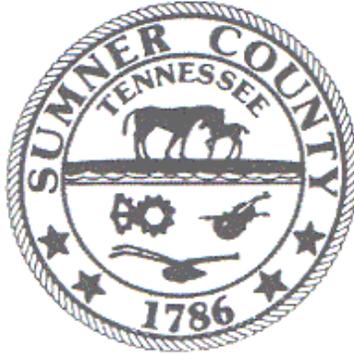


STORMWATER MANAGEMENT RESOLUTION



Sumner County

Originally passed on December 13, 2004 (Resolution
0412-01) and approved as amended on November 16, 2009

And amended 2016

SUMNER COUNTY STORMWATER MANAGEMENT RESOLUTION

This Resolution shall be known as the “Stormwater Management Resolution” for Sumner County, Tennessee (County).

Whereas, inadequate management of runoff from development in a watershed increases stormwater peak flows, volumes, and velocities, erodes and/or silts stream channels, pollutes water, overloads existing drainage facilities, undermines floodplain management in downstream communities, reduces groundwater recharge, and threatens public health and safety. More specifically, stormwater runoff can convey pollutants into and cause higher velocities in receiving waters. The potential impacts of these pollutants and higher velocities include:

1. Changing natural ecosystems through sediment and pollutant deposits which affect the quantity and quality of flowing water, destruction of habitats, and loss of plant and animal life;
2. Posing significant health risks through increased bacteria;
3. Accelerating eutrophication of receiving waters by introducing excessive nutrient loads;
4. Increasing metal deposits creating toxicity for aquatic life;
5. Reducing oxygen levels because of oil, grease and organic matter; and
6. Affecting animal and plant life, adversely, due to changing temperatures of receiving waters.

Whereas, uncontrolled stormwater runoff can increase the incidence of flooding and of floods that occur, endangering roads, other public and private property and human life.

Whereas, altered land surfaces can change the rate and volume of runoff. These changes may result in the following:

1. Erosion and slumping of stream banks, resulting in widening of streams;
2. Undercut root systems;
3. Increased erosion rates; and
4. Uniform and shallow streambeds, providing less varied aquatic habitats.

Whereas, adverse water quality and quantity consequences described above may result in substantial economic losses. Potential losses include, but are not limited to, increased wastewater and water treatment costs, diminished property values, increased flood damages, as well as, state and federal fines associated with water quality violations; and

Whereas, many future problems can be avoided through proper stormwater management whereby a comprehensive and reasonable program of regulations is fundamental to the public health, safety, welfare, and the protection of the citizens and environment; and

Whereas every parcel of real property, both public and private, either uses or benefits from the maintenance of the County's stormwater system; and

Whereas, current and anticipated growth will contribute to and increase the need for improvement and maintenance of the County's stormwater system.

This Resolution is intended to manage the manner in which stormwater is addressed in areas of new development, redevelopment, and significant redevelopment through the course of construction and post-construction to maintain or benefit water quantity, water quality and effects on the quality of life and character of the County.

This Resolution sets general policy, stormwater management program direction, and is supported and enforced through other more detailed regulations, design criteria, and other accepted materials.

The Resolution shall take effect from and after its final passage with the exception of all current construction activities covered under the State of

Tennessee General Permit for Construction Activities that result in a total area of disturbance of one or more acres or less than one acre if it is part of a larger common plan of development or sale.

This Resolution shall take effect after its final passage by the County Commission and will affect all construction activities covered under the State of Tennessee General Permit for Construction Activities. All developments that have construction plans approved prior to passage of this revised Resolution may continue with the original guide lines established in November 2004 or with the approval of the Sumner County Planning and Stormwater Department update to this revised Resolution.

STORMWATER MANAGEMENT

CHAPTER 1

STORMWATER MANAGEMENT RESOLUTION

SECTION

101. General provisions.
102. Definitions.
103. Waivers.
104. Stormwater system design: Construction and Permanent Stormwater Management.
105. Permanent Stormwater Management: operation, maintenance, and inspection.
106. Existing locations and ongoing developments.
107. Illicit Discharges.
108. Enforcement.
109. Penalties.
110. Appeals.

101. General provisions.

(1) Governing.

The *Stormwater Management Resolution* shall govern all properties within the unincorporated jurisdictional limits of Sumner County, Tennessee.

(2) Exemptions.

The following development activities are exempt from the provisions of this article and requirements of providing stormwater management:

- (a) Agricultural land management activities.
- (b) Additions or modifications to existing detached single-family dwellings that disturb less than one acre and not part of a larger common plan of development.
- (c) Developments that do not disturb more than one acre of land use within the total development. A subdivision of more than two lots is not exempt from these regulations. Any development that requires the construction of public utilities and or roads is not exempt. This exception may not be applied for contiguous properties that may have been subdivided and/or are attributed to multiple separate owners. These

exemptions do not apply to any discharge of sediment or other form of water pollution that may leave a small site.

- (3) Purpose. The purpose of this resolution is to:
- (a) Protect, maintain, and enhance the environment of the unincorporated land of Sumner County and the public health, safety and the general welfare of the citizens of the County, by controlling discharges of pollutants to the County's stormwater system and to maintain and improve the quality of the receiving waters into which the stormwater outfalls flow, including, without limitation, lakes, rivers, streams, ponds, wetlands and groundwater of the County;
 - (b) Enable the County to comply with the National Pollution Discharge Elimination System Permit (NPDES) and applicable regulations, 40 CFR 122.26 for stormwater discharges;
 - (c) Allow the County to exercise the powers granted in Tennessee Code Annotated § 68-221-1105, which provides that, among other powers counties have with respect to stormwater facilities, is the power by resolution to:
 - i. Exercise general regulation over the planning, location, construction, and operation and maintenance of stormwater facilities in the County, whether or not owned and operated by the County;
 - ii. Adopt any rules and regulations deemed necessary to accomplish the purposes of this statute, including the adoption of a system of fees for services and permits;
 - iii. Establish standards to regulate the quantity of stormwater discharged and to regulate stormwater contaminants as may be necessary to protect water quality;
 - iv. Review and approve plans and plats for stormwater management in proposed subdivisions or commercial developments;
 - v. Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities;
 - vi. Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit;
 - vii. Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated; and
 - viii. Expend funds to remediate or mitigate the detrimental effects of

contaminated land or other sources of stormwater contamination, whether public or private;

- (4) Administering entity. The County's Planning and Stormwater Department shall administer the provisions of this chapter.
- (5) Right-of-Entry.
 - (a) Designated County staff shall have right-of-entry on or upon the property of any person subject to this Resolution and any permit/document issued hereunder. County staff shall be provided ready access to all parts of the premises for purposes of inspection, monitoring, sampling, inventory, records examination and copying, and performance of any other duties necessary to determine compliance with this Resolution.
 - (b) Where a property, site or facility has security measures in force which require proper identification and clearance before entry into its premises, the person shall make necessary arrangements with its security personnel so that, upon presentation of suitable identification, County staff will be permitted to enter without delay for the purposes of performing specific responsibilities.
 - (c) Designated County staff shall have the right to set up on the property of any person subject to this Resolution such devices, as are necessary, to conduct sampling and/or flow measurements of the property's stormwater operations or discharges.
 - (d) Any temporary or permanent obstruction to safe and easy access to the areas to be inspected and/or monitored shall be removed promptly by the responsible person at the written or verbal request of County staff. The costs of clearing such access shall be borne by the responsible person.
 - (e) The County may inspect the facilities of any user in order to ensure compliance with this Resolution. Such inspection shall be made with the consent of the owner, manager, or signatory official. If such consent is refused, denied, or not promptly addressed, the County staff may seek issuance of proper inspection warrant.
 - (f) The County has the right to determine and impose inspection schedules necessary to enforce provisions of this article. Inspections may include, but are not limited to, the following:
 - i. An initial inspection prior to stormwater management plan approval;
 - ii. A "bury" inspection prior to burial of any underground drainage structure;
 - iii. Erosion control inspections, as necessary, to ensure effective

control of erosion and sedimentation; and

- iv. A final inspection when all work, including installation of stormwater management facilities has been completed.

- (6) Stormwater management Resolution. The intended purpose of this resolution is to safeguard property and public welfare by regulating stormwater drainage and requiring temporary and permanent provisions for its control. It should be used as a planning and engineering implement to facilitate the necessary control of stormwater.

102. Definitions.

For the purpose of this chapter, the following definitions shall apply: Words used in the singular shall include the plural, and the plural shall include the singular; words used in the present tense shall include the future tense. The word “shall” is mandatory and not discretionary. The word “may” is permissive. Words not defined in this chapter shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster’s Dictionary.

- (1) **100-year flood event**. See Base Flood.
- (2) **Active Construction Sites** mean any site that has a permit for grading or other activities (even if actual construction is not proceeding) and any site where construction is occurring regardless of permits acquired.
- (3) **Administrative or Civil Penalties**. Under the authority provided in Tennessee Code Annotated § 68-221-1106, the County declares that any person violating the provisions of this chapter may be assessed a civil penalty by the County of not less than fifty dollars (\$50.00) and not more than five thousand dollars (\$5,000.00) per day for each day of violation. Each day of violation shall constitute a separate violation.
- (4) **Appeal** means a request for a review of an interpretation by the County as it relates to an interpretation of any provision of these regulations. An appeal is taken first to the Director of the Sumner County Planning and Stormwater Department and then to the Stormwater Appeal Committee.
- (5) **Architect** means an architect duly registered, licensed or otherwise authorized by the State of Tennessee to practice in the field of building architecture.

- (6) **As built plans** means drawings depicting conditions as they were actually constructed.
- (7) **Base Flood** means the flood having a one percent chance of being equaled or exceeded in any given year. While this statistical event may occur more frequently, it may also be known as the “100-year flood event”.
- (8) **Best Management Practices (“BMP’s”)** means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the state. BMP’s also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.
- (9) **BMP Treatment Train** means a technique for progressively selecting various stormwater management practices to address water quality, by which groups of practices may be used to achieve a treatment goal while optimizing effectiveness, maintenance needs and space.
- (10) **Borrow Pit** means an excavation from which erodible material (typically soil) is removed to be fill for another site. There is no processing or separation of erodible material conducted at the site. Given the nature of activity and pollutants present at such excavation, a borrow pit is considered a construction activity for the purpose of this permit.
- (11) **Bridge** means a man made conveyance of stormwater flows.
- (12) **Buffer Management Plan** means a written integrated plan outlining the utilitarian, ecological and aesthetic objectives for a specific landscape, and the landscape management practices and products that will be employed.
- (13) **Buffer Zone** means a setback from the top of water body’s bank of undisturbed vegetation, including trees, shrubs and herbaceous vegetation; enhanced or restored vegetation; or the re-establishment of native vegetation bordering streams, ponds, wetlands, springs, reservoirs or lakes, which exists or is established to protect those water bodies. Buffer zones are not primary sediment control measures and should not be relied on as such.
- (14) **Building** means any structure built for support, shelter, or enclosure for any occupancy or storage.
- (15) **Channel** means a natural or artificial watercourse with a definite bed and banks that conducts flowing water continuously or periodically.

- (16) **Common plan of development or sale** is broadly defined as any announcement or documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot. A common plan of development or sale identifies a situation in which multiple areas of disturbance are occurring on contiguous areas. This applies because the activities may take place at different times, on different schedules, by different operators.
- (17) **County** means Sumner County, Tennessee.
- (18) **Design stormevent** means a hypothetical stormevent, of a given frequency interval and duration, used in the analysis and design of a stormwater facility. The estimated design rainfall amounts, for any return period interval (i.e., 2-yr, 5-yr, 25-yr, etc.,) in terms of either 24-hour depths or intensities for any duration, can be found by accessing the following NOAA National Weather Service Atlas 14 data for Tennessee: http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=tn. Other data sources may be acceptable with prior written approval by TDEC Water Pollution Control.
- (19) **Detention** means the temporary delay of stormwater runoff prior to discharge into receiving waters.
- (20) **Developed Land** means land that which has been improved for the purpose of residential, commercial or industrial use.
- (21) **Developer** means any individual, firm, corporation, association, partnership, or trust involved in commencing proceedings to effect development of land for him or others. This includes any legal or engineering representative of the “developer”.
- (22) **Development** means any man made change to improved or unimproved property, including but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials (as defined as materials of like nature stored in whole or in part for more than six months).
- (23) **Discharge** means dispose, deposit, spill, pour, inject, seep, dump, leak or place by any means, or that which is disposed, deposited, spilled, poured, injected, seeped, dumped, leaked, or placed by any means including any

direct or indirect entry of any solid or liquid matter into the municipal separate storm sewer system.

