federal, State or local stormwater requirements.

8.1.1 Inspector Duties/Responsibilities

COW Stormwater Department Inspectors shall inspect and enforce the requirements of the City of Weirton's Stormwater Ordinance and the project's approved Stormwater Permit. The job duties/responsibilities of a COW Stormwater Department Inspector shall include, but not be limited to, the following:

a. Conduct and document construction site inspections to ensure compliance with the approved COW Stormwater Permit (see Appendix E for a sample COW Construction Site Stormwater Inspection Form). Frequency of inspections will be determined by COW Stormwater Department staff on an as needed basis.

b. Ensure that the approved COW Stormwater Permit and the approved construction plans are on the project site and are properly being followed and

implemented.

c. Conduct post-construction inspections to ensure that permanent maintenance is being performed in accordance with the maintenance plans for the various stormwater management facilities in the approved stormwater management plan.

d. Document each construction or post-construction inspection with a written report.

e. Issue enforcement orders, as necessary, to the owner, or other responsible party, when any portion of the work does not comply with the approved COW Stormwater Permit, or work is occurring without appropriate approval.

f. Perform a final inspection upon completion of the stormwater system to determine if the system is constructed in accordance with the approved COW Stormwater Permit.

g. Take immediate action if the owner fails to comply with the approved COW Stormwater Permit. The inspector shall address the situation and notify the owner of deficiencies with a timeframe for correction. The timeframe is based on the inspector's judgement and the severity of the deficiency.

h. Maintain accurate and comprehensive project inspection files ensuring all relevant information is entered in the files to be maintained in the COW Stormwater Department.

8.1.2 Inspection Process and Procedures

As per the City of Weirton's Stormwater Ordinance, an authorized representative/designee (inspector) of the City of Weirton may enter upon all properties for regular inspections, periodic investigations, enforcement and to effectuate the provisions of the Stormwater Ordinance and this Design Manual. Upon refusal by any owner, HOA or other responsible party to permit a COW Stormwater Department Inspector to enter upon the property or continue an inspection, the inspector shall terminate the inspection or confine the inspection to portions of the property to which no objection is raised. However, upon refusal of the owner, or other responsible party, to allow the COW Stormwater Department inspector to access the site to perform their

inspection, the owner, or other responsible party is certifying that all practices regarding stormwater control are in compliance with all Federal, State, and local requirements and they are accepting full responsibility for all conditions resulting from their construction practices.

8.2 Owner Inspection Responsibilities

In accordance with any applicable Federal, State or local stormwater requirements including, but not limited to, the NPDES Construction General Permit (CGP); the owner, HOA, or other responsible party is responsible for conducting construction and post-construction site inspections. Records of such inspections shall be maintained by the owner, HOA, or other responsible party for a minimum of five (5) years and must be made available to the COW upon request.

COW will maintain said inspection records if such are submitted to COW as required in the Inspection and Maintenance Agreement.

8.3 Enforcement

If the City of Weirton determines that a project is in non-compliance with the City of Weirton's Stormwater Management Ordinance or this Design Manual, COW may direct conformity by proceeding with the appropriate enforcement action. The types of enforcement tools available to COW include a Written Warning or Notice of Violation (NOV) which can be accompanied with a Civil/Criminal Penalty. The enforcement mechanism to be utilized will depend on the circumstances as described in the following sections. See Appendix F for samples of the COW enforcement forms.

8.3.1 Written Warnings

Written Warnings will be issued when deficiencies are first noted. Timeframes for correction will be included on the warning. Written Warnings may be issued for violations that do not involve a safety issue or an imminent threat of serious damage to the environment and/or public or private property.

8.3.2 Notices of Violation (NOV)

If a Written Warning has been previously issued and there is either subsequent non-compliance issues or failure to complete the items on the Written Warning within a specified time period, then a Notice of Violation may be issued. In addition, for violations that involve a safety issue or an imminent threat of serious damage to the environment and/or public or private property, a Notice of Violation may be issued. The following are examples of violations that will warrant a Notice of Violation:

a. Construction activities have been initiated but no BMPs are in place, or the BMPs in place are not functioning to prevent sediment from leaving the site.
b. Failure to have work inspected and approved before restarting construction activities after a stoppage of work.
c. Any violation of Weirton City Code.
d. Discharge of any pollutants to storm sewers, streams, water bodies, etc.

A Notice of Violation (NOV) should at a minimum include, but not be limited to, the following:

1. Nature of the violation(s) and City Code(s) reference.
2. Proposed penalty.
3. Required corrective actions and dates they are required to be completed by.
4. The time period for correcting the violation(s).

