

1st READING 8-12-24 pg 832
FINAL READING 8-26-24 pg 841
MINUTE BOOK # 31

ORDINANCE 2024-39

AN ORDINANCE OF THE CITY OF CLEVELAND AMENDING TITLE 18, CHAPTER 3, SECTIONS 18-301 THROUGH 18-314 OF THE CLEVELAND MUNICIPAL CODE PERTAINING TO THE CITY'S MS4 PHASE II STORMWATER MANAGEMENT PROGRAM

WHEREAS, City development and engineering staff are recommending to the City Council that the City amend the City's MS4 Phase II Stormwater Management Program; and

WHEREAS, the City Council desires to amend the Program as recommended by City staff.

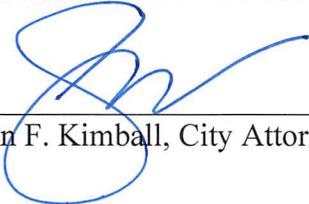
NOW, THEREFORE BE IT ORDAINED by the City Council of the City of Cleveland, Tennessee, in regular session assembled:

Section 1: Title 18, Chapter 1, Sections 18-301 through 18-314 of the Cleveland Municipal Code deleted and replaced with Sections 18-301 through 18-323:

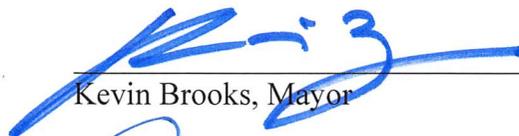
THE TEXT OF NEW SECTIONS 18-301 THROUGH 18-323 (THE APPENDIX) BEGIN ON PAGE 3.

Section 2. This ordinance shall take effect from and after its final passage, the public welfare requiring it.

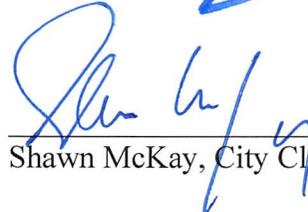
APPROVED AS TO FORM:



John F. Kimball, City Attorney



Kevin Brooks, Mayor



Shawn McKay, City Clerk

MS4 PHASE II STORMWATER MANGEMENT PROGRAM

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18-301 **CREATION, TITLE & SHORT TITLE**

The City of Cleveland, Tennessee created by Ordinance 2004-11 a MS4 Phase II Stormwater Management Program for the City of Cleveland as mandated by the National Pollutant Discharge Elimination System Permit (NPDES) pursuant to 40 CFR 122.26. This section shall provide authority for establishing and administering the MS4 Phase II Stormwater Management Program, and is amended from time-to- time, particularly as necessary due to changes in NPDES requirements. This section may be referred to by its short title, the “Stormwater Ordinance”. (as added by Ord. #2004-41, Nov. 2004, and amended by Ord. #2015-06, March 2015 and Ord. #2024-xx, August 2024).

18-302 **GENERAL PROVISIONS**

- (1) **Purpose** The purpose of this ordinance is to:
- (a) Protect, maintain, and enhance the environment of the City of Cleveland and the public health, safety and the general welfare of the citizens of the city, by controlling discharges of pollutants to the city’s stormwater system and to maintain and improve the quality and quantity of stormwater discharges to the receiving waters into which the stormwater outfalls flow, including, without limitation, lakes, rivers, streams, ponds, wetlands, and groundwater;
 - (b) Enable the City of Cleveland to comply with the National Pollutant Discharge Elimination System permit (NPDES) and applicable regulations, *40 CFR 122.26* and *Tennessee Administrative Code 0400-40-10* for stormwater discharges;
 - (c) Allow the City of Cleveland to exercise the powers granted in *Tennessee Code Annotated Section 68-221-1105*, which provides that among other powers municipalities have with respect to stormwater facilities, is the power by ordinance or resolution to:
 - (i) Exercise general regulation over the planning, location, construction, and operation and maintenance of stormwater facilities in the municipality, whether or not owned and operated by the municipality;
 - (ii) Adopt any rules and regulations deemed necessary to accomplish the purposes of this ordinance, including the adoption of a system of stormwater construction inspection fees 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 site plans and other information for development and redevelopment projects that will result in land disturbance activity;
 - (v) Issue permits for stormwater discharges, or for the construction, alteration, extension, or repair of stormwater facilities; and collect any fees approved by the City Council for permits or plans review pursuant to the stormwater ordinance;
 - (vi) Suspend or revoke permits when it is determined that the permittee has violated any applicable ordinance, resolution, or condition of the permit; and assess and collect administrative or civil penalties for violations of the stormwater ordinance;

- (vii) Regulate and prohibit discharges into stormwater facilities of sanitary, industrial, or commercial sewage or waters that have otherwise been contaminated;
- (viii) Enter contracts, expend funds, or otherwise employ available resources to remediate or mitigate the detrimental effects of contaminated land or other sources of stormwater contamination, whether public or private, or to carry out other responsibilities under the stormwater ordinance.

(2) Jurisdiction and Administering Entity.

- (a) The “MS4 Phase II Stormwater Management Program” shall govern all properties within the municipal boundary or corporate limits of the City of Cleveland, Tennessee.
- (b) The City of Cleveland Development and Engineering Services Department shall administer the provisions of this chapter.
- (c) The City of Cleveland may enter into interlocal agreements to administer stormwater MS4 permit programs located outside the municipal boundary or corporate limits of the City of Cleveland, Tennessee, subject to enabling provisions in *Tennessee Code Annotated 69-3-101* and approval by the City Council.

18-303 DEFINITIONS

(1) "As built plans" means drawings developed from field survey data depicting conditions as they are actually constructed.

(2) "Best management practices" or "BMP's" mean 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 site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs include source control practices (non-structural BMPs) and engineered structures (structural BMPs) designed to prevent pollution at the source or prevent exposure of materials to stormwater. To be considered as BMPs, the foregoing types of practices, procedures, prohibitions, requirements, etc., are to be those approved by the City of Cleveland and incorporated in the stormwater ordinance, whether fully set out herein or incorporated by reference.

(3) "Board" means the Stormwater regulations board.

(4) "Borrow pit" means an excavation from which erodible material (typically soil) is removed to be fill for another site. There is typically 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 purposes of the application of the stormwater ordinance.

(5) "Building permit" means written authorization issued by the City of Cleveland Development and Engineering Services Department for construction that pertains to building activities associated with a structure.

(6) "Building official" means an employee of the City of Cleveland who is a managing inspector

certified by the State of Tennessee to inspect structures under specific code requirements.

(7) "Channel" means a natural or artificial watercourse with a definite bed and banks that conveys water continuously or periodically.

(8) "City" means the City of Cleveland, Tennessee.

(9) "Civil penalties" mean those penalties authorized by *Tennessee Code Annotated, § 68-221-1106* for violations of the stormwater ordinance. The authorized penalty is not less than fifty dollars (\$50.00) and not more than five-thousand dollars (\$5000.00) per day for each day of violation.

(10) "Clearing" means removal of vegetation and disturbance of soil prior to grading or excavation in anticipation of construction activities. Clearing may also refer to wide area land disturbance in anticipation of non-construction activities. Clearing, grading, and excavation do not refer to clearing of vegetation along existing or new roadways, highways, dams, or power lines for sight distance or other maintenance and/or safety concerns, or cold planing, milling, and/or removal of concrete and/or bituminous asphalt roadway pavement surfaces. The clearing of land for agricultural purposes is exempt from federal stormwater NPDES permitting in accordance with *Section 401(1)(1)* of the 1987 Water Quality Act and state stormwater NPDES permitting in accordance with the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.).

(11) "Common plan of development or sale" means 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 take occur on a specific plot. A common plan of development or sale identifies a situation in which multiple areas of disturbance are occurring in contiguous areas. This applies because the activities may take place at different times, on different schedules, by different operators.

(12) "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

(13) "Construction General Permit, or CGP" means the General NPDES Permit for Stormwater Discharges from Construction Activities (TNR1000000) issued by the Tennessee Department of Environment and Conservation, or any successor permits in force at the time of a land disturbance activity.

(14) CWA means the Clean Water Act of 1977 or the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq.)

(15) "Design storm event" means a hypothetical storm event, 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, defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent.

(16) "Detention" means the temporary delay of storm runoff prior to discharge into the natural receiving waters.

(17) "Developer" means any individual, firm, corporation, association, partnership, or trust authorized as an owner or corporate officer to obtain permits, whether federal, state, or local and whose plan or intent is to alter or modify land characteristic or attributes.

(18) "Development" means any alteration or modification to land improved or unimproved, including but not limited to, building construction, demolition, mining, excavation, dredging filling, grading, paving, excavating, drilling operation, or permanent storage of materials ("materials" of like nature stored in whole or in part for more than a period of 30 days).

(19) "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.

(20) "Easement" means an acquired privilege or right of use or enjoyment that a person, party, firm, corporation, municipality or other legal entity has in the land of another.

(21) "Easement interest" means the acquired privilege or the right of use or enjoyment that any lot owner in a platted subdivision has in the private stormwater facilities for the storage and conveyance of all stormwater from the individual lot owners' lot and/or any other lot in a platted subdivision.

(22) "Engineer" or "professional engineer" means a person certified and registered by the State Board of Architectural and Engineer Examiners pursuant to *Section 62-202, Tennessee Code Annotated*, to practice in Tennessee.

(23) "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.

(24) "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.

(25) "Exceptional Tennessee Waters" means surface waters designated by the Tennessee Department of Environment and Conservation as having the characteristics set forth at Tennessee Rules, Chapter 0400-40-03-.06(4). Characteristics include waters within parks or refuges; scenic rivers; waters with threatened or endangered species; waters that provide specialized recreational opportunities; waters within areas designated as lands unsuitable for mining; waters with naturally reproducing trout; waters with exceptional biological diversity and other waters with outstanding ecological or recreational value.

(26) "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 other land uses and activities as designated by an appropriate review authority**
- (k) ready mix facilities (concrete manufacturers).**

(27) "Illicit connections" mean illegal and/or unauthorized connections to the municipal separate stormwater system whether or not such connections result in discharges into that system.

(28) "Illicit discharge" means any discharge to the municipal separate storm sewer system that is not composed entirely of stormwater and not specifically exempted under §18-319(2).