- (24) **Disturb** means to alter the natural or predeveloped ground surface in such a way that the erosion potential of the ground surface is increased.
- (25) **Drainage Basin** means a part of the surface of the earth that is occupied by and provides surface water runoff into a stormwater management system (MS4 or Waters of the State), which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.
- (26) **Drainage Well** means a bored, drilled, driven, dug or naturally occurring shaft or hole with a depth greater than the largest surface dimension; used to drain surface fluid, primarily storm runoff, into a subsurface or karst formation; also known as “dry well” or “sinkhole”.
- (27) **Easement** means an acquired privilege or right of use or enjoyment that a person, party, firm, corporation, city, county or other legal entity has in the land of another.
- (28) **Engineer** or **Professional Engineer** means an engineer duly registered, licensed or otherwise authorized by the State of Tennessee to practice in the field of civil engineering.
- (29) **Erosion** means the removal of soil particles by the action of water, wind, ice or other geological agents, whether naturally occurring or acting in conjunction with or promoted by human activities or effects.
- (30) **Erosion Prevention** means practices implemented to prevent, through shielding, binding or other mechanism(s), the suspension of soil particles in stormwater runoff, often associated with erosion prevention and sediment control.
- (31) **Erosion prevention and sediment control plan (EPSCP)** means a written plan (including drawings or other graphic representations) that is designed to minimize the erosion and sediment runoff at a site during construction activities.
- (32) **Exceptional Tennessee Waters** means surface waters of the State of Tennessee that satisfy characteristics of exceptional Tennessee waters as listed Chapter 1200-4-30.06 of the official compilation – Rules and Regulations of the State of Tennessee. Characteristics include waters designated by the Water Quality Control Board as Outstanding National

Resource Waters (ONRW); waters that provide habitat for ecologically significant populations of certain aquatic or semi-aquatic plants or animals; waters that provide specialized recreational opportunities; waters that possess outstanding scenic or geologic values; or waters where existing conditions are better than water quality standards.

- (33) **Existing Grade** means the slope or elevation of an existing ground surface prior to cutting or filling.
- (34) **Existing Construction** means any construction related activity for which the “start of construction” commenced before the effective date of these regulations or any construction site covered under the State of Tennessee General Permit for construction site runoff.
- (35) **Fee Table** means a compilation of fees associated with this Resolution.
- (36) **Fill** means the portion of land surface or area to which soil, rock, or other materials have been or will be added; height above original ground surface after the material has been or will be added.
- (37) **Finished Grade** means the final slope or elevation of the ground surface after cutting or filling.
- (38) **Flood or Flooding** means water from a river, stream, watercourse, lake, or other body of standing water that temporarily overflows and inundates adjacent lands and which may affect other lands and activities through increased surface water levels and/or increased groundwater level.
- (39) **Flood Insurance Rate Map (FIRM)** means an official map of the County on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the County.
- (40) **Flood Insurance Study** means the official report provided by the Federal Emergency Management Agency. The report contains elevations of the base flood, floodway widths, flood velocities, and flood profiles.
- (41) **Floodplain** means the relatively flat or lowland area adjoining a river, stream, watercourse, lake or other body of standing water which has been or may be covered temporarily by floodwater. For purposes of this resolution, the floodplain is defined as the 100-year floodplain having a one percent chance of being equaled or exceeded in any given year.

- (42) **Flood proofing** means a combination of structural provisions, changes, or adjustments to properties and structures, subject to flooding, primarily for the reduction or elimination of flood damages to properties, water and sanitary facilities, structures, and contents of buildings in a flood hazard area.
- (43) **Floodway** means the portion of the stream channel and adjacent floodplain required for the passage or conveyance of a 100-year peak flood discharge. The floodway boundaries are placed to limit encroachment in the floodplain so that a 100-year peak flood discharge can be conveyed through the floodplain without materially increasing (less than one foot) the water surface elevation at any point and without producing hazardous velocities or conditions. This is an area of significant depth and velocity and due consideration should be given to effects of fill, loss of cross sectional flow area, and resulting increased water surface elevations.
- (44) **Floodway Fringe** means the portion of the floodplain lying outside the floodway boundaries.
- (45) **Floor** means the top surface of an enclosed area in a building (including basement), i.e. top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.
- (46) **Functionally Dependent Facility** means a facility that cannot be used for its intended purpose unless it is located or carried out in proximity to water, such as docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.
- (47) **Grading.** See Land disturbing activity.
- (48) **Greenway Easement** means property that has been designated for use by the County in support of greenway activities. This may include, but does not require, the use of trails or walkways to provide access to the general public. A greenway that is not defined with an easement may have restricted access (i.e., Not accessible to the general public).
- (49) **Highest Adjacent Grade** means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.
- (50) **Historic Structure Designation** means any structure that is listed individually in the National Register of Historic Places (a listing maintained

by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district; or listed individually on a state or local inventory of historic places which have been approved by the Secretary of the Interior.

- (51) **Hotspot** means an area where land use or activities generate highly contaminated runoff, with concentrations of pollutants in excess of those typically found in stormwater. The following land uses and activities are deemed stormwater hot spots, but that term is not limited to only these land uses:
- (a) vehicle salvage yards and recycling facilities
 - (b) vehicle service and maintenance facilities
 - (c) vehicle and equipment cleaning facilities
 - (d) fleet storage areas (bus, truck, etc.)
 - (e) industrial sites (included on Standard Industrial Classification code list)
 - (f) marinas (service and maintenance)
 - (g) public works storage areas
 - (h) facilities that generate or store hazardous waste materials
 - (i) commercial container nursery
 - (j) restaurants and food service facilities
 - (k) other land uses and activities as designated by an appropriate review authority
- (52) **Illicit connections** means illegal and/or unauthorized connections to the municipal separate stormwater system whether or not such connections result in discharges into that system.
- (53) **Illicit discharge** means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater and not specifically exempted under Section 107(2).
- (54) **Impervious Surface** means a term applied to any ground or structural surface that water cannot penetrate or through which water penetrates with great difficulty.
- (55) **Improved sinkhole** means a natural surface depression that has been altered in order to direct fluids into the hole opening. Improved sinkhole is a type of injection well regulated under TDEC's Underground Injection Control (UIC) program. Underground injection constitutes an intentional disposal of waste

waters in natural depressions, open fractures, and crevices (such as those commonly associated with weathering of limestone).

- (56) **Inspector** means an inspector is a person that has successfully completed (has a valid certification from) the “Fundamentals of Erosion Prevention and Sediment Control Level I” course or equivalent course. An inspector performs and documents the required inspections, paying particular attention to time-sensitive permit requirements such as stabilization and maintenance activities. An inspector may also have the following responsibilities:
- (a) oversee the requirements of other construction-related permits, such as Aquatic Resources Alteration Permit (ARAP) or Corps of Engineers permit for construction activities in or around waters of the state;
 - (b) update field SWPPP’s;
 - (c) conduct pre-construction inspection to verify that undisturbed areas have been properly marked and initial measures have been installed; and
 - (d) inform the permit holder of activities that may be necessary to gain or remain in compliance with the Construction General Permit (CGP) and other environmental permits.
- (57) **Land disturbance permit** means a permit issued by the County that allows land disturbing activities to occur within the unincorporated area of Sumner County in accordance with this resolution. In some instances, additional local, state or federal permitting may also be required.
- (58) **Land disturbing activity** means any activity on property that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land-disturbing activities include, but are not limited to, development, re-development, demolition, construction, reconstruction, clearing, grading, filling, and excavation.
- (59) **Landscape Architect** means a landscape architect duly registered, licensed or otherwise authorized by the State of Tennessee to practice in the field of Landscape Architecture.
- (60) **Land Surveyor** means a land surveyor duly registered, licensed or otherwise authorized by the State of Tennessee to practice in the field of land surveying.
- (61) **Lowest Floor** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for

parking of vehicles, building access, or storage and in an area other than the basement area, is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the elevation design requirements of these regulations.

- (62) **Maintenance** means any activity that is necessary to keep a stormwater facility in good working order so as to function as designed. Maintenance shall include complete reconstruction of a stormwater facility if reconstruction is needed in order to restore the facility to its original operational design parameters. Maintenance shall also include the correction of any problem on the site property that may directly impair the functions of the stormwater facility.
- (63) **Maintenance agreement** means a document recorded in the land records that acts as a property deed restriction, and which provides for long-term maintenance of stormwater management practices.
- (64) **Master Plan** means any study or plan prepared by or accepted by the County that identifies solutions to water quality or quantity issues. The master plan is also known as Basin Study or Plan, Flood Management Study or Plan, or Water Quality Management Study or Plan.
- (65) **Municipal separate storm sewer system (MS4)** (*Sumner County Planning and Stormwater Department is the MS4*) means the conveyances owned or operated by the County for the collection and transportation of stormwater, including the roads and streets and their drainage systems, catch basins, curbs, gutters, ditches, man-made channels, and storm drains, and where the context indicates, it means the governing body that owns the separate storm sewer system.
- (66) **National Pollutant Discharge Elimination System permit** or an NPDES permit means a permit issued pursuant to 33 U.S.C. 1342.
- (67) **Native Vegetation** means the normal vegetation that grows or would reestablish normally after a disturbance. This does not include Invasive Exotic Plants.
- (68) **Natural Ground Surface** means ground surface in its original state before any grading, excavating, or filling. See existing grading.
- (69) **New Construction** means structures for which the "state of construction" commenced on or after the effective date of these regulations. The term also includes any subsequent improvements to such structures.

- (70) **New Development Projects** means new and redevelopment projects that disturb equal to or greater than one acre, or less than one acre if part of a larger common plan of development or sale.
- (71) **NOT** means notice of termination of construction activity.
- (72) **NPDES MS4 Phase II Program** means National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) programs the Environmental Protection Agency stormwater program that focuses on smaller communities such as Sumner County, Tennessee.
- (73) **NRCS** means the National Resources Conservation Service, formerly known as the Soil Conservation Service (SCS).
- (74) **Off-site facility** means a structural SCM located outside the subject property boundary described in the permit application for land development activity.
- (75) **On-site facility** means a structural SCM located within the subject property boundary described in the permit application for land development activity.
- (76) **One Hundred-Year Flood** means a flood that has an average frequency of occurrence of once in one hundred (100) years, determined from an analysis of floods for a particular watershed and other watersheds in the same general region. Statistically, it has a one percent chance of occurring in any given year. See base flood and 100-year flood event.
- (77) **Ordinary high water mark** means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
- (78) **Passive recreation** means recreational activities that require limited physical exertion on behalf of the participant. Examples of passive recreation activities include bird watching, walking and photography.
- (79) **Peak flow** means the maximum instantaneous rate of flow of water at a particular point resulting from a storm event.
- (80) **Permittee** means any person, firm, or any other legal entity to which a land disturbance, grading, building, or other related permit is issued in accordance with County regulations.

- (81) **Person** means any and all persons, natural or artificial, including any individual, firm or association and any municipal or private corporation organized or existing under the laws of this or any other state or country.
- (82) **Priority construction activity** shall be defined by the permittee, but shall include, at a minimum, those construction activities discharging directly into, or immediately upstream of, waters the state recognizes as unavailable parameters (for siltation or habitat alteration) or Exceptional Tennessee Waters. The permittee may define additional priority criteria to expand the priority construction program.
- (83) **PUD** means a planned unit development.
- (84) **Qualified Hydrologic Professional** or **QHP** means a person who is duly registered, licensed or otherwise authorized by the State of Tennessee to perform hydrologic determinations and is certified as a Tennessee Qualified Hydrologic Professional.
- (85) **Redevelopment** means development improvements that have a value less than 50% of the current assessed value and/or increases the floor area by less than 25%. Demolition and reconstruction is considered development and not redevelopment. Note: this is different than significant redevelopment.
- (86) **Regional Stormwater Management Facility** means a device or management practice, typically but not always a detention or retention pond. The facility may serve multiple homogenous land use areas or an area of various land uses.
- (87) **Retention** means the prevention of stormwater runoff from directly discharging into receiving waters. Examples include systems which discharge through percolation, exfiltration, filtered bleed-down and evaporation processes.
- (88) **Riparian areas** means ecosystems that occur along watercourses or water bodies. They are distinctly different from the surrounding lands because of unique soil and vegetation characteristics that are strongly influenced by free or unbound water in the soil. Riparian ecosystems occupy the transitional area between the terrestrial and aquatic ecosystems. Typical examples would include floodplains, stream banks and NPDES General Permit For Discharges from Small Municipal Separate Storm Sewer Systems (MS4) 40 lake shores.

- (89) **Runoff** means that portion of the precipitation on a drainage area that is discharged from the area into the municipal separate storm sewer system.
- (90) **Sediment** means solid material, both inorganic and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.
- (91) **Sediment Control** means practices implemented to manage through filtering, settling or other mechanism(s) to remove suspended particles (soil, organic, or mineral) from water, often associated with erosion prevention and sedimentation control.
- (92) **Sedimentation** means soil particles suspended in stormwater that can settle in stream beds.
- (93) **Site** means all contiguous land and bodies of water in one ownership, grades or proposed for grading or development as a unit, although not necessarily at one time.
- (94) **Slope** means degree of deviation of a surface from the horizontal, usually expressed in percent or ratio.
- (95) **Soil** means all unconsolidated mineral and organic material of any origin that overlies bedrock and that can be readily excavated.
- (96) **Soil Engineer** means a professional engineer who is qualified, licensed, and/or registered by the appropriate authority to practice applied soil mechanics and foundation engineering.
- (97) **Soils Report** means a study of soils on a subject property with the primary purpose of characterizing and describing the soils. The soils report shall be prepared by a qualified soils engineer, who shall be directly involved in the soil characterization either by performing the investigation or by directly supervising employees conducting the investigation.
- (98) **Stabilization** means providing adequate measures, vegetative and/or structural, that will prevent erosion from occurring.
- (99) **Stormwater** means stormwater runoff, snow melt runoff, surface runoff, street wash waters related to street cleaning or maintenance, infiltration and drainage.
- (100) **Stormwater Control Measure (SCM)** means the measures meant to directly affect the flow of stormwater and/or contaminants, and that have defined

specifications and standards. These measures have one or both of two parts: 1) a defined surface management to encourage infiltration and contaminant removal; and/or 2) a clear Protocol defining engineering design, installation, and maintenance. A measure such as a “good forest” has just a Management, a Measure such as a manufactured stormwater treatment device has just an engineering Protocol, and a “bioretention cell” has both.