Appendices

Appendix A – City of Weirton Stormwater Permit Application

Appendix B – Verification of Receipt of City of Weirton Stormwater Design Manual Form

Appendix C – City of Weirton Inspection and Maintenance Agreement

Appendix D – City of Weirton Construction Site Stormwater Inspection Form

Appendix F – Enforcement Forms

i. Written Warning Form

ii. Notice of Violation Form

Appendix A

City of Weirton Stormwater Permit Application

WEIRTON
West Virginia

Stormwater Permit Application

Date: _____

Applicant Information:

Name: _____

Address: _____

Phone Number: _____

E-mail:_____

Project Information:

Project Address: _____

Tax Map Number: _____

Parcel Number: _____

Contact Person: _____

Phone Number: _____

Description of Project:

Appendix B

Verification of Receipt of City of Weirton

Stormwater Design Manual Form

WEIRTON
West Virginia

200 Municipal Plaza
Weirton, WV 26062
Ph: 304-797-8500

The West Virginia Department of Environmental Protection General Permit requires the City of Weirton, under Minimum Control Measure 4 part B, in conjunction with the permitting review and approval process, to provide developers, engineers, contractors and homeowners with training on the requirements of the MS4 program. This Stormwater Management Design Manual has been created and provided to you for that purpose.

By signing below, I certify that I have received the City of Weirton Stormwater Management Design Manual.

Signature:_____

Print Name:_____

Date:_____

Company:_____

Project:_____

Email:_____

Cell:_____

Appendix C

City of Weirton Inspection and Maintenance Agreement

INSPECTION AND MAINTENANCE AGREEMENT
FOR PRIVATE STORMWATER MANAGEMENT FACILITIES

This agreement, made this ___ day of _____ , 20__ by and between _____hereinafter referred to as the "OWNER(S)" of the following property (hereafter, "the subject property"): _____ and further described on Exhibit A attached hereto and incorporated herein by reference and the City of Weirton, hereinafter referred to as "COW".

WITNESSETH:

We, the OWNER(S), with full authority to execute deeds, mortgages and other covenants, and with intent to make a covenant that runs with the land, do hereby covenant and pledge as follows:

1. The OWNERS(S) of said property shall provide for the maintenance of the storm water management facility serving the subject property and more particularly described on Exhibit B attached hereto and incorporated herein by reference to ensure that the facility is and remains in good working condition in accordance with approved design standards, rules, regulations and applicable laws.

2. The storm water management facility shall be inspected annually by the OWNER(S) to the standards announced by COW, and COW shall be timely provided with an inspection report upon the completion of said inspection.

3. The OWNER(S) of said property shall promptly repair and restore all grade surfaces, walls, drains, structures, vegetation, erosion, and sediment control measures and other protective devices to ensure protection of the receiving stream(s) in the watershed. Such repairs or restorations shall be in accordance with approved plans, rules and regulations and applicable laws and shall be reported to COW in the annual inspection report described above.

4. The OWNER(S) hereby grant COW or its agent the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility.

5. COW shall provide to OWNER(S) written reports of any inspection performed upon or regarding the stormwater management facility serving the subject property.

6. Should the OWNER(S) fail to maintain the facility or otherwise correct any defects within a reasonable period of time following written notice by COW, COW or its designated agent may, with prior notice, enter upon the property and perform the necessary maintenance or repairs to restore the facility to good working condition in accordance with approved design standards, rules, regulations and applicable laws. COW shall assess the OWNER(S) served by the facility, and the OWNER(S) shall pay, the full cost of this work, and any applicable penalties, legal fees and court costs.

7. The OWNER(S) hereby indemnify and save COW harmless from any and all costs and/or claims for damages to persons or property arising from the construction, maintenance, use and repair of the facility, including, but not limited to, repairs performed by COW and/or its agent/contractor pursuant to paragraph 6, above except that OWNER(S) shall not indemnify and save COW harmless from the negligence or wrongful willful acts of COW or its employees, contractors, subcontractors, agents or representatives.

8. This AGREEMENT and the Covenants contained herein shall apply to and bind the OWNER(S) heirs, executors, successors and assigns and shall bind all present and subsequent owners of the subject property with respect to all obligations hereunder during all periods of time that the OWNER(S) or their respective heirs, executors, successors and assigns actually own said property.

9. The OWNER(S) shall record this AGREEMENT in the land records of Brooke or Hancock County, whichever applies to the project site location, West Virginia, and the OWNER(S) shall provide to COW proof of such recording.