(29) "Impaired waters" mean a watercourse, stream, creek, river, or wetland delineated by the Tennessee Department of Environment and Conservation which is listed on the "303d" list as degraded or non-supportive of specific classified uses, including but not limited, to recreation, drinking water, agricultural, irrigation, fish and aquatic life.

(30) "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). More information regarding an Underground Injection Control Permit can be found on TDEC's DWR webpage at <https://www.tn.gov/content/tn/environment/permit-permits/water-permits1/underground-injection-control-permit.html>

(31) "Inspector" means 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.

(32) "Land disturbing activity" means any activity on property that results in an alteration of the existing soil cover both vegetative and non-vegetative and/or the existing soil topography. Land-disturbing activities include development, re-development, demolition, construction, reconstruction, clearing vegetation, grading, filling, and excavation.

(33) "Land disturbance permit" means written authorization issued by the City of Cleveland Development and Engineering Services Department to an applicant to proceed with or conduct "land disturbing activity" less than 1 acre with specific terms and conditions.

(34) "Landscape architect" or "professional landscape architect " means a person certified and registered by the State Board of Architectural and Engineer Examiners pursuant to *Section 62-202, Tennessee Code Annotated*, to practice in Tennessee.

(35) "Maintenance" means any activity that is necessary to keep a stormwater facility functional and in conformance with an approved Inspection and Maintenance Agreement. 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 condition on the site property that may directly impair the functions of the stormwater facility.

(36) "Memorial tree fund" means a distinct separate fund or account maintained by the City of Cleveland that is solely dedicated to receive and expend funds to landscape public properties and right-of-ways.

(37) "Monitoring" means any tracking or measuring activities, progress, results, etc., and can refer to non-analytical monitoring for pollutants by means other than 40 C.F.R. § 136 (and other than state- or federally established protocols in the case of biological monitoring and assessments), such as visually or by qualitative tools that provide comparative values or rough estimates.

(38) "Municipal separate storm sewer system " (MS4) means the conveyances owned or operated by the municipality 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 municipality that owns the separate storm sewer system.

(39) "National Pollutant Discharge Elimination System permit" or "NPDES permit" means a permit issued pursuant to 33 U.S.C. 1342.

(40) "Off-site facility" means a stormwater control measure located outside the subject property boundary described in the permit application for land development activity.

(41) "On-site facility" means a stormwater control measure located within the subject property boundary described in the permit application for land development activity.

(42) "Operator" means any person who owns, leases, operates, controls, or supervises a source. Including, but not limited to, an owner or operator of any "facility or activity" subject to regulation under the NPDES program.

(43) "Permanent Stabilization" means that all soil disturbing activities at the site have been completed and one of the three following criteria is met:

- (a) A perennial, preferably native, vegetative cover with a uniform (i.e., evenly distributed, without large bare areas) density of at least 70 percent has been established on all unpaved areas and areas not covered by permanent structures, and all slopes and channels have been permanently stabilized against erosion;**
- (b) Equivalent permanent stabilization measures such as the use of riprap; permanent geotextiles; hardened surface materials including concrete, asphalt, gabion baskets or Reno mattresses have been employed.**
- (c) For construction projects on land used for agricultural or silvicultural purposes, permanent stabilization may be accomplished by returning the disturbed land to its preconstruction agricultural or silvicultural use.**

(44) "Peak flow" means the maximum instantaneous rate of flow of water at a particular point resulting from a storm event.

(45) "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 Tennessee or any other state or country.

(46) "Phasing" means planning land disturbance activities in segments or increments to result in the permanent stabilization of one segment prior to the land disturbance of the next segment.

(47) "Pollutant" means sewage, industrial wastes, or other wastes.

(48) "Priority construction activity" means those construction activities discharging directly into, or immediately upstream of, water the state recognizes as impaired (for siltation or habitat alteration) or Exceptional Tennessee Waters.

(49) "Private stormwater facilities" means stormwater storage, conveyance, or treatment facilities that are not located within public right-of-way and shall include but are not limited to detention and retention ponds, structural and non-structural stormwater treatment, and conveyance systems.

(50) "Qualified contractor" means a person who holds certification in the UT/TDEC Level 1 course provided by the Tennessee Department of Environment and Conservation or has satisfactorily

completed equivalent training provided by the City of Cleveland.

(51) "Qualified Local Program Notice of Coverage (QLP-NOC) Permit" means written authorization issued by the City of Cleveland Development and Engineering Services Department to an applicant to proceed with or conduct "land disturbing activity" of more than 1 acre or less than one acre but part of a larger common plan of development with specific terms and conditions.

(52) "Redevelopment" means the alteration of developed land that disturbs one acre or more, or less than an acre if part of a larger common plan of development, and increases the site or building impervious footprint, or offers a new opportunity for stormwater controls. The term is not intended to include such activities as exterior remodeling, which would not be expected to cause a land disturbance.

(53) "Regional detention or retention facility" means a stormwater facility constructed with public or private funds in the interest of public safety to abate or reduce the potential of localized flooding and adverse impacts to established flood hazard districts. A regional detention or retention facility is an offsite stormwater facility maintained by the City of Cleveland serving two or more separate property owners in the same watershed or sub watershed.

(54) "Regional detention or retention banking" means a private capital cash or real property investment by a person or a corporate entity for the purpose of building or causing to be built a regional off-site detention or retention stormwater facility to serve existing properties in the same watershed in lieu of on-site detention or retention.

(55) "Retention pond" means artificial pond used to store or detain stormwater to allow for settlement of suspended solids and biological treatment.

(56) "Runoff" means that portion of the precipitation on a drainage area that is discharged from the area into the municipal separate stormwater system or a receiving water.

(57) "Sediment" means solid material, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice as a product of erosion and has come to rest on the earth's surface either above or below sea level.

(58) "Sedimentation" means the action or process of forming or depositing sediment.

(59) "Soil" or "Topsoil" means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of plants.

(60) "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.

(61) "Stabilization" means providing adequate erosion control measures, vegetative and/or structural, such that erosion is prevented from occurring.

(62) "Start of construction" means the first date that mechanized land disturbance is authorized to

proceed under a land disturbance permit.

(63) "Steep Slope" or "Steep Grade" means a natural or created slope of 35% grade or greater.

(64) "Stormwater" means the runoff generated when precipitation from rain and snowmelt events flows over land or impervious surfaces without percolating into the ground.

(65) "Stormwater associated with industrial activity" is defined in 40 C.F.R. 122.26(b)(14) and incorporated here by reference. Most relevant to the City is 40 C.F.R. 122.26(b)(14)(x), which relates to construction activity including clearing, grading, filling and excavation activities, including borrow pits containing erodible material. Disturbance of soil for the purpose of crop production is exempt from NPDES permit requirements, but stormwater discharges from agriculture-related activities that involve construction of structures (e.g., barn construction, road construction, pond construction) are considered associated with industrial (construction) activity. Maintenance to the original line and grade, hydraulic capacity; or to the original purpose of the facility (e.g., re-clearing, minor excavation performed around an existing structure necessary for maintenance or repair and repaving of an existing road) is not considered a construction activity.

(66) "Stormwater control measure", or "SCM", means a permanent component of a site's stormwater system designed to remove pollutants or reduce velocity by using physical, chemical, or biological processes designed according to criteria in the "*Tennessee Permanent Stormwater Management and Design Guidance Manual*" (most current edition) to settle, filter, uptake, bind, or otherwise reduce the discharge of a stormwater pollutant.

(67) "Stormwater Coordinator" means an employee of the City of Cleveland charged with the responsibility of implementing and enforcing the provisions of this ordinance.

(68) "Stormwater management facilities" means the drainage structures, conduits, ditches, combined sewers, sewers, and all device appurtenances by means of which stormwater is collected, transported, pumped, treated, or disposed of.

(69) "Stormwater Management Plan (SWMP)" means the set of drawings and other documents prepared by a civil engineer licensed in the State of Tennessee and comprised of information and specifications pertaining to site specific drainage systems, structures, SCM's, concepts and techniques intended to maintain or restore quality and quantity of stormwater to the maximum extent practicable.

(70) "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 during land disturbance activities. 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 disturbance 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 and this Ordinance.

(71) "Stormwater regulations board" means a five (5)-member board appointed by the Cleveland City Council to serve in accordance with the terms of § 18-313.

(72) "Stream" means a surface water that is not a wet weather conveyance.

(73) "Surface water" means waters upon the surface of the earth inbounds created naturally or artificially including, but not limited to, streams, other watercourses, wetlands, lakes and reservoirs.

(74) "Temporary stabilization" means establishing vegetation or non-erodible surfaces on the area of disturbance and construction activity has temporarily ceased. Under certain conditions, temporary stabilization is required when construction activities temporarily cease.

(75) "Urban forester" means an employee of the City of Cleveland whose position title is "urban forester."

(76) "Water quality riparian buffer" means a setback from the top of a 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. The goal of the water quality riparian buffer is to preserve undisturbed vegetation that is native to the streamside habitat in the area of the project. Vegetated, preferably native, water quality riparian buffers protect water bodies by providing structural integrity and canopy cover, as well as stormwater infiltration, filtration and evapotranspiration. Water quality riparian buffer width depends on the size of a drainage area.

(77) "Waters with unavailable parameters" means any segment of surface waters that has been identified by the TDEC as failing to support one or more classified uses. Unavailable parameters exist where water quality is at, or fails to meet, the levels specified in water quality criteria in Rule 0400-40-03-.03, even if caused by natural conditions. In the case of a criterion that is a single response variable or is derived from measurement of multiple response variables, the unavailable parameters shall be the agents causing water quality to be at or failing to meet the levels specified in criteria. Resources to be used in making this determination include biennial compilations of impaired waters, databases of assessment information, updated GIS coverages (<https://tdeconline.tn.gov/dwr/>), and the results of recent field surveys. GIS coverages of the streams and lakes not meeting water quality standards, plus the biennial list of waters with unavailable parameters, can be found at <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-quality-reports—publications.html>.

(78) "Water quality treatment volume (WQTV)" means a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the 1-year 24-hour design storm. The WQTV is further determined by the type of treatment provided.

(79) "Watercourse" means a manmade or natural hydrologic feature with a defined linear channel that discretely conveys flowing water, as opposed to sheet flow.