- (101) **Stormwater management** means the programs to maintain quality and quantity of stormwater runoff to pre-development levels.
- (102) **Stormwater management facilities** means the drainage structures, conduits, ponds, ditches, combined sewers, sewers, and all device appurtenances by means of which stormwater is collected, transported, pumped, treated or disposed of.
- (103) **Stormwater management plan** means the set of drawings and other documents that comprise all the information and specifications for the programs, drainage systems, structures, BMP’s, SCM’s, concepts and techniques intended to maintain or restore quality and quantity of stormwater runoff to pre-development levels.
- (104) **Stormwater Pollution Prevention Plan (SWPPP)** means a written plan that includes site map(s), an identification of construction/contractor activities that could cause pollutants in the stormwater, and a description of measures or practices to control these pollutants. It must be prepared and approved before construction begins. In order to effectively reduce erosion and sedimentation impacts, Best Management Practices (BMP’s) must be designed, installed, and maintained during land disturbing activities. The SWPPP should be prepared in accordance with the current Tennessee Erosion and Sediment Control Handbook. The handbook is intended for use during the design and construction of projects that require erosion and sediment controls to protect waters of the state. It also aids in the development of SWPPPs and other reports, plans, or specifications required when participating in Tennessee's water quality regulations. All SWPPP’s shall be prepared and updated in accordance with Section 3 of the General NPDES Permit for Discharges of Stormwater Associated with Construction Activities.
- (105) **Stormwater runoff** means flow on the surface of the ground, resulting from precipitation.

- (106) **Stream** means surface water that is not a wet weather conveyance as determined by a Qualified Hydrological Professional and approved by the County.
- (107) **Stripping** means any activity that removes or significantly disturbs the vegetative surface cover, including clearing and grubbing operations.
- (108) **Structural SCM's** means facilities that are constructed to provide control of permanent stormwater runoff.
- (109) **Structure** means anything constructed or erected, the use of which requires a more or less permanent location on or in the ground.
- (110) **Substantial Improvement** means any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place during the life of a a structure, in which the cumulative cost equals or exceeds 50% of the market value of the structure. The market value of the structure should be (1) the appraised value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure.
- (111) **Surface water** includes waters upon the surface of the earth in bounds created naturally or artificially including, but not limited to, streams, other water courses, lakes and reservoirs.
- (112) **Top of bank** means the Ordinary high water mark and break in slope for a water resource.
- (113) **Tributary Area** means the area upstream of a specified point including all overland flow that directly or indirectly connects down-slope oto the specified point. This is also referred to as drainage area.
- (114) **Unavailable Paremeters Waters** means any stream segment that has been identified by the division as failing to support classified uses. This term was previously referred to as impaired waters. The Division of Water Resources periodically compiles a list of such waters known as the 303(d) List.
- (115) **Waste site** means an area where waste material from a construction site is deposited. When the material is erodible, such as soil, the site must be treated as a construction site.

- (116) **Water Quality Buffer** see **Buffer Zone**.
- (117) **Water Quality Treatment Volume (WQTV)** means the runoff generated from impervious surfaces during the first inch of a rainfall event.
- (118) **Water Resources** means streams, seeps, springs, wetlands, sinkholes, lakes or channels, as determined by the County. It may be necessary to use methodology from Standard Operating Procedures for Hydrologic Determinations (see rules to implement a certification program for Qualified Hydrologic Professionals, TN Rules Chapter 0400-40-17) to identify a community water.
- (119) **Watercourse** means a permanent or intermittent stream or other body of water, either natural or man-made, which gathers or carries surface water.
- (120) **Watershed** means all the land area that contributes runoff to a particular point along a waterway.
- (121) **Waters** or waters of the state means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.
- (122) **Wetland(s)** means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands include, but are not limited to, swamps, marshes, bogs, and similar areas.
- (123) **Wet weather conveyances** are man-made or natural watercourses, including natural watercourses that have been modified by channelization, that flow only in direct response to precipitation runoff in their immediate locality and whose channels are above the groundwater table and are not suitable for drinking water supplies; and in which hydrological and biological analyses indicate that, under normal weather conditions, due to naturally occurring ephemeral or low flow, there is not sufficient water to support fish or multiple populations of obligate lotic aquatic organisms whose life cycle includes an aquatic phase of at least two months. (Rules and Regulations of the State of Tennessee, Chapter 1200-4-3-.04(3)).

103. Waivers.

- (1) General. No waivers will be granted any construction or site work project. All construction and site work shall provide for stormwater management as required by this resolution. However, alternatives to the 2010 NPDES General Permit for Discharges from Small Municipal Separate Storm Sewer Systems primary requirement for on-site permanent stormwater management may be considered, if:
 - (a) Management measures cannot be designed, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the first inch of every rainfall event preceded by 72 hours of no measurable precipitation. This first inch of rainfall must be 100% managed with no discharge to surface waters.
 - (b) It can be demonstrated that the proposed development is not likely to impair attainment of the objectives of this resolution. Alternative minimum requirements for on-site management of stormwater discharges have been established in a stormwater management plan that has been approved by the County.
- (2) Downstream damage, etc. prohibited. In order to receive consideration, the applicant must demonstrate to the satisfaction of the County that the proposed alternative will not lead to any of the following conditions downstream:
 - (a) Deterioration of existing culverts, bridges, dams, and other structures;
 - (b) Degradation of biological functions or habitat;
 - (c) Accelerated streambank or streambed erosion or siltation;
 - (d) Increased threat of flood damage to public health, life or property.
- (3) Land disturbance permit not to be issued where alternatives requested. No land disturbance permit shall be issued where an alternative has been requested until the alternative is approved. If no alternative is approved, the plans must be resubmitted with a stormwater management plan that meets the primary requirement for on-site stormwater management.

104. Stormwater system design: Construction and Permanent stormwater management.

- (1) MS4 Stormwater design or BMP manuals:

- (a) Adoption. The County adopts as its MS4 stormwater design and best management practices (BMP) manuals for stormwater management, construction and permanent, the following publications, which are incorporated by reference in this resolution as if fully set out herein:
 - i. TDEC Erosion Prevention and Sediment Control Handbook; most current edition.
 - ii. The Tennessee Permanent Stormwater Management and Design Guidance Manual, most current edition.
 - iii. A collection of MS4 approved BMP's developed or collected by the MS4 that comply with the goals of the MS4 permit and/or the CGP, such as the Nashville-Davidson County Metro Stormwater Management Manual (BEST MANAGEMENT PRACTICES (BMP) MANUAL - Volume 4), most current edition.
 - (b) The County's BMP manual(s) include a list of acceptable BMP's including the specific design performance criteria and operation and maintenance requirements for each stormwater practice. These include County approved BMP's for permanent stormwater management including green infrastructure BMP's.
 - (c) The County manual(s) may be updated and expanded from time to time, at the discretion of the governing body of the County, upon the recommendation of the County, based on improvements in engineering, science, monitoring and local maintenance experience, or changes in federal or state law or regulation. Stormwater facilities that are designed, constructed and maintained in accordance with these BMP criteria will be presumed to meet the minimum water quality performance standards.
- (2) Land development: This section shall be applicable to all land development, including, but not limited to, site plan applications, subdivision applications, land disturbance applications. These standards apply to any new development or redevelopment site that meets one or more of the following criteria:
- (a) One (1) acre or more;
 - i. New development that involves land development activities of one (1) acre or more;

- ii. Redevelopment that involves other land development activity of one (1) acre or more;
 - (b) Projects or developments of less than one acre of total land disturbance may also be required to obtain a land disturbance permit under this resolution if:
 - i. the County has determined that the stormwater discharge from the site is causing, contributing to, or is likely to contribute to a violation of a state water quality standard;
 - ii. the County has determined that the stormwater discharge is, or is likely to be a significant contributor of pollutants to waters of the state;
 - iii. Changes in state or federal rules require sites of less than one acre that are not part of a larger common plan of development or sale to obtain a land disturbance permit;
 - iv. Any new development or redevelopment, regardless of size, that is defined by the County to be a hotspot land use;
 - v. Development and redevelopment within the floodplain;
 - vi. Other comparable activities as determined by the County (e.g. swimming pool construction, increased impervious area); or
 - vii. Minimum applicability criteria set forth in item (a) above if such activities are part of a larger common plan of development, even multiple, that is part of a separate and distinct land development activity that may take place at different times on different schedules.
- (3) Land disturbance permit applications: Land disturbance permit applications shall not be approved unless the following conditions are met:
- (a) Forms provided in Appendix A of this resolution must be completed and submitted with the land disturbance permit application. These forms may be altered as deemed necessary by the County to modify the information required to be provided by the applicant provided that such modification preserves the intent of this resolution and does not alter the design criteria or the water quality standards contained

therein. The permit fee shall accompany the application for a permit (see Fee Table for current amount).

- (b) The County will review each application for a land disturbance permit to determine its conformance with the provisions of this resolution. Within 30 days after receiving an application, the County shall provide one of the following responses in writing:
 - i. Approval of the permit application;
 - ii. Approval of the permit application, subject to such reasonable conditions as may be necessary to secure substantially the objectives of this resolution, and issue the permit subject to these conditions; or
 - iii. Denial of the permit application, indicating the reason(s) for the denial.
- (c) If the County has granted conditional approval of the permit, the applicant shall submit a revised plan that conforms to the conditions established by the County. However, the applicant shall be allowed to proceed with his land disturbing activity so long as it conforms to conditions established by the County.
- (d) No development activities will be allowed until the land disturbance permit has been approved.
- (e) Approved permit must be displayed in a conspicuous location on all active construction sites.
- (f) The following activities are exempt from the permit requirement:
 - i. Any emergency activity that is immediately necessary for the protection of life, property, or natural resources;
 - ii. Existing nursery and agricultural operations conducted as a permitted main or accessory use.
 - iii. Any logging or agricultural activity that is consistent with an approved farm conservation plan or a timber management plan prepared or approved by the appropriate federal or state agency.
 - iv. Additions or modifications to existing single family structures provided that the land to be disturbed measures less than one (1) acre and poses no unique threat to water, or public health or safety.
 - v. Or for other comparable activities as determined by the County.
- (g) Permit duration. Every land disturbance permit shall expire and become null and void if substantial work authorized by such permit has not commenced within one hundred eighty (180) calendar days of

issuance, or is not complete within eighteen (18) months from the date of the commencement of construction. Permit extension requests may be made in writing to the County.

- (4) Submittal of a copy of the NOC, SWPPP and NOT to the County: Permittees who discharge stormwater through an NPDES-permitted municipal separate storm sewer system (MS4) who are not exempted in section 1.4.5 (Permit Coverage through Qualifying Local Program) of the Construction General Permit (CGP) must provide proof of coverage under the Construction General Permit (CGP); submit a copy of the Stormwater Pollution Prevention Plan (SWPPP); and at project completion, a copy of the signed notice of termination (NOT) to the County. Copies of additional applicable local, state or federal permits (i.e.: ARAP, etc.) must also be provided upon request. If requested, these permits must be provided before the issuance of any land disturbance permit or the equivalent.
- (5) A Professional Engineer or Landscape Architect licensed in the State of Tennessee shall stamp all proposed plans for construction in the County.
 - (a) This shall include proposed improvements or modifications to the existing or new stormwater infrastructure, erosion prevention and sediment control practices, and other related improvements or modifications.
 - (b) The engineer or landscape architect must have the Tennessee Department of Environment and Conservation Level I and II erosion and sediment control certifications to prepare the erosion and sediment control plans.
- (6) General plan requirements. The applicant must prepare general plan information for all sites requiring a land disturbance permit. The plans shall also conform to the requirements found in the MS4 BMP manual and Appendix A, and shall include at least the following:
 - (a) A general description of existing land cover. Individual trees and shrubs do not need to be identified.
 - (b) Project description - Briefly describe the intended project and proposed land disturbing activity including number of units and structures to be constructed and infrastructure required.
 - (c) A topographic map with contour intervals of two (2) feet or less showing present conditions and proposed contours resulting from land disturbing activity. The map shall be set to a scale of 1 inch = 50 feet or an appropriate scale approved by the County, shall extend a minimum of 100 feet beyond the limits of the proposed development, and shall include sufficient surrounding topography and structures to ascertain adjacent off-site drainage patterns.