10. It is further understood and agreed between the parties hereto that the duties and responsibilities of the OWNER(S) as set forth herein with respect to real estate constitute an affirmative burden on the real estate having the force and effect of a covenant running with the land.

CITY OF WEIRTON

By:_____

Name:_____

Title:_____

OWNER

By:_____

Name:_____

Title:_____

STATE OF WEST VIRGINIA,

COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 20___, by _____.

My commission expires: _____.

_____
Notary Public in and for the
State of West Virginia

STATE OF WEST VIRGINIA,

COUNTY OF _____, to-wit:

The foregoing instrument was acknowledged before me this ____ day of _____, 20___, by _____, appointed representative, acting for and on behalf of the City of Weirton, a municipal corporation.

My commission expires: _____.

_____
Notary Public in and for the
State of West Virginia

This instrument prepared by: City of Weirton
200 Municipal Plaza
Weirton, WV 26062

Appendix D

City of Weirton Construction Site Stormwater Inspection Form

200 Municipal Plaza
Weirton, WV 26062
Ph: 304-797-8500

WEIRTON
West Virginia

STORMWATER MANAGEMENT INSPECTION REPORT

Construction Phase: □ Pre Constr □ Active □ Inactive □ Final Insp

Reason for Site Visit: □ Routine Insp □ Complaint □ Follow Up

Permit #: _____ **Insp Date:** _____ **Insp Time:** _____

Site Name: _____

Project Address: _____

Applicant Name: _____

Office: _____ Cell: _____ Home: _____

Contractor: **Onsite Contact:**

SEDIMENT AND EROSION CONTROL METHODS

S - Satisfactory M - Marginal U - Unsatisfactory
N/A - Not Applicable N - Needed N/O - Not Observed

Construction Exit		Silt Fence / Super Fence		Wattles / Silt Socks	
Tire Washout		Material Wash Out Station		Sediment Traps	
Fuel / Fluids Storage		Inlet Protect/Quality Units		Ditch Checks	
Topsoil Stockpile		Seed and Mulch		Diversions / Swales / Berms	

SITE CONDITIONS

TRACKING:		VEGETATION:		SEDIMENT BASIN:	
CURBING:		DITCHES:		STACK:	
General Housekeeping		INLETS:		OUTLET / PIPE:	

Weather During Visit □ Dry □ Lt. Rain □ Hvy. Rain □ Post Rain Event □ Snow

SITE LOG

Contr. Site BMP Insp Log: □ Active / Updated □ N/A Last Entry Date: _____

WARNINGS

Corrections Needed: □ YES □ NO □ Verbal Warning
If YES, What? _____

Notified: □ Called □ Onsite Who? _____ Time: _____

WRITTEN WARNING □ YES □ NO Due Date: _____

NOV ISSUED: □ YES □ NO Due Date: _____

COMMENTS

*If Follow up, reason for: _____

COMMENTS: _____

INSPECTORS SIGNATURE: _____ Date: _____

Office Use:

□ *Pictures Taken* □ *Call Log updated* □ *Added to Insp Excel Log*

□ *Pictures Filed* □ *Reports Filed* □ *Added to Cust Comp Log*

Appendix E

Enforcement Forms

200 Municipal Plaza
Weirton, WV 26062
Ph: 304-797-8500

WEIRTON
West Virginia

OFFICIAL

STORMWATER
Written Warning

Permit Number: _____
Date of Inspection: _____
Time of Inspection: _____

Project Name: _____
Delivered to: _____
Company: _____

Location : _____

[] Comments:

1 _____

2 _____

3 _____

4 _____

5 _____

Compliance Required By: _____

If the required correction(s) is/are not completed by date and time noted above, a Notice of Violation will be issued.

_____
Issued by Inspector Date

200 Municipal Plaza
Weirton, WV 26062
Ph: 304-797-8500

WEIRTON
West Virginia

OFFICIAL

STORMWATER
NOTICE OF VIOLATION

Permit Number: _____ Name: _____
Date of Inspection: _____ Inspector: _____
Time of Inspection: _____

Location of Violation(s) (provide sufficient information for identification of where violation has occurred) : _____

Description of Violation(s):

Required Corrective Action(s):

Date For Compliance - Penalties: In accordance with Article 956 of the Weirton City Ordinance Code; If the required correction(s) is/are not completed by: _____ a criminal citation for each violation (punishable by fine up to $500 per day) may be issued. Additionally, a "Stop Work" order may be issued until the required correction(s) is/are completed to the satisfaction of the City of Weirton.

Method of Delivery: [ ] Hand Delivered [ ] Certified Mail

Staff Engineer Date

Issued by Inspector Date