(80) "Watershed" means all the land area that contributes runoff to a particular point along a waterway. (as added by Ord. #2004-41, Nov. 2004, and amended by Ord. #2005-38, Oct. 2005)

(81) “Waters of the state” or simply “Waters” means any and all water, public or private, on or beneath the surface of the ground, that 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 that do not combine or effect a junction with natural surface or underground waters.

(82) “Wetland(s)” means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(83) “Wet weather conveyances” means a 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)).

18-304 WAIVERS & ALTERNATIVES FOR COMPLIANCE

- (1) General. No waivers will be granted for any new development or redevelopment subject to this ordinance. All new development construction and site work shall manage stormwater as required by this ordinance. However, the City may consider alternatives to the City’s stormwater detention requirements under *Section 18-315* as follows:
 - (a) Downstream damage, etc. prohibited. In order to receive consideration, the applicant must demonstrate to the satisfaction of the City of Cleveland Development and Engineering Services Department that the proposed alternative will not lead to any of the following conditions downstream:
 - (i) Deterioration of existing culverts, bridges, dams, and other structures;
 - (ii) Degradation of biological functions or habitat;
 - (iii) Accelerated streambank or streambed erosion or siltation;
 - (iv) Increased threat of flood damage to public health, life or property.
 - (b) 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 SWPPP and/or stormwater management plan, which meets the primary requirement for on-site stormwater management.
- (2) Existing development to comply. All existing development shall comply with the stormwater management requirements of this ordinance that are applicable to such existing development.

18-305**PERMITS REQUIRED****(1) When required.**

Every person conducting a “*land disturbance activity*” on any tract, lot, or parcel of land that meets one or more of the following criteria is required to obtain permit coverage from the City of Cleveland Development and Engineering Services Department pursuant to the provisions of this ordinance.

- (a) A Qualified Local Program Notice of Coverage (QLP-NOC) Permit is required for all land disturbance activity of one (1) acre or more that is not exempt under *Section 18-305, Paragraph 3* of this ordinance, including but not limited to:
 - (i) New development that involves any land disturbance activity of one (1) acre or more; or
 - (ii) Redevelopment that involves any land disturbance activity of one (1) acre or more; or
 - (iii) New development or redevelopment that is part of a larger common plan of development encompassing one (1) acre or more. The larger common plan of development may or may not involve properties that are individually less than one acre and may involve multiple land disturbance activities carried out at different times on different schedules; or
 - (iv) The creation and operation of borrow pits for land disturbance activities of one acre or more where material is excavated and relocated offsite that is not permitted under the Tennessee Multi Sector Permit (TMSP);
 - (v) Any site that receives fill from a land disturbance activity of one (1) acre or more where materials or earth are deposited by mechanized methods resulting in an increase elevation or grade.

- (b) A Land Disturbance Permit is required for projects or developments of less than one acre of total land disturbance where the City of Cleveland Development and Engineering Services Department has determined:
 - (i) The stormwater discharge from a site is causing, contributing to, or is likely to contribute to a violation of a state water quality standard;
 - (ii) The stormwater discharge is, or is likely to be a significant contributor of pollutants to waters of the state; or
 - (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 stormwater permit; or
 - (iv) The site includes a hotspot land use; or
 - (v) The site is adjacent to an impaired stream appearing on the 303d list of the Tennessee Department of Environment and Conservation; or
 - (vi) The site contains karst features, adjoins lakes or streams, contains slopes exceeding fifteen percent (15%), or requires a crossing of a floodplain or stream.

- (2) No QLP-NOC permit or land disturbance permit shall be issued until a Site Plan and all applicable information specified in *Section 18-306* of this ordinance is approved by the City of Cleveland

Development and Engineering Services Department. Permit coverage and approval shall be obtained prior to conducting any land disturbing activity for which such permit coverage or approval is required.

(3) Exemptions.

The following land disturbance activities are exempt from obtaining a QLP-NOC permit or land disturbance permit:

- (a) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources, or for the health and safety of the community, or for the continuation of essential services;
- (b) Existing nursery and agricultural operations conducted as a permitted main or accessory use;
- (c) Logging or agricultural activity that is consistent with an approved farm conservation plan or a timber management plan approved by the Tennessee Department of Environment and Conservation Surface Mining Division, the Tennessee Department of Agriculture, or the Natural Resource Conservation Service.

(4) Building permits in abeyance.

Building permits issued under the authority of the Building Official, or a designee of, shall be held in abeyance until the applicant, owner, or designated representative has fully satisfied the following requirements for a QLP-NOC permit or land disturbance permit:

- (a) Site plan approval pursuant to *Title 14, Chapter 2, Subsection 6.2 of the Zoning Ordinance of the City of Cleveland*;
- (b) Approval of the Site Plan and all applicable information specified in *Section 18-306* of this ordinance by the City of Cleveland Development and Engineering Services Department;
- (c) Receipt of a “QLP-NOC permit or land disturbance permit issued by the City of Cleveland Development and Engineering Services Department authorizing the applicant to discharge stormwater associated with construction activity, if applicable;
- (d) Attendance at a pre-construction conference with the City of Cleveland Development and Engineering Services Department to review implementation of the approved QLP-NOC permit or land disturbance permit and the requirements of this Ordinance for all proposed land disturbance activities that require a QLP-NOC permit or land disturbance permit.

(5) Authorization to implement permit program.

The City of Cleveland Development and Engineering Services Department is authorized to develop and implement a land disturbance permit program and associated policies that are consistent with this ordinance. The City is also approved by the Tennessee Department of Environment and Conservation (TDEC) as a Qualifying Local Program (QLP), authorized to issue a QLP-NOC permit under the latest General Permit for Discharges of Stormwater Associated with Construction Activities.

(6) Permit review procedures.

- (a) The City of Cleveland Development and Engineering Services Department shall review each request for a QLP-NOC permit or land disturbance permit to determine conformance with the provisions of this Ordinance upon receipt of the Site Plan and all applicable information required under *Section 18-306*. Within 10 (ten) standard working days after receiving the Site Plan and all applicable information required under *Section 18-306*, the Engineering Division of the City of Cleveland Development and Engineering Services Department shall provide one of the following responses in written form:
 - (i) Approval of the permit;
 - (ii) Approval of the permit, subject to such reasonable conditions as may be necessary to secure the objectives of this ordinance, and issue the permit subject to these conditions; or
 - (iii) Denial of the permit, indicating the reason(s) for the denial.
- (b) If the City of Cleveland Development and Engineering Services Department has granted conditional approval of the permit, the applicant shall submit a revised Site Plan and applicable information specified in *Section 18-306* of this ordinance reflecting the revisions associated with conditional approval prior to the issuance of the applicable permit.
- (c) If the QLP-NOC permit or land disturbance permit is denied, the applicant may request a meeting with the Director of Development and Engineering Services in an effort to resolve issues pertaining to the permit denial. If issues related to the QLP-NOC permit or land disturbance permit denial cannot be resolved, the applicant may appeal the matter to the Stormwater Regulations Board pursuant to the procedures of *Section 18-322*.

(7) Permit duration.

- (a) Performance of the land disturbance activity in accordance with the approved Site Plan must commence within one year from the approval date of the QLP-NOC permit or land disturbance permit, or the permit will become null and void and all information identified in *Section 18-306* must be resubmitted for approval.
- (b) QLP-NOC permit or land disturbance permits 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 and conducted in accordance with the permit and this Ordinance.

(8) Notice of construction and permit monitoring requirements.

- (a) The applicant shall notify the City of Cleveland Development and Engineering Services Department Stormwater Coordinator ten (10) standard working days prior to the commencement of land disturbance activity approved in conjunction with a QLP-NOC permit or land disturbance permit.
- (b) Quality assurance of erosion prevention and sediment controls shall be done by performing site assessment at a construction site. The site assessment shall be conducted at each outfall involving drainage totaling 10 or more acres or 5 or more acres if draining to an impaired or

exceptional quality waters, within a month of construction commencing at each portion of the site that drains the qualifying acreage of such portion of the site. Site inspections and assessments must be performed in accordance with the current Construction General Permit (CGP).

- (c) The applicant for a QLP-NOC permit or land disturbance permit shall provide erosion prevention and sediment control site inspections on a frequency of two inspections per week at least 72 hours apart in accordance with an approved stormwater pollution prevention plan and with the current CGP. The applicant shall provide qualified contractors to perform such inspections in accordance with *Subsection 5.5.3.10 of the latest Tennessee CGP*.
- (d) The City of Cleveland Development and Engineering Services Department Stormwater Coordinator shall make available to the applicant inspection reporting forms that shall be submitted by the applicant monthly to the Stormwater Coordinator and received no later than the tenth (10th) day of each month. The inspection forms shall include, but not be limited to, the following information:
 - (i) The date and location of the inspection;
 - (ii) Indicate if the land disturbance activity is being conducted in accordance with the approved stormwater pollution prevention plan;
 - (iii) Variations from the approved construction specifications;
 - (iv) Observed violations that existed and remedial action taken.

18-306 SUBMITTAL REQUIREMENTS

- (1) Any person seeking to receive a QLP NOC Permit shall submit documents, sealed in accordance with the Tennessee CGP, for review by the City of Cleveland Development and Engineering Services Department; These documents shall demonstrate compliance with the City’s standards for land disturbance activities provided in *Section 18-309 through 18-315* of this Ordinance. The City will not initiate its review for approval of a QLP-NOC permit until a complete submittal of the following information is received:
 - (a) Notice of Intent.

A completed, signed, and certified Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR1000000), containing the following information:

 - (i) Name, address and legal description of subject property including the tax map reference number and parcel number of the subject property, total area of the property, area of the property to be disturbed, the receiving water(s) for stormwater discharged from the property, and any streams or wetlands within or adjacent to the property;
 - (ii) Name, address, and contact information for the current property owner of record listed in the office of the register of deeds;
 - (iii) Name, address, and contact information for the developer, if different than the current property owner;
 - (iv) Name, address and contact information for the contractor and any subcontractor(s) who shall perform the land disturbing activity and who shall

implement the Stormwater Management Plan;

- (v) An excerpt (8 ½" by 11" or 11" by 17") from the appropriate 7.5 minute United States Geological Survey (USGS) topographic map (or other map showing contours) with the proposed construction site centered and clearly outlined on the map, with all acreage to be disturbed clearly identified. All outfalls discharging runoff from the property, streams receiving the discharge, and storm sewer systems conveying the discharge from outfalls shall be clearly identified and marked on the map.