- (d) Existing contours and conditions (i.e. existing topography and showing the outline of existing structures and pavement indicating any pavement or structures to be removed).
 - (e) Existing drainage network that includes locations of existing drainage ways as well as water quality buffers as applicable within and adjacent to the property.
 - (f) All other existing significant natural and artificial features.
 - (g) Proposed contours and conditions (i.e. proposed topography tying into existing topography and showing the outline of proposed structures and pavement). This will include approximate limits of proposed clearing, grading and filling as well as approximate limits of proposed land disturbing activity (i.e., a boundary line encompassing the location(s) of the proposed land disturbance activity).
 - (h) Proposed structures: location and identification of any proposed additional buildings, structures or development on the site.
 - (i) Proposed drainage network, including proposed culvert or waterway sizes.
 - (j) Breakdown of existing and proposed impervious surface areas in table format.
 - (k) Locations of utility, roadway, and drainage easements within the property.
 - (l) Designated floodways and floodplains, showing elevations.
- (7) Permanent stormwater management plan requirements: A permanent stormwater management plan will be required for all sites where a land disturbance permit is required. The County encourages regional stormwater quantity and/or quality management practices, serving 40 to 300 acres of tributary area, which may be consistently and efficiently managed and maintained. These types of practices will be encouraged in order to replace or reduce the implementation of on-site stormwater quantity and/or quality management practices. For sites where a stormwater management plan is necessary, the applicant must prepare a Stormwater Management Plan for the proposed land disturbing activity. The Stormwater Management Plan shall include the plan information in the General Plan Information requirements as well as the following items:
- (a) Location, size and layout of proposed stormwater improvements and proposed drainage network, including supporting hydrologic/hydraulic calculations.
 - (b) Proposed construction sequence for permanent stormwater management measures including description of how the measure will be protected from construction site runoff.

- (c) Approximate flows of existing (pre-developed) and permanent (post-developed) stormwater leaving any portion of the site. Existing and permanent hydrologic and hydraulic stormwater runoff calculations must be provided which compare existing runoff rates to permanent runoff rates for the 2-year through 100-year storm events (2, 5, 10, 25, 50, 100).
- (d) Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in the MS4 BMP manual. These calculations must show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this chapter and the guidelines of the MS4 BMP manual. Such calculations shall include:
 - i. A description of the design storm frequency, duration, and intensity where applicable;
 - ii. Time of concentration;
 - iii. Soil curve numbers or runoff coefficients including assumed soil moisture conditions;
 - iv. Peak runoff rates and total runoff volumes for each watershed area;
 - v. Infiltration rates, where applicable;
 - vi. Culvert, stormwater sewer, ditch and/or other stormwater conveyance capacities;
 - vii. Flow velocities;
 - viii. Data on the increase in rate and volume of runoff for the design storms referenced in the MS4 BMP manual; and
 - ix. Documentation of sources for all computation methods and field test results.
- (e) Location, size and layout of proposed permanent structural and non-structural stormwater SCMs that address quantity and quality improvements.
- (f) Approximate flows leaving site after construction and incorporating water run-off mitigation measures. The evaluation must include projected effects on property adjoining the site and on existing drainage facilities and systems. The plan must address the adequacy of outfalls from the development: when water is concentrated, what is the capacity of waterways, if any, accepting stormwater off-site; and what measures, including infiltration, sheeting into buffers, etc., are

going to be used to prevent the scouring of waterways and drainage areas off-site, etc.

- (g) A description of on-site measures to be taken to recharge surface water into the ground water system through runoff reduction practices, including depth of rainfall infiltrated, evapotranspired, harvested and/or used with no discharge to surface waters. If applicable, include discussion of other SCMs/methods in use to meet County permanent stormwater requirements.
- (h) Where SCMs are employed that rely on infiltration as a primary mechanism, a geotechnical study will be required to verify infiltration rates. If a stormwater management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles and soil survey reports. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.
- (i) Where an increase in the permanent runoff rate is realized, a detailed downstream analysis will be required, and the increase in stormwater runoff must be mitigated. The downstream analysis must be conducted on all components of the receiving system to the point at which the total subject site represents 10% or less of the encompassing watershed. The analysis shall be performed for the 2-year through 100-year storm events (2, 5, 10, 25, 50, 100). (The County may request analysis of a shorter duration storm event as well). The analysis shall evaluate the effects of the post-developed flow increase on downstream receiving properties and structures including but not limited to roadside swales, culverts, curb and area drains, etc. The analysis shall demonstrate no adverse impacts upon the downstream receiving properties and structures including adequate hydraulic capacity of the structures. Mitigation of increased flows can consist of onsite detention, longer onsite flow lengths, and/or infiltration.
- (j) Existing surface water drainage including streams, ponds, culverts, ditches, sink holes, wetlands; and the type, size, elevation, etc., of nearest upstream and downstream drainage structures.
- (k) The design and planning of all permanent stormwater management facilities shall include detailed maintenance and repair procedures to ensure their continued performance. These plans 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 program and the need for revisions or additional maintenance procedures shall be included in the plan. A permanent elevation benchmark shall be identified in the plans to assist in the periodic inspection of the facility.

- (l) Infiltration basins, detention ponds, bioretention areas or rain gardens, and other comparable SCMs that the County deems necessary must be contained within a maintenance easement. Maintenance easements must be recorded on the plat and must completely encompass all components of each SCM as well as the access to the SCM.
 - (m) All permanent stormwater facilities must be located in drainage easements.
- (8) Stormwater Pollution Prevention Plan (SWPPP) for Construction Stormwater Management: The applicant must prepare a stormwater pollution prevention plan for all construction activities that complies with Section 104(9) below. The purpose of this plan is to identify construction/contractor activities that could cause the release of pollutants in the stormwater, and to describe measures or practices to control these pollutants during project construction.
- (9) Stormwater Pollution Prevention Plan requirements: The erosion prevention and sediment control plan component of the SWPPP shall accurately describe the potential for soil erosion and sedimentation problems resulting from land disturbing activity and shall explain and illustrate the measures that are to be taken to control these problems. The length and complexity of the plan is to be commensurate with the size of the project, severity of the site condition, and potential for off-site damage. If necessary, the plan shall be phased so that changes to the site during construction that alter drainage patterns or characteristics will be addressed by an appropriate phase of the plan. The plan shall be sealed by a registered professional engineer or landscape architect licensed in the state of Tennessee. The plan shall also conform to the requirements found in the MS4 BMP manual, and shall include at least the following:

- (a) Project description - Briefly describe the intended project and proposed land disturbing activity including number of units and structures to be constructed and infrastructure required.
- (b) A topographic map with contour intervals of two (2) feet or less showing present conditions and proposed contours resulting from land disturbing activity.
- (c) All existing drainage ways, including intermittent and wet-weather. Include any designated floodways or flood plains.
- (d) A general description of existing land cover. Individual trees and shrubs do not need to be identified.
- (e) Stands of existing trees as they are to be preserved upon project completion, specifying their general location on the property. Differentiation shall be made between existing trees to be preserved, trees to be removed and proposed planted trees. Tree protection measures must be identified, and the diameter of the area involved must also be identified on the plan and shown to scale. Information shall be supplied concerning the proposed destruction of exceptional and historic trees in setbacks and buffer strips, where they exist. Complete landscape plans may be submitted separately. The plan must include the sequence of implementation for tree protection measures.
- (f) Approximate limits of proposed clearing, grading and filling.
- (g) Approximate flows of existing stormwater leaving any portion of the site.
- (h) A general description of existing soil types and characteristics and any anticipated soil erosion and sedimentation problems resulting from existing characteristics.
- (i) Location, size and layout of proposed stormwater and sedimentation control improvements.
- (j) Existing and proposed drainage network.
- (k) Proposed culvert or waterway sizes.
- (l) Approximate flows leaving site after construction and incorporating water run-off mitigation measures. The evaluation must include projected effects on property adjoining the site and on existing

drainage facilities and systems. The plan must address the adequacy of outfalls from the development: when water is concentrated, what is the capacity of waterways, if any, accepting stormwater off-site; and what measures, including infiltration, sheeting into buffers, etc., are going to be used to prevent the scouring of waterways and drainage areas off-site, etc.

- (m) The projected sequence of work represented by the grading, drainage and sedimentation and erosion control plans as related to other major items of construction, beginning with the initiation of excavation and including the construction of any sediment basins or retention/detention facilities or any other structural SCM's.
- (n) Specific remediation measures to prevent erosion and sedimentation run-off. Plans shall include detailed drawings of all control measures used; stabilization measures including vegetation and non-vegetation measures, both temporary and permanent, will be detailed. Detailed construction notes and a maintenance schedule shall be included for all control measures in the plan.
- (o) Specific details for: the construction of stabilized construction entrance/exits, concrete washouts, and sediment basins for controlling erosion; road access points; eliminating or keeping soil, sediment, and debris on streets and public ways at a level acceptable to the County. Soil, sediment, and debris brought onto streets and public ways must be removed by the end of the work day to the satisfaction of the County. Failure to remove the sediment, soil or debris shall be deemed a violation of this resolution.
- (p) Proposed structures: location and identification of any proposed additional buildings, structures or development on the site.
- (q) A description of on-site measures to be taken to recharge surface water into the ground water system through runoff reduction practices.
- (r) Specific details for construction waste management. Construction site operators shall control waste such as discarded building materials, concrete truck washout, petroleum products and petroleum related products, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality. When the material is erodible, such as soil, the site must be treated as a construction site.

- (10) General design performance criteria for permanent stormwater management: the following performance criteria shall be addressed for permanent stormwater management at all New Development Projects to remove pollutants to the maximum extent practicable.
- (a) Site design standards for all new and redevelopment require, in combination or alone, management measures that are designed, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the WQTV within 72 hours following the end of the preceding rain event for the life of the project. This WQTV must be managed to approach 100% pollutant removal.
 - i. Pre-development infiltrative capacity of soils at the site must be taken into account in selection of SCMs.
 - (b) Limitations to infiltration, evapotranspiration, or capture/reuse of the entire WQTV may include, but are not limited to:
 - i. Insufficient infiltration capacity of soils;
 - ii. A potential for introducing excessive pollutants into groundwater;
 - iii. Pre-existing soil contamination in areas subject to contact with infiltrated runoff;
 - iv. Presence of sinkholes or other karst features on the site or in close proximity;
 - v. An extensive presence of shallow ground water table, shallow bedrock, or other restrictive layers;
 - vi. Presence of contractive or expansive soils in close proximity to structures; and
 - vii. Other conditions as identified by the permittee, submitted to the local Division's Environmental Field Office and approved by the division in writing, and documented in the SWMP.
 - (c) Pre-development infiltrative capacity of soils at the site must be taken into account in selection of SCMs.
 - (d) Incentive Standards for re-developed sites: up to 20% reduction in the WQTV for a New Development Project for any one of the following conditions. Such credits are additive such that a maximum reduction of

50% of the standard in the paragraph above is possible for a combination of the following conditions:

- i. Redevelopment projects (including, but not limited to, brownfield redevelopment);
 - ii. Vertical Density, (Floor to Area Ratio (FAR) of 2, or at least 18 units per acre); and
 - iii. Incentives as identified by the permittee, submitted to the local Division's Environmental Field Office and approved by the division in writing, and documented in the SWMP.
- (e) For projects that where site-specific limitations as described in Section 104(10)(b) do not allow infiltration, evapotranspiration, or capture/reuse of the entire WQTV, then a combination of SCMs must be selected to maximize pollutant removal consistent with site-specific limitations and, at a minimum, be designed to achieve an overall treatment efficiency of 80% total suspended solids (TSS) removal. The treatment technology must be designed, installed and maintained to continue to meet this performance standard.
- (f) If the WQTV cannot be treated on site to the maximum extent possible as described above, the applicant may make a request to the County to meet its permanent stormwater requirements through offsite mitigation or a payment in lieu.
- i. The County will assist the applicant with identifying locations for off-site stormwater mitigation. Any off-site stormwater mitigation will be accomplished within the same USGS 12-digit hydrologic unit code (HUC) watershed as the New Development Project, if practicable, and will treat a minimum of 1.5 times the portion of the WQTV not treated on site.
 - ii. Fees in lieu must be sufficient to design, install and maintain the stormwater mitigation measures.
- (g) To protect stream channels from degradation, specific channel protection criteria shall be provided as prescribed in the MS4 BMP manual.
- (h) Stormwater discharges to critical areas with sensitive resources (i.e., cold water fisheries, shellfish beds, swimming beaches, recharge areas, water supply reservoirs) may be subject to additional

performance criteria, or may need to utilize or restrict certain stormwater management practices.

- (i) Stormwater discharges from hot spots may require the application of specific structural SCM's and pollution prevention practices. In addition, stormwater from a hot spot land use may not be infiltrated.
 - i. A hot spot owner and operator shall be notified that the site has been identified by the County as such and will be required to file with the County a statement of ownership, identify the type of waste and how it is disposed, identify the unavailable parameters waters or high quality stream within 2,000 feet, identify the operator together with contact information as well as emergency contact information and the necessary annual fee to receive a permit for operation of the site.
 - ii. The hot spot permittee shall be required to maintain records of disposal of waste (solid and liquid) and have those records available for review by the County.
 - iii. The hot spot permittee and owner must provide this information to the County annually, and shall agree to compliance with this Resolution.
 - iv. Any spill must be reported to the County immediately with a written report to follow within forty-eight (48) hours. The County will maintain a file of each such site together with annual reports and County inspection reports for TDEC review.
 - v. The County will inspect each site annually but reserves the right for unscheduled inspections any time it deems necessary.
 - vi. The County reserves the right to apply more stringent SCM's in the case that conventional SCM's are ineffective (TDEC 4.2.3.2).
- (j) Prior to or during the site design process, applicants for land disturbance permits shall consult with the County to determine if they are subject to additional stormwater design requirements.
- (k) The calculations for determining peak flows as found in the MS4 BMP manual shall be used for sizing all stormwater facilities.