(b) Site Plan Drawings.

The Site Plan Drawings will consist of one or more topographic base maps with a scale of not less than 1" = 100' that extend a minimum of one-hundred (100) feet beyond the limits of the proposed land disturbing activity. These maps shall collectively show:

- (i) The limits of proposed land disturbance activities;
- (ii) Existing surface water including, but not limited to, streams, ponds, culverts, ditches, sink holes, spring heads, and wetlands;
- (iii) Water quality riparian buffers and other natural and artificial features that will be preserved during the land disturbance activity;
- (iv) Nearest existing upstream and downstream drainage structures with the information such as type, size, and invert elevations of the structures;
- (v) Existing and proposed contours at two (2) foot intervals with reference datum mean sea level;
- (vi) Existing and proposed surface drainage patterns;
- (vii) 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 water quality riparian buffers, where they exist. Complete landscape plans may be submitted separately. The plan must include the sequence of implementation for tree protection measures;
- (viii) Existing and proposed land cover, structures, utilities, roads, easements, other impervious surfaces, and vegetated/landscaped surfaces, including building pad elevation(s) and roadway elevations;
- (ix) Existing and proposed stormwater conveyance systems, pipes, culverts, drainage channels, drainage swales, berms, drainage structures, inlets, and manholes, including, as applicable, the invert elevations, top of structure elevations for structures, spot elevations, and percent grade for the drainage system;
- (x) The location of permanent stormwater quantity/quality control measures that will be built during the land disturbance activity, including discharge points to existing streams, channels, and storm sewers;
- (xi) The location of erosion prevention, sediment control, and construction material/waste controls proposed for each phase of land disturbance, with

notes describing the sequence of construction. Multiple sheets shall be provided as necessary to show the timing and replacement of controls during each stage of construction.

(c) Site Plan Details and Specifications.

The Site Plan will include detailed drawings, accompanied by a set of Technical Specifications, at a level of detail that describes how each stormwater conveyance and control measure will be constructed. The information provided should fully support the construction of the proposed stormwater conveyance and control measures, inclusive at a minimum of the following information:

- (i) Plan view drawings of each SCM, accompanied by drawings of SCMs outfall control structure, clearly showing the dimensions and elevations of required control outlets designed to meet the stormwater control requirements of this Ordinance;
- (ii) Plan and profile drawings accompanied by cross-sectional properties of all proposed stormwater conveyances, including storm sewers and culverts;
- (iii) Details and specifications for permanent site stabilization and erosion control measures, including retaining walls, cribbing, planting, and outfall erosion control/energy dissipation devices;
- (iv) Details and specifications of all temporary erosion prevention, sediment control, and other stormwater pollution control measures that will be deployed during the land disturbance activity, as shown on the Site Plan Drawings.

(d) Stormwater Pollution Prevention Plan (SWPPP) Narrative

The City of Cleveland, as a Qualified Local Program (QLP), requires submittal of a Stormwater Pollution Prevention Plan (SWPPP) to obtain a QLP-NOC permit for land disturbance areas greater than one acre or less than one acre but part of a larger common plan of development. The SWPPP is a narrative report, with appropriate references to applicable Site Plan Drawings, Details, and Technical Specifications. The SWPPP shall describe in detail the potential for soil erosion, sedimentation, and other pollution caused by land disturbance and other construction activities, and the rationale for selection of specific best management practices meeting the design standards established in *Section 18-310* that will be employed to minimize erosion, control sedimentation, and otherwise prevent pollution. The SWPPP shall contain the following information:

- (i) Project Description - Briefly describe the intended project and proposed land disturbing activity including proposed structures; location (to the extent possible) and identification of any proposed additional buildings, structures or development on the site, including number of units and structures to be constructed and infrastructure required;
- (ii) Estimates of the total area of the site and the total area that is expected to be disturbed by excavation, grading, filling or other construction activities;
- (iii) A description of the topography of the site, including an estimation of percent slope and delineation of drainage area (acres) serving each outfall. Drainage area estimates shall include off-site drainage, if applicable;

- (iv) A general description of existing land cover in sufficient detail to support runoff curve numbers/coefficients. Individual trees and shrubs do not need to be identified;
- (v) Identification of any streams on or adjacent to the project, a description of any anticipated alteration of these waters and the permit number or the tracking number of the Aquatic Resources Alteration Permit (ARAP) or Section 401 Certification issued for the alteration;
- (vi) The name and classification of the receiving waters for site runoff;
- (vii) Approximate flows of existing stormwater leaving any portion of the site;
- (viii) A general description of existing soil types and the range of particle sizes, including identification of any hydric soils, and any anticipated soil erosion and sedimentation problems resulting from existing characteristics;
- (ix) 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 permanent improvements on the site, including permanent stormwater conveyance, detention, and control measures;
- (x) An erosion prevention and sediment control (EPSC) plan, with supporting calculations, specific references to the Site Plan Drawings and Details, written rationale for specific remediation measures to prevent erosion and sedimentation run-off, and a description of when the measure will be implemented during construction. The EPSC Plan shall include or reference 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 Site Plan Drawings and Details;
- (xi) A description of temporary and permanent stabilization practices, including site-specific scheduling of the implementation of the practices;
- (xii) Specific details shall be provided for the construction of rock pads, wash down pads, and settling basins for controlling erosion; road access points, eliminating or keeping soil, sediment, and debris on streets and public ways at a level acceptable;
- (xiii) A description of on-site measures to be taken to recharge surface water into the ground water system through infiltration;
- (xiv) Specific remediation measures of how litter, construction debris, concrete truck washout, and construction chemicals exposed to stormwater shall be picked up prior to anticipated storm events or before being carried off of the site by wind (e.g., forecasted by local weather reports), or otherwise prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, daily pick-up, etc.). After use, materials used for erosion prevention and sediment control (such as silt fence) should be removed or otherwise prevented from becoming a pollutant source for stormwater discharges.

(e) Stormwater Management Plan (SWMP) Narrative

The SWMP narrative should contain the following information:

- (i) A statement explaining the amount of estimated runoff used to determine the design characteristics of any drainage device. The upstream watershed shall be considered in design calculations. If warranted, downstream stormwater system improvements may also be required to abate adverse impacts to existing infrastructure or structures;
- (ii) A narrative statement indicating the nature, extent and purpose of the land disturbing activity, including the size of the area for which the permit shall be applicable and a schedule for completion of the land disturbing activity;
- (iii) A tabulation of the percentage of existing and proposed land cover;
- (iv) The estimated cost of stormwater infrastructure to accommodate the proposed development;
- (v) The watershed location and receiving waters for the proposed development;
- (vi) 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, prevention of erosion at permanent outfalls and the receiving stream when water is concentrated, what is the capacity of waterways, if any, accepting stormwater off-site; and what measures, including infiltration, sheeting into water quality riparian buffers, that are going to be used to prevent the scouring of waterways and drainage areas off-site, etc;
- (vii) Calculations, as defined in *Section 18-314 and 18-315* of this ordinance.

(f) Evidence of Appropriate Regulatory Permits.

- (i) Where the property includes a sinkhole and/or waters defined as natural resource or wetland and the proposed land disturbance activity will encroach, potentially impact, or alter state waters, the applicant shall obtain appropriate regulatory permits from the Tennessee Department of Environment and Conservation, and/or other appropriate regulatory permits. The issuance of a land disturbing permit under the authority of this ordinance will be in abeyance until state and federal permits, if applicable, are obtained;
- (ii) The inclusion of state or federal permits in the application shall not foreclose the City of Cleveland Development and Engineering Services Department from imposing additional development requirements and conditions commensurate with this ordinance.

(g) Inspection and Maintenance Agreement

A written Inspection and Maintenance Agreement, recorded with the recorded deed for the property being platted, defining the long-term inspection and maintenance requirements and responsible parties for all permanent stormwater quantity and quality controls serving the site after the land disturbance activity is complete, in conformance with the Standards in *Section 18-317*;

- (2) Any person seeking to receive a land disturbance permit shall submit documents for review by the City of Cleveland Development and Engineering Services Department; These documents shall demonstrate compliance with the City's standards for land disturbance activities provided in *Section*

18-309 through 18-315 of this Ordinance. The City will not initiate its review for approval of a land disturbance permit until a complete submittal of the following information is received:

- (a) Name of applicant;
 - (b) Address of applicant;
 - (c) Name, address, and telephone number of the current property owner of record listed in the office of the assessor of property;
 - (d) Address and legal description of subject property including the tax map reference number and parcel number of the subject property;
 - (e) Name, address and telephone number of the contractor and any subcontractor(s) who shall perform the land disturbing activity and who shall implement the erosion and sediment control plan;
 - (f) A narrative statement indicating the nature, extent and purpose of the land disturbing activity, including the size of the area for which the permit shall be applicable and a schedule for completion of the land disturbing activity;
 - (g) The estimated cost of stormwater infrastructure to accommodate the proposed development;
 - (h) The watershed location and receiving waters for the proposed development;
 - (i) Where the property includes a sinkhole and/or waters defined as natural resource or wetland and the proposed land disturbance activity will encroach, potentially impact, or alter state waters, the applicant shall obtain from the Tennessee Department of Environment and Conservation, or appropriate regulatory permits. The issuance of a land disturbing permit under the Page 16 authority of this ordinance will be in abeyance until state and federal permits, if applicable, are obtained;
 - (j) The inclusion of state or federal permits in the application shall not foreclose the City of Cleveland Development and Engineering Services Department from imposing additional development requirements and conditions commensurate with this ordinance;
 - (k) The owner of record of the proposed development shall sign the application, or the applicant must provide certification from the owner of record providing authorization to act as the owner's agent.
- (3) Each application shall be accompanied by:
- (a) A performance bond in the form of a letter of credit, performance surety, or performance bond valued at the cost of providing as-built drawings in conformance with *Section 18-308*;
 - (b) A fully executed agreement to provide "as-built drawings" of the stormwater infrastructure associated with the proposed development and permanent site stabilization in post construction pursuant to the requirements of *Section 18-317*;
 - (c) A post construction-landscape plan satisfying the provisions of *Section 18-312*, if applicable.
- (4) The owner of record of the proposed development shall sign the submittals as appropriate, or the applicant must provide certification from the owner of record providing authorization to act as the owner's agent.

18-307 PERMIT FEES

(1) The following fees shall apply to the issuance of a QLP-NOC permit or land disturbance permit regulated in accordance with 40CFR 122.26 and pursuant to Section 18-305:

(2) The applicable Permit Fees shall be paid prior to issuance of a QLP-NOC permit or land disturbance permit;

(3) Permit Fees

Residential Lot-Single Family Residence (less than one acre)	\$20
Multi-unit Residential, Commercial, and Industrial Development:	
Less than 1 acre	\$50
Equal to or greater than 1 acre and less than 5 acres	\$250
Equal to or greater than 5 acres and less than 20 acres	\$1,000
Equal to or greater than 20 acres and less than 50 acres	\$3,000
Equal to or greater than 50 acres and less than 150 acres	\$6,000
Equal to or greater than 150 acres	\$10,000

Note: All Primary Operators must submit an NOI for QLP-NOC permit coverage. There are two types of Primary Operators (Initial and Subsequent). Initial Primary Operators are those that submit a site plan for the entire proposed larger common plan of development or sale. Their fee is determined by the acreage of the site. The fee for \$100 fee category applies to subsequent Primary Operators. This fee is to cover administrative costs associated with updating and tracking permit coverage for subsequent Primary Operators.

(4) For land disturbance activities that exceed one year the following additional fees will be applied

Equal to or greater than 1 acre and less than 5 acres	\$125
Equal to or greater than 5 acres and less than 20 acres	\$500
Equal to or greater than 20 acres and less than 50 acres	\$1,000
Equal to or greater than 50 acres and less than 150 acres	\$2,000
Equal to or greater than 150 acres	\$3,750

(5) For sites that require an Inspection and Maintenance Agreement the registration fee is \$12.00 for the first two sheets and \$5.00 for each additional sheet.

(6) Water Quality Fee-303d Watershed

In addition to the permit fee, a water quality impact fee of eighty- five dollars (\$85.00) shall apply to the applicants of a QLP-NOC permit or land disturbance permit subject to MS4 Phase II 303d oversight mandated by the City of Cleveland NPDES Permit issued by the Tennessee Department of Environment and Conservation including, pre-construction conferences, monthly inspections, and associated administrative reporting. Land disturbance activity associated with the development of individual parcels to accommodate a single-family residential structure that is part of a larger common plan of development (residential subdivision), which was constructed in accordance with an approved SWPPP shall be exempt from the water quality impact fee associated with development in a 303d watershed.

18-308 PERFORMANCE BONDS.

- (1) The applicant for a QLP-NOC permit or land disturbance permit shall submit:
 - (a) Performance Bond. A performance bond shall be submitted prior to the issuance of a QLP-NOC permit or land disturbance permit, which may be in the form of an irrevocable letter of credit or irrevocable bond with a value consisting of the total estimated cost of providing as-built drawings and post construction stabilization in accordance with *Sections 18-306*. The applicant shall provide a cost estimate to provide the as-built drawing and landscape components of post construction. The written estimate must bear the seal of a civil engineer licensed in the State of Tennessee, which shall be subject to acceptance, amendment or rejection by the City of Cleveland Development and Engineering Services Department. Alternatively, the City of Cleveland Development and Engineering Services Department shall reserve the right to calculate the cost of providing the post construction elements of *Sections 18-311 through 18-315*.
 - (b) Release of Bond. The performance bond shall be released upon satisfactory submission of as-built plans and post construction stabilization of the development in accordance with *Section 18-317*, upon written certification by a civil engineer stipulating that the private stormwater facilities and infrastructure associated with the development was built in accordance with the approved Site Plan and other information satisfying *Section 18-306*, and the approved site plan pursuant to *Title 14, Chapter 2, Subsection 6.2 of the Zoning Ordinance* of the City of Cleveland. Provisions for a partial pro-rata release of the irrevocable bond or bond will be subject to review based upon satisfactory completion at various stages of development, subject to approval by the City of Cleveland Development and Engineering Services Department.

18-309 WATER QUALITY RIPARIAN BUFFER STANDARDS

- (1) Preservation of Natural Water Quality Riparian Buffers Required.
 - (a) A natural water quality riparian buffer shall be preserved, to the maximum extent practicable, between all land disturbance activities and perennial and intermittent streams, wetlands, lakes, ponds, and other waters of the state.
 - (b) The primary purpose of a water quality riparian buffer is additional pollutant removal.
 - (c) Stormwater discharges must enter the water quality riparian buffer zone as sheet flow, not as concentrated flow, where site conditions allow.
- (2) Criteria for Delineating Water Quality Riparian Buffers.
 - (a) The water quality riparian buffer shall be clearly identified on the proposed site plans and in the Stormwater Management Plan.
 - (b) A Qualified Hydrologic Professional certified by the State of Tennessee shall field-delineate all streams and wetlands within and/or adjacent to the land disturbance area using the methodology from Standard Operating Procedures for Hydrologic Determinations set forth in Tennessee Rules, Chapter 0400-40-03-.05(9).6.

- (c) The following table shall be used to determine the width of the water quality riparian buffer, measured from the top bank on each side of a perennial and intermittent stream, wetland, lake, pond, and other waters of the state:

Water Quality Riparian Buffer Requirements

Type of Stream	Buffer width (feet)	Notes
Waters with available parameters for siltation or habitat alteration or unassessed waters with drainage areas less than 1 square mile.	30 (Average) 15 (Minimum)	The criteria for the width of the water quality riparian buffer can be established on an average width basis at a project, as long as the minimum width of the water quality riparian buffer is more than the required minimum width at any measured location. If the new development or redevelopment site encompasses both sides of a stream, buffer averaging can be applied to both sides, but must be applied independently.
Exceptional Tennessee Waters, waters with unavailable parameters for siltation or habitat alteration, and all streams with drainage areas greater than 1 square mile.	60 (Average) 30 (Minimum)	

- (d) The width of the water quality riparian buffer can be established on an average width basis for a project, as long as the minimum width of the water quality riparian buffer is maintained at any measured location.
- (e) If the construction site encompasses both sides of a perennial and intermittent stream, wetland, lake, pond, or other waters of the state, buffer averaging can be applied to both sides, but each side must meet the average width criterion independently.
- (f) Prior to initiating land disturbance activities, the boundary of the water quality riparian buffer shall be marked with field stakes established at fifty (50) foot intervals or other City approved methods on each side of the stream or wetland.
- (g) The boundary of the water quality riparian buffer will be field surveyed, clearly depicted on the site plan, and recorded with the subdivision plat.
- (3) Maintaining the Water Quality Riparian Buffer during Land Disturbance Activities.
- (a) Construction activities within the water quality riparian buffer shall be avoided and existing forested water quality riparian buffers shall be preserved whenever possible.
- (b) The water quality riparian buffer will remain intact, with no removal of vegetation, including upper and lower story vegetative canopy, during all phases of construction, unless otherwise approved in conjunction with recreational uses identified in the site plan, Stormwater Management Plan, or subdivision plat.
- (c) Rehabilitation and enhancement of a water quality riparian buffer is allowed, if necessary, to

improve its effectiveness in protecting waters of the state.

- (d) The water quality riparian buffer will be segregated from land disturbance activities conducted in accordance with an approved SWPPP.
- (e) Because of the potential heavy sediment loading associated with construction site runoff, water quality riparian buffers are not primary sediment control measures and shall not be relied on as such.

(4) Land Disturbance Activities within Water Quality Riparian Buffers.

- (a) Land disturbance activities may occur within the water quality riparian buffer only where necessary to construct sewer lines, roadways, utility lines or equipment, greenways, a permanent outfall, or a velocity dissipating structure. Any land disturbance within the water quality riparian buffer must be indicated on a site plan, SWPPP, and other documents approved by the City of Cleveland Development and Engineering Services Department and any permits required for land disturbance activities in or near a water of the state must be obtained.
- (b) Where it is not practicable to maintain a full water quality riparian buffer, BMPs providing equivalent protection to a receiving stream as a natural water quality riparian buffer must be used. A justification for use and a design of equivalent BMPs shall be included in the SWPPP.
- (c) Such equivalent BMPs are expected to be routinely used at construction projects typically located adjacent to surface waters.

(5) Preservation of Water Quality Riparian Buffers After Land Disturbance Activities.

- (a) “Permanent” new development and significant redevelopment sites are required to preserve water quality riparian buffers along waters within the City of Cleveland.
- (b) Water quality riparian buffers shall be clearly marked on site development plans and the Stormwater Management Plan.
- (c) Water quality riparian buffer width depends on the size of a drainage area. Perennial and intermittent streams, wetlands, lakes, ponds, and other waters of the state with drainage areas less than 1 square mile will require buffer widths of 30 feet minimum. Perennial and intermittent streams, wetlands, lakes, ponds, and other waters of the state with drainage areas greater than 1 square mile will require buffer widths of 60 feet minimum. The 60-foot criterion for the width of the water quality riparian buffer can be established on an average width basis at a project, as long as the minimum width of the water quality riparian buffer is more than 30 feet at any measured location.

18-310 STORMWATER POLLUTION CONTROL STANDARDS FOR LAND DISTURBANCE ACTIVITIES

(1) Stormwater pollution control (BMP) manual for Land Disturbance Activities.

Adoption. The City of Cleveland adopts the “*Tennessee Department of Environment and Conservation Sediment and Erosion Control Handbook*” (most current edition); as its stormwater

pollution control manual for Construction Activities, which is incorporated by reference in this ordinance as fully set out herein verbatim. Alternative specifications may be utilized upon review and approval by the City of Cleveland Development and Engineering Services Department.