(11) Minimum volume control requirements: In accordance with Section 101(1)(c)(iii) the County establishes the following standards to regulate the quantity of stormwater discharged, therefore:

- (a) Stormwater designs shall meet the multi-stage storm frequency storage requirements as identified in the BMP manual and Appendix A of this resolution unless the County has granted to the applicant a full or partial waiver for a particular SCM under Section 104.
- (b) If hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the County may impose any and all additional requirements deemed necessary to control the volume, timing, and rate of runoff.

(12) Permanent Stormwater management plan requirements: The stormwater management plan shall include sufficient information to allow the County to evaluate the environmental characteristics of the project site, the potential impacts of all proposed development of the site, both present and future, on the water resources, and the effectiveness and acceptability of the measures proposed for managing stormwater generated at the project site. To accomplish this goal the stormwater management plan shall include the following:

- (a) Topographic base map: Topographic base map of the site which extends a minimum of 100 feet beyond the limits of the proposed development and indicates:
 - i. Existing surface water drainage including streams, ponds, culverts, ditches, sink holes, wetlands; and the type, size, elevation, etc., of nearest upstream and downstream drainage structures;
 - ii. Current land use including all existing structures, locations of utilities, roads, and easements;
 - iii. All other existing significant natural and artificial features;
 - iv. Proposed land use with tabulation of the percentage of surface area to be adapted to various uses; drainage patterns; locations of utilities, roads and easements; the limits of clearing and grading.
- (b) Proposed Structural and non-structural SCM's;
- (c) A written description of the site plan and justification of proposed changes in natural conditions may also be required;

- (d) Calculations: Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in the MS4 BMP manual. These calculations must show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this chapter and the guidelines of the MS4 BMP manual. Such calculations shall include:
 - i. A description of the design storm frequency, duration, and intensity where applicable;
 - ii. Time of concentration;
 - iii. Soil curve numbers or runoff coefficients including assumed soil moisture conditions;
 - iv. Peak runoff rates and total runoff volumes for each watershed area;
 - v. Infiltration rates, where applicable;
 - vi. Culvert, stormwater sewer, ditch and/or other stormwater conveyance capacities;
 - vii. Flow velocities;
 - viii. Data on the increase in rate and volume of runoff for the design storms referenced in the MS4 BMP manual; and
 - ix. Documentation of sources for all computation methods and field test results.
 - (e) Soils information: If a stormwater management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles and soil survey reports. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.
- (13) Changes to approved site plans: The applicant must submit revised plans to the County for review and approval if changes are proposed to the originally approved site plans. The term “Site Plans” includes EPSC plans, stormwater management plans, and other plans detailing proposed construction for a site. The revised plans must be submitted to the County prior to changes being implemented in the field.
- (14) Inspections, site assessments, and maintenance:

- (a) The County may enter upon any property which discharges or contributes, or is believed to discharge or contribute, to stormwater runoff or the stormwater system, stream(s), natural drainageway(s) or via any other private or public stormwater management facility during all reasonable hours to monitor, remove foreign objects or blockages, and to inspect for compliance with the provisions of this resolution.
 - (b) Permanent stormwater management facilities inspections. Permanent stormwater management facilities shall be inspected by the land disturbance permit holder on a regular basis during construction and by the landowner after construction has been completed to ensure that they are functioning as designed.
 - i. Inspections shall be documented and documentation provided to the County when requested.
 - ii. Permanent stormwater facilities shall be maintained by the land disturbance permit holder during construction and by the landowner after construction has been completed to ensure that they are functioning as designed.
- (15) Maintenance and repair plan: The design and planning of all permanent stormwater management facilities shall include detailed maintenance and repair procedures to ensure their continued performance. These plans 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 program and the need for revisions or additional maintenance procedures shall be included in the plan.
- (16) Performance bonds:
- (a) The County may, at its discretion, require the submittal of a letter of credit, performance security or performance bond prior to issuance of a permit in order to ensure that the stormwater practices are installed by the permit holder as required by the approved stormwater management plan. The amount of the installation letter of credit, performance security or performance bond shall be the total estimated construction cost of the structural SCMs approved under the permit plus any reasonably foreseeable additional related costs, e.g., for damages or enforcement. The performance security shall contain forfeiture provisions for failure to complete work specified in the stormwater management plan. The applicant shall provide an itemized construction cost estimate complete with unit prices which shall be subject to

acceptance, amendment or rejection by the County. Alternatively the County shall have the right to calculate the construction cost estimates.

(b) The letter of credit, performance security or performance bond shall be released in full only upon submission of as-built drawings and written certification by a registered professional engineer licensed to practice in Tennessee that the structural SCM(s) have been installed in accordance with the approved plan and other applicable provisions of this ordinance. The County will make a final inspection of the structural SCM(s) to ensure that they are in compliance with the approved plan and the provisions of this ordinance. Provisions for a partial pro-rata release of the letter of credit, performance security or performance bond based on the completion of various development stages can be made at the discretion of the County.

(17) Buffers and buffer zones: Buffer and buffer zones shall be those buffers and buffer zones as those terms are defined in Section 102(13) above, and shall met the requirements contained in those provisions. The goal of the water quality buffer is to preserve undisturbed vegetation that is native to the streamside habitat in the area of the project. Vegetated, preferably native, water quality buffers protect water bodies by providing structural integrity and canopy cover, as well as stormwater infiltration, filtration and evapotranspiration. Stormwater discharges should enter the buffer as sheet flow, not as concentrated flow, where site conditions allow.

(a) Buffer width depends on the size of a drainage area. The buffer width shall be measured perpendicular from the top of bank on each side of the water body; around the perimeter of a pond or lake measured as perpendicular to the contour at which normal pool is located around; and around the perimeter of a wetland.

(b) The buffer requirement may be fulfilled with a combination of an inner and an outer zone. The predominant vegetation in the inner zone of the buffer (adjacent to the stream) should be trees. The outer zone (adjacent to the development) of 45- or 60-foot riparian buffers may be composed of herbaceous cover or infiltration-based SCMs. The outer zone allows for more flexibility in the type of vegetation and placement of SCMs.

(c) The buffer is to remain undisturbed except for the following disturbances which are allowed subject to approval of the County including the approval of a Buffer Enhancement Plan and an erosion prevention and sediment control plan:

i. Limited disturbances to remove and/or plant trees or vegetation, as required to maintain the overall health of vegetation in the

buffer area. This includes the removal of invasive exotic plants and the establishment of native vegetation, and/or other practices to restore the ecological integrity of the buffer.

- ii. Removal of individual trees that are in danger of falling, causing damage to dwellings or other structures, are dead or diseased, or have been heavily damaged by storms. The root wad or stump should be left in place, where feasible, to maintain soil stability.
- iii. Disturbances necessary for the construction of utility access areas and approved stream crossings as long as the crossings are perpendicular or as near to perpendicular as possible to the channel.
- iv. Disturbances as required to establish and/or restore buffer areas in accordance with an approved Buffer Enhancement Plan.
- v. Passive recreation, pervious footpaths, and boardwalks to approach the water resource as approved by the County.
- vi. Biking or hiking paths and greenways, but no closer than 30 feet at any measured location. View corridors shall be allowed along greenways as approved by the County. Paths and greenways shall be designed to prevent the channelization of stormwater runoff, and should be constructed of pervious and/or permeable materials. There shall be no other permanent structures with the exception of paths.
- vii. Stormwater channels as approved by the County.
- viii. Cut and fill for floodplain compensations as approved by the County.
- ix. Disturbances necessary for stream bank restoration and/or stabilization.
- x. Soil bioengineering, “green” and other “soft” slope and stream bank stabilization methods shall receive preference over riprap, concrete, and other hard armoring techniques. “Hard” alternatives may only be permitted when their necessity can be demonstrated given site-specific conditions.

(d) Construction

- i. Construction requires buffer zone widths of a minimum of thirty (30) feet. The thirty (30) foot criterion for the width of the buffer zone can be established on an average width basis. As long as the minimum width of the buffer zone is fifteen (15) feet. The

buffer zone shall meet all the other applicable requirements of Section 102(13).

- ii. Construction on unavailable parameters waters or exceptional waters. The width of the buffer zone shall be a minimum of sixty (60) feet. The sixty (60) feet criterion for the width of the buffer zone can be established on an average basis at a project as long as the minimum width of the buffer is more than thirty (30) feet at any measured location. The buffer zone shall meet all the other applicable requirements of Section 102(13).

(e) Permanent

- i. More than two (2) square miles drainage area will require buffer zones of a minimum of sixty (60) feet. The sixty (60) foot criterion for the width of the buffer zone can be established on an average width basis, as long as the minimum width of the buffer zone is more than thirty (30) feet at any measured location.
- ii. Less than two (2) but more than one (1) square mile drainage area. The forty-five (45) foot criterion for the width of the buffer zone can be established on an average width basis, as long as the minimum width of the buffer zone is more than forty-five (45) feet at any measured location. The buffer zone shall meet all the other applicable requirements of Section 102(13).
- iii. Less than one (1) square mile drainage area. Less than one (1) square mile drainage area will require buffer zones of a minimum of thirty (30) feet. The thirty (30) foot criterion for the width of the buffer zone can be established on an average width basis, as long as the minimum width of the buffer zone is more than thirty (30) feet at any measured location. The buffer zone shall meet all the other applicable requirements of Section 102(13).
- iv. If the New Development Project encompasses both sides of a stream, the buffer width must be applied to both sides. Buffer averaging can be applied to both sides, but must be applied independently.

- (f) A determination that standards cannot be met may not be based solely on the difficulty or cost associated with implementation. Every attempt

should be made for development and redevelopment activities not to take place within the buffer zone. A determination that water quality buffer widths cannot be met on site may not be based solely on the difficulty or cost of implementing measures, but must include multiple criteria, such as: type of project, existing land use and physical conditions that preclude use of these practices.

- (g) Any approved disturbance of the water quality buffer shall be revegetated in kind and/or enhanced subject to the requirements of Section 105 of this resolution and approval of the County. The vegetative target for the inner zone is mature, moderately dense forest (i.e., trees) with woody shrubs and understory vegetation. Where forest vegetation has the potential to impact traffic safety or limit access, areas immediately surrounding approved stream crossings and utility access areas may be vegetated with dense grasses.
 - (h) For any proposed development and/or construction activity within or adjacent to a water quality buffer, the following shall be required.
 - i. The parameters of the water quality buffer shall be delineated by the applicant and boundaries shall be clearly indicated and labeled on all plats, plans, permits and official maps.
 - ii. Include a note on plans to reference protective covenants governing all water quality buffer areas, labeled as: “Any water quality buffer is subject to protective covenants recorded in the Register of Deeds (Sumner County). Disturbance and use of these areas is restricted; severe penalties apply.”
 - iii. Buffers shall be protected during construction activities by a combination of fencing and flagging to prevent entry of construction equipment, storage and stockpiling. Buffer boundaries shall be marked during construction activities.
- (18) Priority Construction Activities: The permittee shall establish priority construction activities through the following procedures:
- (a) Pre-construction meetings with construction-site operators for priority construction activities;
 - (b) Inspections by the permittee of priority construction sites at least once per month; and
 - (c) Documentation of procedures, including related meetings and inspections.

105. Permanent stormwater management: operation, maintenance and inspection.

- (1) As built plans. All applicants are required to submit actual as built plans for any structures located on-site after final construction is completed. The plan must show the final design specifications for all stormwater management facilities and must be sealed by a registered professional engineer licensed to practice in Tennessee. A final inspection by the County is required before any letter of credit, performance security or performance bond will be released. The County shall have the discretion to adopt provisions for a partial pro-rata release of the letter of credit, performance security or performance bond on the completion of various stages of development. In addition, occupation permits shall not be granted until corrections to all SCM's have been made and accepted by the County. Coordinate data shall be presented in the State of Tennessee Plan system with the North American Datum 1983 (NAD83) and North American Vertical Datum (NAVD) of 1988.

- (2) Landscaping and stabilization requirements.
 - (a) Any area of land from which the natural vegetative cover has been either partially or wholly cleared by development activities shall stabilize. Stabilization measures shall be initiated as soon as possible in portions of the site where construction activities have temporarily or permanently ceased. Temporary or permanent soil stabilization at the construction site (or a phase of the project) must be completed not later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. In the following situations, temporary stabilization measures are not required:
 - i. where the initiation of stabilization measures is precluded by snow cover or frozen ground conditions or adverse soggy ground conditions, stabilization measures shall be initiated as soon as practicable; or
 - ii. where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days.
 - (b) Permanent stabilization with perennial vegetation (using native herbaceous and woody plants where practicable) or other permanently

stable, non-eroding surface shall replace any temporary measures as soon as practicable. Unpacked gravel containing fines (silt and clay sized particles) or crusher runs will not be considered a non-eroding surface.