(2) Stormwater Pollution Prevention Plan (SWPPP) Required:

- (a) Any person seeking to obtain a QLP-NOC permit from the City of Cleveland shall prepare a site-specific Stormwater Pollution Prevention Plan (SWPPP) meeting the requirements of this *Section 18-310* of this Ordinance for approval by the City of Cleveland Development and Engineering Services Department and implementation during all land disturbance activities performed.
- (b) The purpose of the SWPPP is to identify construction/contractor activities that could cause pollutants in the stormwater, and to describe measures or practices to control these pollutants during project construction.
- (c) A SWPPP shall present in detail the best management practices meeting the design standards established in this *Section 18-310* that will be employed to minimize erosion, control sedimentation, and otherwise prevent pollution caused by construction activities.
- (d) The SWPPP shall be sealed in accordance with the Tennessee Construction General Permit.
- (e) For more effective implementation of BMPs, a cooperative effort by the different operators at a site to prepare and participate in a site-wide SWPPP is expected. Primary permittees at a site may develop separate SWPPPs that cover only their portion of the project. In instances where there is more than one SWPPP for a site, the permittees must ensure the stormwater discharge controls and other measures are compatible with one another and do not prevent another operator from complying with permit conditions. The site-wide SWPPP developed and submitted by the primary permittee must assign responsibilities to secondary permittees and coordinate all BMPs at the construction site. Assignment and coordination can be done by name or by job title.
- (f) The SWPPP must be updated or amended if site activities diverge significantly from those indicated in the initial SWPPP, if ineffective BMPs must be replaced or supplemented, if a primary or secondary operator is changed or added, or if new regulatory requirements are identified by the City, TDEC, or another regulatory agency.
- (g) A copy of the existing version of the SWPPP shall be retained on-site at the location which generates the stormwater discharge or at an off-site location with local access during normal working hours. The existing SWPPP and inspection reports shall be available upon request.
- (h) Best management practices presented in the SWPPP shall conform to the requirements found in the Tennessee Erosion & Sediment Control Handbook and shall meet or exceed the requirements of the Tennessee Construction General Permit currently in force.
- (i) The SWPPP plan shall include measures to protect legally protected state or federally listed threatened or endangered aquatic fauna or flora or critical habitat (if applicable).
- (j) The SWPPP submitted shall be subject to any additional requirements set forth in the city's

subdivision regulations, zoning ordinance, erosion and sediment control policy and any other applicable city regulations.

- (k) Water quality riparian buffers shall meet the requirements of both the Tennessee Construction General Permit and Section 18-309 Water Quality Riparian Buffer requirements of this ordinance.
- (l) Stormwater pollution prevention plans shall include the components required by the Tennessee Construction General Permit and any other information deemed necessary by the Stormwater Coordinator.
- (m) Requirements for design storm for all waters as well as special conditions for unavailable parameters waters or exceptional Tennessee waters must be consistent with those of the current Tennessee Construction General Permit (TNR100000).
- (n) The municipality has adopted, for use in designing EPSC measures, the design storm requirements from the current Tennessee Construction General Permit for all waters as well as special conditions for unavailable parameters or Exceptional Tennessee Waters.
- (o) Waste Control Construction site operators are required to minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater.

(3) Site Preparation and Clearing Standards

- (a) Pre-construction vegetative ground cover shall not be destroyed, removed, or disturbed more than 14 days prior to commencement of grading or earth moving activities unless the area is subsequently temporarily or permanently stabilized.
- (b) Clearing and grubbing must be held to the minimum necessary for grading and equipment operation. Existing vegetation at the site shall be preserved to the maximum extent practicable. The limits of soil disturbance shall be clearly outlined in the SWPPP and the areas to remain undisturbed clearly indicated on the site, with the methods to be used to mark these areas described in the SWPPP.
- (c) Construction must be phased and sequenced to minimize the exposure time of graded or denuded areas. It is recommended that the total disturbed area at any one time be less than 50 acres. The operator must notify TDEC whenever more a land disturbance exceeds 50 acres and follow requirements in Section 5.5.3.3 of the CGP.
- (d) Off-site vehicle tracking of sediment and the generation of dust shall be minimized. A stabilized construction access shall be described and implemented to reduce the tracking of mud and dirt onto public roads by construction vehicles.
- (e) Soil, sediment, and debris brought onto streets and public ways must be removed by the end of the workday by machine, broom or shovel. Failure to remove the sediment, soil or debris shall be deemed a violation of this ordinance.

(4) Erosion Prevention and Sediment Control Standards:

Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants. Such practices may include, but are not limited to silt fences, earth dikes, drainage swales, sediment traps, check dams, subsurface drains, pipe slope drains, level spreaders, storm drain inlet protection, rock outlet protection, reinforced soil retaining systems, gabions and temporary or permanent sediment basins. EPSC measures must be in place and functional before earth moving operations begin and must be constructed and maintained throughout the construction period stages as appropriate. Temporary measures may be removed at the beginning of the workday but must be replaced at the end of the workday. At a minimum, such controls must be designed, installed and maintained to:

- (a) EPSC measures shall be designed to minimize erosion and maximize sediment removal resulting from a 2-year, 24-hour design storm or a 5-year, 24-hour design storm if discharging into waters with unavailable parameters or exceptional waters;
- (b) Control stormwater volume and velocity to minimize soil erosion in order to minimize pollutant discharges;
- (c) Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points;
- (d) Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater, and soil characteristics, including the range of soil particle sizes expected to be present on the site;
- (e) Provide and maintain water quality riparian buffers as described in *Section 18-309*, direct stormwater to vegetated areas and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible;
- (f) Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specific area of the site dictates that it be compacted; and
- (g) Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed;
- (h) Chemical treatment of the stormwater may be necessary to minimize the amount of sediment being discharged when clay and other fine particle soils or highly erodible soils are present at the construction site. Treatment chemicals are polymers, flocculants or other chemicals used to reduce turbidity in stormwater discharges by chemically bonding to suspended silts and other soil materials and causing them to bind together and settle out. Common examples of anionic treatment chemicals are polyacrylamide-chitosan (PAM-CS). However, the use of cationic polymers for treatment is prohibited;
- (i) For an outfall that receives drainage from 10 or more acres, a minimum sediment basin volume that will provide treatment for a calculated volume of runoff from a 2-year, 24-hour storm and

runoff from each acre drained, or equivalent control measures justified in the SWPPP and approved by the City, shall be provided until permanent stabilization of the site. For an outfall that receives drainage from 5 or more acres draining to waters with unavailable parameters or exceptional waters, a minimum sediment basin volume that will provide treatment for a calculated volume of runoff from a 5-year, 24-hour storm;

- (j) Inappropriate and ineffective controls must be replaced or modified, and any sediment accumulations escaping the land disturbance area must be removed;
- (k) Sediment must be removed from sediment traps, silt fences, sediment basins, and other sediment controls when design capacity has been reduced by 50%;
- (l) For an on-site outfall in a drainage area totaling 3.5 - 4.9 acres, a minimum sediment trap volume or engineering equivalent that will provide treatment for a calculated volume of runoff from a 5-year, 24-hour storm and runoff from each acre drained, is required until permanent stabilization of the site. A drainage area of 3.5 - 4.9 acres includes both disturbed and undisturbed portions of the site or areas adjacent to the site, all draining through the common outfall.

(5) Site Stabilization Standards

- (a) Stabilization practices may include: temporary seeding, permanent seeding, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees and the preservation of mature vegetation.
- (b) When seasonal or climate conditions would prevent timely establishment of vegetation other stabilization practices must be utilized. Use of impervious surfaces for permanent stabilization in lieu of a permanent vegetative cover should be avoided where practicable.
- (c) No stabilization control measures or EPSC measures are to be installed in a stream without obtaining a Section 404 permit and an Aquatic Resources Alteration Permit (ARAP).
- (d) Temporary or permanent soil stabilization at the construction site must be completed within 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Steep slopes shall be stabilized within one week after construction activity on the slope has temporarily or permanently ceased.

(6) Construction Support Activity Control Standards

- (a) Support activities may include concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas and borrow areas. Support activities are authorized provided all of the following conditions are met:
 - (i) The support activity is related to a construction activity that is covered under a QLP-NOC permit or land disturbance permit;
 - (ii) The operator of the support activity is the same as the operator of the land disturbance activity;
 - (iii) The support activity is not a commercial operation serving multiple unrelated construction projects by different operators;

- (iv) The support activity does not operate beyond the completion of the land disturbance activity of the last construction project it supports;
 - (v) Support activities are identified in the Notice of Intent (NOI) and the Stormwater Pollution Prevention Plan (SWPPP). The appropriate controls and measures applicable to the support activity shall be described in a site-wide SWPPP covering all discharges from the support activity areas;
 - (vi) No process (dry weather) wastewater discharges are generated by the support activities. Process (dry weather) wastewater discharges from support activities must be authorized by an individual permit or other appropriate general permit.
- (b) Design and maintain effective controls from support activities associated with a permitted construction activity. At a minimum, such measures must be designed, installed, implemented, and maintained to:
- (i) Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water and other wash waters not containing soaps or solvents. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
 - (ii) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials present on the site to precipitation and to stormwater; and
 - (iii) Minimize the discharge of pollutants from spills and leaks, and implement chemical spill and leak prevention and response procedures.
- (c) The following discharges are prohibited:
- (i) Wastewater from washout of concrete, unless managed by an appropriate control;
 - (ii) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
 - (iii) Fuels, oils, or other potential pollutants used in vehicle and equipment operation and maintenance;
 - (iv) Soaps or solvents used in vehicle and equipment washing.

(7) Non-Stormwater Discharge Standards

The following non-stormwater discharges from permitted land disturbance activities are authorized provided the non-stormwater component of the discharge is in compliance with a SWPPP meeting requirements of Section 18-306(d):

- (a) Dewatering of collected stormwater and groundwater, discharged with appropriate controls such as weir tanks, dewatering tanks, gravity bag filters, sand media particulate filters, pressurized bag filters, cartridge filters or other control units providing the level of treatment necessary to comply with CGP requirements;
- (b) Waters used to wash dust and soils from vehicles where detergents are not used and detention and/or filtering is provided before the water leaves site. Wash removal of process materials

such as oil, asphalt or concrete is not authorized;

- (c) Water used to control dust;
 - (d) Potable water sources, including waterline flushings, from which chlorine has been removed to the maximum extent practicable;
 - (e) Routine external building washdown that does not use detergents or other chemicals;
 - (f) Uncontaminated, non-turbid groundwater or spring water;
 - (g) Foundation or footing drains where flows are not contaminated with pollutants (e.g., lubricants and fluids from mechanized equipment, process materials such as solvents, heavy metals, etc.);
 - (h) Discharges from emergency fire-fighting activities;
 - (i) Fire hydrant flushings;
 - (j) Landscape irrigation;
 - (k) Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used;
 - (l) Uncontaminated air conditioning or compressor condensate.
- (8) The Stormwater Coordinator, at his or her discretion, may require BMPs that conform to a higher than minimum standard for priority construction activities, or for exceptional Tennessee waters or where deemed necessary.
- (9) Affidavit. When fragile, complex, or hazardous areas are present, including but not limited to, unstable slopes, uncontrolled fill, federal jurisdictional wetlands, or sinkholes, the City of Cleveland Development and Engineering Services Department Stormwater Coordinator may require an affidavit executed by the owner and engineering representative that may include:
- (a) Compaction report where a site is proposed to be filled and used for a building pad or roadway;
 - (b) Soil engineering report, including data regarding the nature, distribution, strength of existing soils, conclusions, and recommendations for earthwork procedures;
 - (c) Geology report, including a description of site geology, conclusions, and recommendations regarding the effect of geologic conditions on the proposed development.
- (10) Priority Construction
- (a) Priority in construction shall be, at a minimum, those construction activities discharging directly into, or immediately upstream of, waters the state recognized as unavailable condition for siltation or Exceptional Tennessee Waters.

- (b) Requirements for all priority construction activities must include preconstruction meetings with construction site operators for priority construction activities.

18-311 RETAINING WALL STANDARDS.

- (1) Retaining walls located on private property shall be the responsibility of the applicant(s). The applicant(s) shall ensure that the retaining wall is properly constructed. The applicant(s) shall be responsible for maintenance and repairs of all retaining walls on their property. Applicants are not allowed to construct retaining walls of any size within public right-of-way or in areas that will be dedicated for public right-of-way.
- (2) The following information must be included in the Site Plan, Site Plan Details, and Stormwater Management Plan submitted according to *Section 18-306*:
 - (a) A plan sheet that includes existing and proposed contours of the wall, top elevation of the wall, drainage features, buildings, property lines, proposed wall locations, any public easements, parking facilities and streets.
 - (b) A typical wall section showing wall and footing dimensions, backfill slopes, finished grade elevations, steel reinforcement details, weephole locations, and subsurface drainage systems.
 - (c) Engineering calculations for the design of the wall, noting all assumptions such as concrete and steel reinforcement strengths, soil parameters, surcharges, bearing pressures, safety factors for bearing capacity, overturning and sliding. The minimum required factors of safety are: Bearing Capacity = 3.0, Overturning = 2.0, & Sliding = 1.5.
- (3) All retaining wall plans, profiles, cross sections and calculations shall be prepared and sealed by a registered professional engineer licensed to practice in the state of Tennessee. The professional engineer must have sufficient education and experience to design a retaining wall that ensures the safety of the general public. The professional engineer shall also have complete control of all aspects of the design and preparation of plans and calculations. Approval of necessary plans and calculations will not transfer responsibility of the retaining wall design to the City of Cleveland.
- (4) The professional engineer shall be responsible for all aspects of the retaining wall design. The use of standard designs from reputable manufacturers or from TDOT standard details are allowable and encouraged, but the professional engineer that stamps the drawings and computations are responsible for the retaining wall design. Inadequate information from geotechnical investigations and reports will not excuse the engineer's responsibility or liability.

18-312 POST CONSTRUCTION LANDSCAPING STANDARDS.

- (1) When Required. A post construction stabilization and landscape plan shall be required for;
 - (a) Proposed development requiring a QLP-NOC permit or land disturbance permit under the provisions of *Section 18-305, subsection (1)* with a land use designation or proposed land use of industrial, commercial, or multi-unit residential structures with a cumulative living area of five-thousand (5,000) square feet, or greater.

- (b) Redevelopment and property improvements.
 - (i) Existing industrial, commercial, or multi-unit residential structures that are expanded by fifty-percent (50%), or greater;
 - (ii) The addition of parking spaces to serve an existing industrial, commercial, or multi-unit residential structure where the existing parking area is increased by twenty-five percent (25%), or greater.

(2) Exemptions. The following land disturbance activity or development is exempt from the post construction landscape plan requirement of *Section 18-312*:

- (a) Exempt from obtaining a QLP-NOC permit or land disturbance permit under the provisions of *Section 18-305, Subsection (3)*;
- (b) Single family residential parcels that are a part of a larger common plan of development (larger tract divided into parcels). QLP-NOC permits or land disturbance permits in accordance with *Section 18-305, Subsection (1)* shall be required for parcels of a larger common plan of development in accordance with NPDES MS4 Phase II requirements;
- (c) Development in the Central Business District (CBD) zoning district.

An exemption of the post construction landscape provisions of *Section 18-312* does not constitute an exemption from the remaining provisions of this ordinance; such remaining provisions shall apply to all land disturbance activity identified in *Section 18-305, Subsection (1)* in accordance with the State of Tennessee NPDES MS4 Phase II Stormwater Permit issued to the City of Cleveland.

(3) Landscape plan requirements. The applicant for a QLP-NOC permit or land disturbance permit shall submit a post construction landscape plan in accordance with *Section 18-312, Subsection (1)*. The landscape plan shall be developed by a professional in accordance with rules promulgated by the State of Tennessee Board of Architectural and Engineering Examiners, the landscape plan shall be prepared by a qualified registrant. The landscape plan shall contain the following:

- (a) Plant Schedule. The plant schedule shall contain:
 - (i) Quantity of plant material;
 - (ii) Common and botanical name of plant material;
 - (iii) Size and spacing of landscape materials at time of planting;
 - (iv) General plant comments;
 - (v) Plant materials located in the public right-of-way;
 - (vi) Location and description of landscape improvements, including perimeter landscaping, landscaping within parking lots, and water quality riparian buffers if the parking area is two (2) or more acres, (the description shall include the size of the parking area and the actual percentage of the parking area used for landscaping);
 - (vii) Planting and installation details to ensure conformance with all required standards; and
 - (viii) Irrigation system details.

- (4) Landscape plan review procedures. The landscape plan will be reviewed by the Urban Forester in accordance with the provisions of *Section 18-305, Subsection (6)* of this ordinance.
- (5) Alternative Landscaping Plan. Recognizing the need for diversified methods of landscaping, the applicant for a QLP-NOC permit or land disturbance permit may submit an alternative methods or materials to the Urban Forester to determine if the proposed alternative satisfies the provisions of this ordinance;
- (6) Memorial Tree Fund. If an alternative landscape plan is not feasible as determined by the Urban Forester, and the applicant for a QLP-NOC permit or land disturbance permit is unable to achieve the intent of the landscape plan, the applicant may achieve the necessary equivalency in off-site landscaping in conjunction with the Memorial Tree Fund. The mitigation or exchange ratio shall be 2:1 calculated at the current fair market value to purchase plant materials, planting, and maintenance. Payments received for mitigation or off-site landscaping shall be deposited in the Memorial Tree Fund and shall be expended solely to landscape public properties and right-of-ways.
- (7) Landscape plan standards. A landscape plan shall include at a minimum:
 - (a) Plant materials approved by the Urban Forester;
 - (b) Shade trees shall be a minimum of one and one-half (1 ½) inches in caliper, ornamental trees be a minimum of one and one-half (1 ½) inches in caliper, and evergreen trees shall be a minimum of six (6) feet in height;
 - (c) The owner shall ensure that planting areas, i.e.. tree pits, hedge trenches, and shrub beds are excavated appropriately. Soil within the planting areas should be reasonably free of rock, debris, inorganic compositions and chemical residues. Plants shall rest on a well compacted surface;
 - (d) Existing trees shall be preserved whenever feasible;
 - (e) Planting Areas shall be mulched to a thickness of three (3) to four (4) inch in depth and consist of bark, pine needles, or other suitable materials to cover the planting areas, remaining landscape areas shall be in grass or ground cover;
 - (f) Trees and shrubs shall not be located within a dedicated utility easement, whether private or public utilities;
 - (g) Landscape plans shall not include plant materials on the undesirable plant list. The Urban Forester and/or the Department of Community Development shall provide the undesirable plant list.
 - (h) Perimeter Landscaping.
 - (i) Planting yards are required around the perimeter or an equivalent area of a development, with the exclusion egress for vehicles or pedestrians. Traffic considerations shall be paramount in perimeter landscaping.
 - (ii) A Planting Yard shall be a minimum width of five (5) feet for a parcel with a

total area of two (2) acres or less, eight (8) feet for a parcel with a total area of two (2) acres, or greater.

- (iii) The width of perimeter planting yard may range from zero percent (0%) to two-hundred (200%) percent of the required minimum width along the perimeter, but the average width of the perimeter planting yard shall be at least the required minimum.
- (iv) Plantings yards shall be placed along the front, side and rear property lines, with traffic and safety considerations being paramount. A property bounded by two or more public right-of-ways has two or more front yards;
- (v) Planting yards shall contain a number of shade trees equivalent to one (1) shade tree for each forty (40) linear feet of perimeter, excluding any vehicular access way. Ornamental trees may be substituted for up to forty percent (40%) of otherwise required shade trees. Shade trees shall not be planted under overhead utility lines. Landscaping trees shall be distributed along property lines; however, distribution is to be in accordance with design considerations particular to the site, such as screening, traffic site distance, safety, and aesthetics. In order to achieve equity in the number of shade trees required for development occurring on sites with equivalent areas, but with different perimeter lengths, the number of shade trees required for each forty feet of perimeter shall not exceed what would have been required had the site been a perfect square.
- (vi) Planting yards shall consist of diverse species of trees satisfying spacing criteria cited in this part and shall incorporate shrubs at equal intervals planted between perimeter trees, subject to approval of the Urban Forester. One tree species shall not comprise more than sixty percent (60%) of the total number of trees provided;
- (vii) In the case of a larger common plan of industrial, commercial, or multi-unit residential structures resulting in multiple parcel of the same zoning classification, perimeter landscaping shall be limited to the larger tract prior to dividing into parcels.

(i) Landscaping parking areas – proposed development.