- (c) The following criteria shall apply to revegetation efforts:
 - i. Reseeding must be done with an annual or perennial cover crop accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until such time as the cover crop is established over ninety percent (90%) of the seeded area.
 - ii. Replanting with native woody and herbaceous vegetation must be accompanied by placement of straw mulch or its equivalent of sufficient coverage to control erosion until the plantings are established and are capable of controlling erosion.
 - iii. Any area of revegetation must exhibit survival of a minimum of seventy-five percent (75%) of the cover crop throughout the year immediately following revegetation. Revegetation must be repeated in successive years until the minimum seventy-five percent (75%) survival for one (1) year is achieved.
 - iv. In addition to the above requirements, a landscaping plan must be submitted with the final design describing the vegetative stabilization and management techniques to be used at a site after construction is completed. This plan will explain not only how the site will be stabilized after construction, but 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.
- (3) Inspection of stormwater management facilities. Periodic inspections of facilities shall be performed, documented, and reported in accordance with this chapter, as detailed in Section 106.
- (4) Records of installation and maintenance activities. Parties responsible for the operation and maintenance of a stormwater management facility shall make records of the installation of the stormwater facility, and of all maintenance and repairs to the facility, and shall retain the records for at least three (3) years. These records shall be made available to the County during inspection of the facility and at other reasonable times upon request.

- (5) Failure to meet or maintain design or maintenance standards. If a responsible party fails or refuses to meet the design or maintenance standards required for stormwater facilities under this chapter, the County, after reasonable notice, may correct a violation of the design standards or maintenance needs by performing all necessary work to place the facility in proper working condition. In the event that the stormwater management facility becomes a danger to public safety or public health, the County shall notify in writing the party responsible for maintenance of the stormwater management facility. Upon receipt of that notice, the responsible person shall have thirty (30) days to effect maintenance and repair of the facility in an approved manner. In the event that corrective action is not undertaken within that time, the County may take necessary corrective action. The cost of any action by the County under this section shall be charged to the responsible party.

106. Existing locations and ongoing developments.

- (1) On-site stormwater management facilities maintenance agreement:
- (a) Where the stormwater facility is located on property that is subject to a development agreement, and the development agreement provides for a permanent stormwater maintenance agreement that runs with the land, the owners of property must execute an inspection and maintenance agreement that shall operate as a deed restriction binding on the current property owners and all subsequent property owners and their lessees and assigns, including but not limited to, homeowner associations or other groups or entities.
 - (b) The maintenance agreement shall:
 - i. Assign responsibility for the maintenance and repair of the stormwater facility to the owners of the property upon which the facility is located and be recorded as such on the plat for the property by appropriate notation.
 - ii. Provide for a periodic inspection by the property owners in accordance with the requirements of Section 106(1)(b)(iv) below for the purpose of documenting maintenance and repair needs and to ensure compliance with the requirements of this resolution. The property owners will arrange for this

inspection to be conducted by a registered professional engineer licensed to practice in the State of Tennessee, who will submit a signed written report of the inspection to the County. It shall also grant permission to the County to enter the property at reasonable times and to inspect the stormwater facility to ensure that it is being properly maintained.

- iii. Provide that the minimum maintenance and repair needs include, but are not limited to: the removal of silt, litter and other debris, the cutting of grass, cutting and vegetation removal, and the replacement of landscape vegetation, in detention and retention basins, and inlets and drainage pipes and any other stormwater facilities. It shall also provide that the property owners shall be responsible for additional maintenance and repair needs consistent with the needs and standards outlined in the MS4 BMP manual.
- iv. Provide that maintenance needs must be addressed in a timely manner, on a schedule to be determined by the County.
- v. Provide that if the property is not maintained or repaired within the prescribed schedule, the County shall perform the maintenance and repair at its expense, and bill the same to the property owner. The maintenance agreement shall also provide that the County cost of performing the maintenance shall be a lien against the property.

(2) Existing problem locations – no maintenance agreement.

- (a) The County shall in writing notify the owners of existing locations and development of specific drainage, erosion or sediment problems affecting or caused by such locations and developments, and the specific actions required to correct those problems. The notice shall also specify a reasonable time for compliance. Discharges from existing SCM's that have not been maintained and/or inspected in accordance with this resolution shall be regarded as illicit discharges.
- (b) Inspection of existing facilities. The County may, to the extent authorized by state and federal law, enter and inspect private property for the purpose of determining if there are illicit non-stormwater discharges, and to establish inspection programs to verify that all

stormwater management facilities are functioning within design limits. These inspection programs may be established on any reasonable basis, including but not limited to: routine inspections; random inspections; inspections based upon complaints or other notice of possible violations; inspection of drainage basins or areas identified as higher than typical sources of sediment or other contaminants or pollutants; inspections of businesses or industries of a type associated with higher than usual discharges of contaminants or pollutants or with discharges of a type which are more likely than the typical discharge to cause violations of the County's NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws. Inspections may include, but are not limited to: reviewing maintenance and repair records; sampling discharges, surface water, groundwater, and material or water in drainage control facilities; and evaluating the condition of drainage control facilities and other SCM's.

(3) Owner/Operator Inspections - generally. The owners and/or the operators of stormwater management practices shall:

- (a) Perform routine inspections to ensure that the SCM's are properly functioning. These inspections shall be conducted on an annual basis, at a minimum. These inspections shall be conducted by a person familiar with control measures implemented at a site. Owners or operators shall maintain documentation of these inspections. The County may require submittal of this documentation.
- (b) Perform comprehensive inspection of all stormwater management facilities and practices. These inspections shall be conducted once every five years, at a minimum. Such inspections must be conducted by either a professional engineer or landscape architect, licensed in the State of Tennessee. Complete inspection reports for these five year inspections shall include:
 - i. Facility type,
 - ii. Inspection date,
 - iii. Latitude and longitude and nearest street address,
 - iv. SCM owner information (e.g. name, address, phone number, fax, and email),
 - v. A description of SCM condition including: vegetation and soils; inlet and outlet channels and structures; embankments, slopes,

and safety benches; spillways, weirs, and other control structures; and any sediment and debris accumulation,

- vi. Photographic documentation of SCM's, and
 - vii. Specific maintenance items or violations that need to be corrected by the SCM owner along with deadlines and reinspection dates.
- (c) Owners or operators shall maintain documentation of these inspections. The County may require submittal of this documentation.

(4) Requirements for all existing locations and ongoing developments. The following requirements shall apply to all locations and development at which land disturbing activities have occurred previous to the enactment of this resolution:

- (a) Denuded areas must be vegetated or covered under the standards and guidelines specified in Section 105 (2)(c)(i), (ii), (iii) and on a schedule acceptable to the County
- (b) Cuts and slopes must be properly covered with appropriate vegetation and/or retaining walls constructed.
- (c) Drainage ways shall be properly covered in vegetation or secured with rip-rap, channel lining, etc., to prevent erosion.
- (d) Trash, junk, rubbish, etc. shall be cleared from drainage ways.
- (e) Stormwater runoff shall, at the discretion of the County be controlled to the maximum extent practicable to prevent its pollution. Such control measures may include, but are not limited to, the following:
 - i. Ponds
 - ii. Detention pond
 - iii. Extended detention pond
 - iv. Wet pond
 - v. Alternative storage measures
 - vi. Constructed wetlands
 - vii. Infiltration systems
 - viii. Infiltration/percolation trench
 - ix. Infiltration basin
 - x. Drainage (recharge) well
 - xi. Porous pavement
 - xii. Filtering systems
 - xiii. Catch basin inserts/media filter

- xiv. Sand filter
- xv. Filter/absorption bed
- xvi. Filter and buffer strips
- xvii. Open channel
- xviii. Swale

(5) Corrections of problems subject to appeal. Corrective measures imposed by the County under this section are subject to appeal under Section 110 of this chapter.

107. Illicit discharges

(1) Scope. This section shall apply to all water generated on developed or undeveloped land entering the County's separate storm sewer system.

(2) Prohibition of illicit discharges. No person shall introduce or cause to be introduced into the municipal separate storm sewer system any discharge that is not composed entirely of stormwater or any discharge that flows from stormwater facility that is not inspected in accordance with Section 104 shall be an illicit discharge. Non-stormwater discharges shall include, but shall not be limited to, sanitary wastewater, car wash wastewater, radiator flushing disposal, spills from roadway accidents, carpet cleaning wastewater, effluent from septic tanks, improper oil disposal, laundry wastewater/gray water, improper disposal of auto and household toxics. The commencement, conduct or continuance of any non-stormwater discharge to the municipal separate storm sewer system is prohibited except as described as follows:

(a) Uncontaminated discharges from the following sources:

- i. Water line flushing or other potable water sources;
- ii. Landscape irrigation or lawn watering with potable water;
- iii. Diverted stream flows;
- iv. Rising ground water;
- v. Uncontaminated groundwater infiltration to storm drains (infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from inflow);

- vi. Pumped groundwater;
 - vii. Foundation or footing drains;
 - viii. Crawl space pumps;
 - ix. Air conditioning condensation;
 - x. Springs;
 - xi. Non-commercial washing of vehicles;
 - xii. Natural riparian habitat or wetland flows;
 - xiii. Swimming pools (if dechlorinated - typically less than one PPM chlorine or desalinated for salt water pools);
 - xiv. Firefighting activities;
 - xv. Street wash waters resulting from normal street cleaning operations;
 - xvi. Individual residential car washing (only if water is directed to flow across vegetated area);
 - xvii. Controlled flushing of stormwater conveyances (controlled by appropriate SCMs);
 - xviii. Discharges within the constraints of an NPDES permit from the Tennessee Department of Environment and Conservation (TDEC);
 - xix. Any other uncontaminated water source.
- (b) Discharges specified in writing by the County as being necessary to protect public health and safety.
 - (c) Dye testing is an allowable discharge if the County has so specified in writing.
 - (d) Discharges authorized by the Construction General Permit (CGP), which comply with Section 3.5.9 of the same:
 - i. dewatering of work areas of collected stormwater and ground water (filtering or chemical treatment may be necessary prior to discharge);
 - ii. waters used to wash vehicles (of dust and soil, not process materials such as oils, asphalt or concrete) where detergents are

not used and detention and/or filtering is provided before the water leaves site;

- iii. water used to control dust in accordance with CGP section 3.5.5;
- iv. potable water sources including waterline flushings from which chlorine has been removed to the maximum extent practicable;
- v. routine external building washdown that does not use detergents or other chemicals;
- vi. uncontaminated groundwater or spring water; and
- vii. foundation or footing drains where flows are not contaminated with pollutants (process materials such as solvents, heavy metals, etc.).

- (3) Prohibition of illicit connections. The construction, use, maintenance or continued existence of illicit connections to the municipal separate storm sewer system is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.
- (4) Reduction of stormwater pollutants by the use of best management practices. Any person responsible for a property or premises, which is, or may be, the source of an illicit discharge, may be required to implement, at the person's expense, the SCM's necessary to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity, to the extent practicable, shall be deemed in compliance with the provisions of this section. Discharges from existing SCM's that have not been maintained and/or inspected in accordance with this resolution shall be regarded as illicit. Documented illicit discharges shall be eliminated as soon as practicable initiated within seven (7) days of investigation by the County.
- (5) Notification of spills. Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting in, or may result in, illicit discharges

or pollutants discharging into, the municipal separate storm sewer system, the person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials the person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, the person shall notify the County in person or by telephone, fax, or email, no later than the next business day. Notifications in person or by telephone shall be confirmed by written notice addressed and mailed to the County within three (3) business days of the telephone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three (3) years.

- (6) No illegal dumping allowed. No person shall dump or otherwise deposit outside an authorized landfill, convenience center or other authorized garbage or trash collection point, any trash or garbage of any kind or description on any private or public property, occupied or unoccupied, inside the County.

108. Enforcement.

- (1) Enforcement authority. The County shall have the authority to issue notices of violation and citations, and to impose the civil penalties provided in this section. Each day of noncompliance is considered a separate offense; and nothing herein contained shall prevent the County from taking such other lawful action as is necessary to prevent or remedy any violation, including, application for injunctive relief. If the person, property or facility has or is required to have a stormwater discharge permit from TDEC, the County shall alert the appropriate state authorities of the violation. Measures authorized include:
 - (a) Verbal Warnings – At a minimum, verbal warnings must specify the nature of the violation and required corrective action. Verbal warnings will be documented by the County.
 - (b) Written Notices – Written notices must stipulate the nature of the violation and the required corrective action, with deadlines for taking such action.

- (c) Citations with Administrative Penalties – The MS4 has the authority to assess monetary penalties, which may include civil and administrative penalties.
 - (d) Stop Work Orders – Stop work orders that require construction activities to be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate control measures.
 - (e) Withholding of Plan Approvals or Other Authorizations – Where a facility is in noncompliance, the MS4’s own approval process affecting the facility’s ability to discharge to the MS4 can be used to abate the violation.
 - (f) Additional Measures – The MS4 may also use other escalated measures provided under local legal authorities. The MS4 may perform work necessary to improve erosion control measures and collect the funds from the responsible party in an appropriate manner, such as collecting against the project’s bond or directly billing the responsible party to pay for work and materials.
- (2) Notification of violation:
- (a) Verbal warning. Verbal warning may be given at the discretion of the inspector when it appears the condition can be corrected by the violator within a reasonable time, which time shall be approved by the inspector.
 - (b) Written notice. Whenever the County finds that any permittee or any other person discharging stormwater has violated or is violating this resolution or a permit or order issued hereunder, the County may serve upon such person written notice of the violation. All written notices will be documented and delivered by personal service or by registered or certified mail (return receipt requested) to the person that has violated or is violating this resolution. Within seven (7) days of this notice or shorter period as may be prescribed in the notice, an explanation of the violation and a plan for the satisfactory correction and prevention thereof, to include specific required actions, shall be submitted to the County. Submission of this plan in no way relieves the discharger of liability for any violations occurring before or after receipt of the notice of violation.
 - (c) Consent orders. The County is empowered to enter into consent orders, assurances of voluntary compliance, or other similar documents establishing an agreement with the person responsible for the noncompliance. Such orders will include specific action to be taken by the person to correct the noncompliance within a time period also specified by

the order. Consent orders shall have the same force and effect as administrative orders issued pursuant to paragraphs (d) and (e) below.

- (d) Show cause hearing. The County may order any person who violates this chapter or permit or order issued hereunder, to show cause why a proposed enforcement action should not be taken. Notice shall be served on the person specifying the time and place for the meeting, the proposed enforcement action and the reasons for such action, and a request that the violator show cause why this proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least ten (10) days prior to the hearing.
- (e) Compliance order. When the County finds that any person has violated or continues to violate this chapter or a permit or order issued thereunder, he may issue an order to the violator directing that, following a specific time period, adequate structures or devices be installed and/or procedures implemented and properly operated. Orders may also contain such other requirements as might be reasonably necessary and appropriate to address the noncompliance, including the construction of appropriate structures, installation of devices, self-monitoring, and management practices.
- (f) Cease and desist and stop work orders. When the County finds that any person has violated or continues to violate this chapter or any permit or order issued hereunder, the County may issue a stop work order or an order to cease and desist all such violations and direct those persons in noncompliance to:
 - i. Comply forthwith; or
 - ii. Take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened violation; including halting operations except for terminating the discharge and installing appropriate control measures.
- (g) Suspension, revocation or modification of permit. The County may suspend, revoke or modify the permit authorizing the land development project or any other project of the applicant or other responsible person within the County. A suspended, revoked or modified permit may be reinstated after the applicant or other responsible person has taken the remedial measures set forth in the notice of violation or has otherwise cured the violations described therein, provided such permit may be reinstated upon such conditions as the County may deem necessary to

enable the applicant or other responsible person to take the necessary remedial measures to cure such violations.

- (h) Conflicting standards. Whenever there is a conflict between any standard contained in this chapter and in the BMP manual adopted by the County under this resolution, the strictest standard shall prevail.

109. Penalties.

- (1) Violations. Any person who shall commit any act declared unlawful under this chapter, who violates any provision of this chapter, who violates the provisions of any permit issued pursuant to this chapter, or who fails or refuses to comply with any lawful communication or notice to abate or take corrective action by the County, shall be guilty of a civil offense.

- (2) Penalties. Under the authority provided in Tennessee Code Annotated § 68-221-1106, the County declares that any person violating the provisions of this chapter may be assessed a civil penalty by the County of not less than fifty dollars (\$50.00) and not more than five thousand dollars (\$5,000.00) per day for each day of violation. Each day of violation shall constitute a separate violation.

- (3) Measuring civil penalties. In assessing a civil penalty, the County may consider:
 - (a) The harm done to the public health or the environment;
 - (b) The duration and gravity of the violation(s);
 - (c) Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;
 - (d) The economic benefit gained by the violator;
 - (e) The amount of effort put forth by the violator to remedy this violation;
 - (f) Whether the violation(s) was committed intentionally;
 - (g) The prior record of the violator in complying or failing to comply with the stormwater management program;
 - (h) Any unusual or extraordinary enforcement costs incurred by the County;

- (i) The amount of penalty established by ordinance or resolution for specific categories of violations; and
 - (j) Any equities of the situation which outweigh the benefit of imposing any penalty or damage assessment.
- (4) Recovery of damages and costs. In addition to the civil penalty in Section 109(2) above, the County may recover:
- (a) All damages proximately caused by the violator to the County, which may include any reasonable expenses incurred in investigating violations of, and enforcing compliance with, this chapter, or any other actual damages caused by the violation.
 - (b) The costs of the County's maintenance of stormwater facilities when the user of such facilities fails to maintain them as required by this chapter.
 - (c) In the event there are penalties assessed by the state against the County caused by any person company or facility, said person, company, or facility shall be assessed the equivalent amount of civil penalty. This shall include but is not limited to penalties for construction site stormwater runoff, improper disposal or illegal dumping, or illicit connection into the municipal separate storm sewer system.
- (5) Referral to TDEC. Where the County has used progressive enforcement to achieve compliance with this resolution, and in the judgment of the County has not been successful, the County may refer the violation to TDEC. For the purposes of this provision, "progressive enforcement" shall mean two (2) follow-up inspections and two (2) warning letters. In addition, enforcement referrals to TDEC must include, at a minimum, the following information:
- (a) Construction project or industrial facility location;
 - (b) Name of owner or operator;
 - (c) Estimated construction project or size or type of industrial activity (including SIC code, if known);
 - (d) Records of communications with the owner or operator regarding the violation, including at least two follow-up inspections, two warning letters or notices of violation, and any response from the owner or operator.

- (6) Other remedies. The County may bring legal action to enjoin the continuing violation of this chapter, and the existence of any other remedy, at law or equity, shall be no defense to any such actions.
- (7) Remedies cumulative. The remedies set forth in this section shall be cumulative, not exclusive, and it shall not be a defense to any action, civil or criminal, that one (1) or more of the remedies set forth herein has been sought or granted.

110. Appeals. Pursuant to Tennessee Code Annotated § 68-221-1106(d), any person aggrieved by a decision made by the County or the imposition of a civil penalty or damage assessment as provided by this chapter may appeal said penalty or damage assessment to the County's Stormwater Appeal Committee.

- (1) Appointment. The County Commission shall appoint a five (5) member Stormwater Appeal Committee, as set forth below, that shall be charged with addressing appeals to violations and interpretations of this Resolution.
- (2) Membership. The Stormwater Appeal Committee shall consist of One County Commissioner and four citizens with working knowledge of stormwater systems. They shall be recommended by the Sumner County Executive and appointed by the County Commission.
- (3) Compensation. The Stormwater Appeal Committee members shall be reimbursed at the same monthly expenses paid to other citizen members of the Sumner County committees.
- (4) Appeals to be in writing. Any matter, decision, conclusion, pronouncement, or evaluation made by the County cannot be considered for appellate review until the matter has first been submitted to the Sumner County Planning and Stormwater Director for evaluation.
 - (a) Any request for review of a decision must be submitted in writing to the Sumner County Planning and Stormwater Director for examination and review.
 - (b) From the written request, the Sumner County Planning and Stormwater Director can make a determination based upon the written information presented or call a hearing to consider the question.

- (c) Such review and a decision shall be rendered within thirty (30) days of the request.
 - (d) If no decision is rendered in a timely manner, then the matter can be taken to the Stormwater Appeal Committee.
 - (e) Only after the Sumner County Planning and Stormwater Director has had an opportunity to fully consider the matter, or a timely review has not taken place, can Appellate Review be considered.
- (5) Appellate Review. In order to have an appeal considered, the applicant shall submit a written notice of appeal to the Sumner County Planning and Stormwater Director if the Director upholds the decision, citation or NOV. The applicant may file a written appeal to the Stormwater Appeal Committee within ten (10) days of the decision by the Sumner County Planning and Stormwater Director. The written appeal shall consist of written reason for appeal, any necessary maps or plans, the original written appeal to the Sumner County Planning and Stormwater Director, the decision rendered, and a bond or letter of credit for \$500.00. The Stormwater Appeal Committee will consider the appeal at the next regular meeting and render a decision. If the Stormwater Appeal Committee reverses the decision, the Bond or letter of credit will be returned. If the Stormwater Appeal Committee upholds the decision, the Bond or letter of credit will be forfeited to the County. The Stormwater Appeal Committee shall have the authority to grant appeals to violations or interpretations of this Resolution provided they are consistent with the objectives and policies identified in Section 101. The Stormwater Appeal Committee does not have the authority to permit actions by the applicant that are based in lack of proper planning or implementation of site development as defined in this Resolution and other measures applied to the County.
- (6) Process.
- (a) The Stormwater Appeal Committee will be made available to review accepted request(s) for appeals on an as-needed basis.
 - (b) The decisions of the Stormwater Appeal Committee are final and conclusive, but may be reviewed through appropriate court actions.
 - (c) The Stormwater Appeal Committee shall make its findings within five (5) business days after the appeal hearing.

- (7) Reimbursement of Costs. If the County prevails, on behalf of the Stormwater Appeal Committee's action, in any administrative or civil proceeding initiated under this chapter, the County shall be entitled to seek reimbursement for all costs incurred in connection with said proceeding. Such reimbursable expenses may include, but are not limited to, costs of investigation, administrative overhead, out-of-pocket expenses, costs of administrative hearings, and costs of suit.
- (8) Open Meetings.
- (a) Meetings with the Stormwater Appeal Committee and deliberations and records shall be open to the public.
 - (b) The Stormwater Appeal Committee may elect to provide for public comment on relevant issues.
 - (c) The format and duration of the public comment shall be left to the discretion of the Stormwater Appeal Committee.
- (9) Appealing decisions of the County's governing body. Any alleged violator may appeal a decision of the County's governing body pursuant to the provisions of Tennessee Code Annotated, title 27, chapter 8.

APPENDIX A

SUMNER COUNTY LAND DISTURBANCE PERMIT APPLICATION FORMS



SUMNER COUNTY
355 N. Belvedere Drive, Room 202
Gallatin, Tennessee 37066
Phone (615) 451-6097
Fax (615) 451-6074

Application for Land Disturbance Permit

DATE OF APPLICATION _____ SUBDIVISION NAME _____

CONSTRUCTION ADDRESS _____

Lot # _____ CITY _____

PROPERTY OWNER _____ ADDRESS _____

OWNER'S PHONE# (work) _____ (cell) _____

LOT SIZE _____ ROAD FRONTAGE _____ TAX MAP # _____

GROUP _____ PARCEL _____

CONTRACTOR _____ CONTRACTOR PHONE# _____

Erosion & Sediment Control PERSON _____ PHONE# _____

**WHO TO CALL WHEN PERMIT IS READY* _____ PHONE# _____

DOES THIS DISCHARGE INTO HIGH QUALITY WATERS? (This is stated on the NPDES permit)

YES _____ NO _____ NAME OF RECEIVING WATERS _____
 (Also on NPDES Permit)

SIGNATURE OF APPLICANT _____ DATE _____

** Make checks payable to: Sumner County Planning and Stormwater (see Fee Table for current fee)*
Also, please provide a "Warranty Deed" with each Application

FOR OFFICE USE ONLY

PERMIT APPROVED _____ **PERMIT #** _____ **RECEIPT #** _____

FEE _____ **ISSUE DATE#** _____ **SIGNED** _____ **TITLE** _____

PERMIT DENIED _____ **REASON** _____

Submit 2 copies of the plans and supporting documentation with this General Information Form. Plans must be accompanied by the following completed checklists:
Checklist 1 – General Plan Information
Checklist 2 – EPSC Plan
Checklist 3 - Stormwater Management Plan
Checklist 4 – Notice of Intent (NOI) & Stormwater Pollution Prevention Plan (SWPPP) Checklist
CN-1440 for sites requiring CGP coverage



Applicant's Name:	
Application Date:	

CHECKLIST 1 General Plan Information

Item #	The following information must be provided on each plan or in support of each plan submitted to Sumner County for review:	Included	Not Applicable
1	A general description of existing land cover. Individual trees and shrubs do not need to be identified.		
2	Project description that includes the intended project and proposed land disturbing activity including number of units and structures to be constructed and infrastructure required.		
3	A topographic map of subject property with contour intervals of two (2) feet or less showing present conditions and proposed contours resulting from land disturbing activity. The map shall be set to a scale of 1 inch = 50 feet or an appropriate scale approved by the County, shall extend a minimum of 100 feet beyond the limits of the proposed development, and shall include sufficient surrounding topography and structures to ascertain adjacent off-site drainage patterns.		
4	Existing contours and conditions (i.e. existing topography and showing the outline of existing structures and pavement indicating any pavement or structures to be removed).		
5	Existing drainage network that includes locations of existing drainage ways such as ditches, pipes, streams, intermittent streams, and wet weather conveyances, showing water quality buffers if applicable, within and adjacent to the property.		
6	All other existing significant natural and artificial features.		
7	Proposed contours and conditions (i.e. proposed topography tying into existing topography and showing the outline of proposed structures and pavement). This will include approximate limits of proposed clearing, grading and filling as well as approximate limits of proposed land disturbing activity (i.e., a boundary line encompassing the location(s) of the proposed land disturbance activity)		

8	Proposed structures, including location and identification of any proposed additional buildings, structures or development at the site		
9	Proposed drainage network, including proposed culvert or waterway sizes		
10	Breakdown of existing and proposed impervious surfaces in table format		
11	Locations of utility, roadway, and drainage easements within the property		
12	Designated floodways and flood plains, showing elevations		



Applicant's Name:	
Application Date:	

CHECKLIST 2

Erosion Prevention and Sediment Control (EPSC) Plan

Item #	The following items must be provided for all EPSC Plans:	Included	Not Applicable
1	General location of existing trees to be preserved upon project completion and proposed trees on property, including: <ul style="list-style-type: none"> a) Differentiation between trees to be preserved, trees to be removed and proposed planted trees; b) Tree protection measures and diameter of area for existing trees to be preserved; c) Implementation sequence of tree protection measures; and d) Information concerning proposed destruction of exceptional and historic trees in setbacks and buffer strips (where applicable); 		
2	Proposed erosion prevention & sediment control measures (location, size and layout), including calculations and construction details for installation (use The most current edition of the TDEC Erosion Prevention and Sediment Control Handbook as a reference for design), including at least one construction exit.		
3	Proposed construction sequence represented by the grading, drainage and sedimentation and erosion control plans as related to other major items of construction, beginning with the initiation of excavation and including the construction of any sediment basins or retention/detention facilities or any other structural BMPs.		
4	A general description of existing soil types and characteristics and any anticipated soil erosion and sedimentation problems resulting from existing characteristics.		
5	Seeding specifications, including temporary and permanent seed, soil amendments, mulch, seeding schedule and/or sod specifications and planting schedule.		

Item #	The following items must be provided for all EPSC Plans:	Included	Not Applicable
6	Pollution prevention measures, such as concrete washout areas and debris and trash management practices.		
7	Plan note requiring temporary and permanent stabilization of disturbed soils in compliance with Section 3.5.3.2 of the Tennessee General NPDES Permit for Discharges of Stormwater Associated with Construction Activities		
8	Detailed drawings, detailed construction notes and a maintenance schedule for all EPSC measures, construction exits and concrete washouts on site.		
9	<p>Erosion prevention and sediment control plan (two stages for disturbance under 5 acres; three stages for disturbance of 5 acres or more) including these items:</p> <ul style="list-style-type: none"> a) Proposed construction area outlined b) Boundaries of permitted area c) Drainage patterns d) Approximate slopes after major grading activities e) Areas of soil disturbance f) Areas not to be disturbed g) Locations of structural and non-structural EPSC controls h) Locations where stabilization practices are expected to occur i) Surface waters (streams, wetlands, sinkholes) <p>Identification of outfall points</p>		
10	Estimate of runoff coefficient for site after construction is completed.		



Applicant's Name:	
Application Date:	

CHECKLIST 3 Permanent Stormwater Management Plan

Item #	The following items must be provided for on all stormwater management plans:	Included	Not Applicable
1	Locations, size and layout of proposed stormwater improvements and proposed drainage network and supporting hydrologic/hydraulic calculations. ¹		
2	Proposed construction sequence for permanent stormwater management measures including description of how the measure will be protected from construction site runoff.		
3	Approximate flows of existing (pre-developed) and permanent (post-developed) stormwater leaving any portion of the site. Existing and permanent hydrologic and hydraulic stormwater runoff calculations must be provided which compare existing runoff rates to permanent runoff rates for the 2-year through 100-year storm events (2, 5, 10, 25, 50, 100).		
4	<p>Hydrologic and hydraulic design calculations and supporting schematic drawing for the pre-development and post-development conditions for design storm events or as otherwise specified in the MS4 BMP manual. These calculations must show that the proposed stormwater management measures are capable of controlling runoff from the site in compliance with this chapter and the guidelines of the MS4 BMP manual. Such calculations shall include:</p> <ul style="list-style-type: none"> a) A description of the design storm frequency, duration, and intensity where applicable; b) Time of concentration; c) Soil curve numbers or runoff coefficients including assumed soil moisture conditions; d) Peak runoff rates and total runoff volumes for each watershed area; e) Infiltration rates, where applicable; f) Culvert, stormwater sewer, ditch and/or other stormwater conveyance capacities; g) Flow velocities; h) Data on the increase in rate and volume of runoff for the design 		

Item #	The following items must be provided for on all stormwater management plans:	Included	Not Applicable
	<p>storms referenced in the MS4 BMP manual; and</p> <p>i) Documentation of sources for all computation methods and field test results.</p>		
5	Location, size and layout of proposed permanent stormwater quantity and quality SCMs or improvements (structural and non-structural).		
6	Approximate flows leaving site after construction and incorporating water run-off mitigation measures. The evaluation must include projected effects on property adjoining the site and on existing drainage facilities and systems. The plan must address the adequacy of outfalls from the development: when water is concentrated, what is the capacity of waterways, if any, accepting stormwater off-site; and what measures, including infiltration, sheeting into buffers, etc., are going to be used to prevent the scouring of waterways and drainage areas off-site, etc.		
7	A description of on-site measures to be taken to recharge surface water into the ground water system through runoff reduction practices, including depth of rainfall infiltrated, evapotranspired, harvested and/or used with no discharge to surface waters. If applicable, include discussion of other SCMs/methods in use to meet County permanent stormwater requirements.		
8	Where SCMs are employed that rely on infiltration as a primary mechanism, a geotechnical study will be required to verify infiltration rates. If a stormwater management control measure depends on the hydrologic properties of soils (e.g., infiltration basins), then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles and soil survey reports. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soil types present at the location of the control measure.		

Item #	The following items must be provided for on all stormwater management plans:	Included	Not Applicable
9	Where the permanent runoff rate increases, a detailed downstream analysis will be required, and the stormwater runoff increase must be mitigated. The downstream analysis must be conducted on all receiving system components to the point at which the total subject site represents 10% or less of the encompassing watershed. The analysis shall be performed at minimum for the 2-year through 100-year storm events (if requested by the County, the analysis may also include a shorter duration storm event). The analysis shall evaluate the effects of the permanent flow increase on downstream receiving properties and structures including but not limited to swales, culverts, curb and area drains, etc. The analysis shall demonstrate no adverse impacts upon the downstream receiving properties and structures including adequate structure hydraulic capacity. Increased flow mitigation can consist of onsite detention, longer onsite flow lengths, and/or infiltration.		
10	Existing surface water drainage including streams, ponds, culverts, ditches, sink holes, wetlands; and the type, size, elevation, etc., of nearest upstream and downstream drainage structures.		
11	The design and planning of all permanent stormwater management facilities shall include detailed maintenance and repair procedures to ensure their continued performance. These plans must 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 program and the need for revisions or additional maintenance procedures shall be included in the plan. A permanent elevation benchmark shall be identified in the plans to assist in the periodic inspection of the facility.		
12	Infiltration basins, detention ponds, bioretention areas or rain gardens, and other comparable SCMs that the County deems necessary must be contained within a maintenance easement. Maintenance easements must be recorded on the plat and must completely encompass all components of each SCM as well as the access to the SCM.		
13	All permanent stormwater facilities must be located in drainage easements.		

Note:

¹ The design of minor stormwater management systems, defined as ditches, catch basins, drains, pipes, etc., which collect the initial stormwater runoff shall be based on the 10-year storm frequency. The design of the major stormwater management system, defined as large storm sewers, major culverts, bridges,

etc., which collect flow from the minor system shall be based on the 100-year storm frequency. Critical service roads are not to be inundated by more than three inches of water over one-half the roadway width under a 100-year design storm event. Other existing or new roads shall be designed to have no more than three inches of road overtopping at the 25-year design storm event.

APPENDIX B

**INSPECTION AND MAINTENANCE AGREEMENT
FOR PRIVATE STORMWATER MANAGEMENT FACILITIES**

Property Identification (“Property”):

County Use:

Map: _____ Parcel No. _____ Land Dist. Permit No.: _____
Record Book: _____ Page No. _____

Project Name: _____

Project Address: _____

Owner(s): _____

Owner Address: _____

City: _____ State: _____ Zip Code: _____

**SEE LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBIT A.
SEE SITE SPECIFIC INSPECTION AND MAINTENANCE PLAN ATTACHED HERETO AS
EXHIBIT B.**

This Inspection and Maintenance Agreement (“Agreement”) is made this ____ day of _____, 20__, by and between _____ (“Owner”, whether one or more), and Sumner County (“County”).

WHEREAS, the County is required by federal and state surface water quality regulations and its National Pollutant Discharge Elimination System (NPDES) permit to prevent surface water quality degradation from development or redevelopment activities within its jurisdiction, and the County has adopted surface water quality regulations as required and such regulations are contained in the Stormwater Management resolution; and

WHEREAS the Owner owns the Property identified above and has or will construct certain stormwater management facilities on the Property, and has developed a Stormwater Maintenance Plan (SWMP No. _____), as may be amended from time to time (the “Plan”) for the maintenance of those facilities, which the County has reviewed and approved, and a copy of which will be maintained at Sumner County. A drawing showing the general area of the facilities covered by the Plan is attached to this Agreement for ease of identification.

THEREFORE, in consideration of the benefits received by the Owner as a result of the approval by the County of the Plan, the Owner does hereby covenant and agree with the County as follows:

1. The Owner shall provide adequate long term maintenance and continuation of the stormwater control measures described in the Plan, to ensure that all stormwater facilities are and remain in proper working condition. The Owner shall perform inspection and preventative maintenance activities in accord with the Plan.
2. The Owner shall maintain a copy of the Plan on site, together with a record of inspections and maintenance actions required by the Plan. The Owner shall document the times of inspections, remedial actions taken to repair, modify or reconstruct the system, the state of control measures, and notification of any planned change in responsibility for the system. The County may require that the Owner’s records be submitted to the County.

3. If it is later determined that the County's NPDES permit clearly directs Owners or the County to manage stormwater treatment systems differently than specified in the Plan, the direction of the NPDES permit shall override the provisions of the Plan.
4. The Owner hereby grants to the County the right of ingress, egress and access to enter the Property at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facilities. The Owner hereby grants to the County the right to install and maintain equipment to monitor or test the performance of the stormwater control system for quality and quantity upon reasonable notice to Owner.
5. If the County finds that the Owner has not maintained the facilities, the County may order the Owner to make repairs or improvements to bring the facilities up to the standards set forth in the Plan. If the work is not performed within the time specified by the County, the County may enter the property and take any action necessary to maintain or repair the stormwater management facilities; PROVIDED, HOWEVER, that the County shall in no event be deemed obligated to maintain or repair the stormwater management facilities, and nothing in this Agreement shall ever be construed to impose or create any such obligation on the County.
6. If the County incurs expenses in maintaining the stormwater control facilities, and the Owner fails to reimburse the County for such expenses within 45 days after a written notice, the County may collect said expenses from the Owner through appropriate legal action, and the Owner shall be liable for the reasonable expenses of collection, including all court costs and attorney fees.
7. The Owner and the Owner's heirs, administrators, executors, assigns, and any other successor in interest shall indemnify and hold the County harmless from any and all damages, accidents, casualties, occurrences, claims or attorney's fees which might arise or be asserted, in whole or in part, against the County from the construction, presence, existence, or maintenance of the stormwater control facilities subject to the Plan and this Agreement. In the event a claim is asserted against the County, its officers, agents or employees, the County shall notify the Owner, who shall defend at Owner's expense any suit or other claim. If any judgment or claims against the County shall be allowed, the Owner shall pay all costs and expenses in connection therewith. The County will not indemnify, defend or hold harmless in any fashion the Owner from any claims arising from any failure, regardless of any language in any attachment of other document that the Owner may provide.
8. No waiver of any provision of this Agreement shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any other default.
9. The County, at Owner's expense, shall record this Agreement with the Register of Deeds of Sumner County, Tennessee; this Agreement shall constitute a covenant running with the land, and shall be binding upon the Owner and the Owner's heirs, administrators, executors, assigns, and any other successors in interest.
10. The Owner shall have the facilities inspected in accordance with Section 106 of the County's stormwater resolution and certify to the County that the constructed facilities conform and purport substantially to the approved Plan. If the constructed condition of the facility or its

performance varies significantly from the approved Plan, appropriately revised calculations shall be provided to the County and the Plan shall be amended accordingly.

- 11. Owner agrees that the failure to follow the provisions and requirements of the Plan may result in the revocation of previously approved credits to stormwater user fees, or the imposition of such stormwater user fees or of additional stormwater user fees.
- 12. The Owner agrees that for any systems to be maintained by a property owner's association, deed restrictions and covenants for the subdivision or other development will include mandatory membership in the property owners' association responsible for providing maintenance of the system, will require the association to maintain the stormwater system, will prohibit termination of this covenant by unilateral action of the association, and provide for unpaid dues or assessments to constitute a lien upon the property of an owner upon recording a notice of non-payment.
- 13. This Agreement must be re-approved and re-executed by the County if all or a portion of the Property is subdivided or assembled with other property.

Owner: _____ Date: _____
Signature by Individual

Owner: _____ Date: _____
Signature by Individual

State of _____ County of _____

Personally appeared before me, the undersigned Notary Public of the state and county mentioned, _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and executed this Agreement (Inspection and Maintenance Agreement for Private Stormwater Management Facilities) for the purposes contained herein.

Witness my hand and official seal at office, this ____ day of _____, of the year _____.

Notary Public: _____

My Commission Expires: _____

Accepted by:

For Sumner County

State of _____ County of _____

Personally appeared before me, the undersigned Notary Public of the state and county mentioned, _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and executed this Agreement (Inspection and Maintenance Agreement for Private Stormwater Management Facilities) on behalf of Sumner County for the purposes contained herein.

Witness my hand and official seal at office, this _____ day of _____, of the year _____.

Notary Public: _____

My Commission Expires: _____