Proposed parking areas shall be effectively landscape islands with trees and shrubs to reduce adverse impacts of peak stormwater from impervious areas. Development of lots of record in existence prior to the effective date of this ordinance which are being developed so as to be required to provide twenty (20) or fewer parking spaces, and which are not otherwise part of a larger common plan of development, are exempt from the parking area landscaping requirements of this subsection.

- (i) Proposed parking areas shall incorporate landscape islands to consist of a minimum of four percent (4%) of the total impervious area, exclusive of the building footprint area.
- (ii) Proposed parking areas with a single access aisle shall be designed and constructed with landscape islands dividing rows of parking spaces at increments of twenty (20) spaces. Off-street parking areas with multiple access aisles shall be designed and constructed with landscape islands dividing at least every twelve (12) parking spaces in a row. Landscape islands

shall have a minimum width of eight (8) feet and shall have a minimum depth equal to the depth of the adjacent parking stall(s). Landscape island spacing criteria notwithstanding, the greater of five (5) or 20% of the required landscape islands may be combined with other islands or otherwise located around the parking lot or on its perimeter when necessary to accommodate other design considerations including, but not limited to, the location of handicapped parking, fire lanes, loading zones, and other site features. Each landscape island shall have at least one shade tree, except that an ornamental tree is to be substituted for the shade tree underneath an overhead power line, and three shrubs.

- (iii) Landscape islands shall be constructed to include a continuous curbing perimeter, and shall be back-filled with topsoil to a depth of eighteen (18) inches and shall be free of rock, debris, inorganic compositions, and chemical residues detrimental to plant life.
- (iv) The landscape requirements for parking lots are in addition to the requirements for water quality riparian buffers and perimeter landscaping.

(j) Landscape requirements for existing parking areas:

- (i) In parking areas subject to *Section 18-312 Subsection (1)(b)* trees shall be planted at the rate of one (1) shade tree per twelve (12) parking spaces;
- (ii) Trees shall be located within or adjacent to parking areas as tree islands, medians, at the end of parking bays, traffic delineators, or between rows or parking spaces in a manner;
- (iii) The landscape requirements for parking lots are in addition to the requirements for water quality riparian buffers and perimeter landscaping.

(k) Irrigation Requirement. The post construction landscape plan shall identify irrigation measures to satisfy survival rate requirements.

- (i) Landscaping materials installed in accordance with an approved landscape plan shall be watered by one of the following methods:
 - (1) An above ground or under ground irrigation system; or
 - (2) A hose attachment, within one-hundred (100) feet of all landscaping.
- (ii) Landscape irrigation water shall supplement rainfall at a rate of one (1) inch per week during the growing seasons. Slow release (i.e. “treegators”) bags are recommended for supplemental watering.

(8) Landscape Installation. Landscaping materials shall be installed in accordance with widely accepted professional planting procedures. Landscape materials, which fail to satisfy the minimum requirements or standards of this ordinance at the time of installation, shall be removed and replaced with acceptable materials.

(9) Maintenance Requirements-Warranty. The applicant shall warranty plant material survival of ninety-percent (90%) for a two (2) year period consistent with an approved landscape plan.

18-313 PERMANENT STORMWATER CONTROL MEASURE STANDARDS

- (1) Stormwater Control Measures (SCMs) Manual.
 - (a) Adoption. The City of Cleveland adopts the “*Tennessee Permanent Stormwater Management and Design Guidance Manual*” (most current edition) as its permanent stormwater control measure (SCM) manual, which is incorporated by reference in this ordinance as fully set out herein verbatim. Alternative specifications may be utilized upon review and approval by the City of Cleveland Development and Engineering Services Department.

- (2) Permanent Stormwater Control Measures (SCMs) Required. New development and redevelopment projects with a land disturbance of 1 acre or more, or less than one acre but part of a larger common plan of development, shall be designed to reduce pollutants to the Maximum Extent Practicable (MEP). Compliance with permanent stormwater standards for new development and redevelopment projects is determined by designing and installing SCMs as established by this Ordinance and in Tennessee Administrative Code *Section 0400-40-10*. For design purposes, total suspended solids (TSS) may be used as the indicator for the reduction of pollutants.

- (3) SCMs must be designed according to the City’s SCM Manual to provide full treatment capacity within 72 hours following the end of the preceding rain event for the life of the new development or redevelopment project. Application of innovative SCMs is encouraged, subject to approval by the City of Cleveland Development and Engineering Services Department.

- (4) The water quality treatment design storm is a 1-year, 24-hour storm event as defined by Precipitation-Frequency Atlas of the United States. Atlas 14. Volume 2. Version 3.0. U.S. Department of Commerce. National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Hydrometeorological Design Studies Center, Silver Springs, Maryland or its digital product equivalent.

- (5) The water quality treatment volume (WQTV) is a portion of the runoff generated from impervious surfaces at a new development or redevelopment project by the design storm, as set forth below. SCMs must be designed, at a minimum, to achieve an overall treatment efficiency of 80% TSS removal from the WQTV.

- (6) The quantity of the WQTV depends on the type of treatment provided, as established in the following table:

**Water Quality Treatment Volume and the Corresponding SCM Treatment Type
for the 1-year, 24-hour Design Storm**

SCM Treatment Type	WQTV	Notes
Infiltration, evaporation, transpiration, and/or reuse	Runoff generated from the first 1 inch of the design storm	Examples include, but are not limited to, bioretention, stormwater wetlands, and infiltration systems.
Biologically active filtration, with an underdrain	Runoff generated from the first 1.25 inches of the design storm	To achieve biologically active filtration, SCMs must provide minimum of 12 inches of internal water storage.
Sand or gravel filtration, settling ponds, extended detention ponds, and wet ponds	Runoff generated from the first 2.5 inches of the design storm or the first 75% of the design storm,	Examples include, but are not limited to, sand filters, permeable pavers, and underground gravel detention systems. Ponds must provide forebays comprising a minimum of 10% of the total design volume. Existing regional detention ponds are not subject to the forebay requirement.
Hydrodynamic separation, baffle box settling, other flow-through manufactured treatment devices (MTDs), and treatment trains using MTDs	Maximum runoff generated from the entire design storm	Flow-through MTDs must provide an overall treatment efficiency of at least 80% TSS reduction. Refer to subparagraph (2)(d) of this rule

- (7) Limitations to the application of certain stormwater control measures include, but are not limited to:
- (a) Where a potential for introducing pollutants into the groundwater exists, unless pretreatment is provided;
 - (b) Where pre-existing soil contamination is present in areas subject to contact with infiltrated runoff;
 - (c) Presence of sinkholes or other karst features.
- (8) Pre-development infiltrative capacity of soils at the site must be taken into account in selection of runoff reduction management measures.
- (9) Treatment Train Calculations
- (a) Treatment trains using MTDs.

Treatment trains using MTDs must provide an overall treatment efficiency of at least 80% TSS reduction utilizing the following formula:

$$R = A + B - (A \times B) / 100$$

where:

R = total TSS percent removal from application of both SCMs,

A = the TSS percent removal rate applicable to the first SCM, and

B = the TSS percent removal rate applicable to the second SCM.

TSS removal rates for MTD must be evaluated using industry-wide standards.

TSS removal rates for other SCMs must be from published reference literature.

(b) Treatment trains not using MTDs.

Treatment trains using infiltration, evaporation, transpiration, reuse, or biologically active filtration followed by sand or gravel filtration, settling ponds, extended detention ponds or wet ponds may subtract the treated WQTV of the upstream SCMs from the WQTV of the downstream SCMs.

(10) Incentive Standards for re-developed sites: The WQTV may be reduced by up to a 20% for any one of the following conditions, and up to a total maximum of 50% for a combination of the following conditions:

- (a) Redevelopment projects (including, but not limited to, brownfield redevelopment);
- (b) Vertical density (floor to area ratio of at least 2, or at least 18 units per acre); and
- (c) Incentives as identified by the permittee, submitted to the Division, and approved by the Division in writing, and documented as part of the stormwater management program.
 - (i) High density (>7 units per acre); and
 - (ii) Mixed use and Transit Oriented Development (within ½ mile of transit).

Such credits are additive such that a maximum reduction of 50% of the standard in the paragraph above is possible for a project that meets all criteria:

- (11) For projects that cannot meet 100% of the water quality treatment volume requirements, the City of Cleveland Development and Engineering Services Department may allow stormwater control measures to be implemented at another location within the same USGS 12- digit hydrologic unit code (HUC) as the original project. Off-site mitigation must be a minimum of 1.5 times the amount of water not managed on site. The off-site mitigation location (or alternative location outside the 12-digit HUC) and stormwater control measures must be approved by the City of Cleveland Development and Engineering Services Department. The City of Cleveland Development and Engineering Services Department shall identify priority areas within the watershed in which mitigation projects can be completed. The City of Cleveland Development and Engineering Services Department must create an inventory of appropriate mitigation projects, and develop appropriate institutional standards and management systems to value, evaluate and track transactions. Mitigation can be used for retrofit or redevelopment projects, but should be avoided in areas of new development.
- (12) To protect stream channels from degradation, specific channel protection criteria shall be provided as prescribed in the Tennessee Erosion and Sediment Control Handbook.

- (13) 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.
- (14) Stormwater discharges from hot spots may require the application of specific structural BMP's and pollution prevention practices. In addition, stormwater from a hot spot land use may not be infiltrated.
- (15) Prior to or during the site design process, applicants for QLP-NOC permit or land disturbance permits shall consult with the City of Cleveland Development and Engineering Services Department to determine if they are subject to additional stormwater design requirements.
- (16) The calculations for determining peak flows as found in *Section 18-313, subsection 18* shall be used for sizing all stormwater facilities.
- (17) Calculations. Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms utilizing accepted engineering principles and practices. These calculations must show that the proposed stormwater control measures are capable of controlling runoff from the site in compliance with this ordinance and meet the requirements of the City of Cleveland Development and Engineering Services Department. Such calculations shall include:
 - (a) A description of the design storm frequency, duration, and intensity where applicable;
 - (b) Time of concentration;
 - (c) Soil curve numbers or runoff coefficients appropriate for the WQTV, including assumed soil moisture conditions, or infiltration parameters from a time-mass approach to calculating time-varying estimates of runoff and infiltration;
 - (d) Peak runoff rates and total runoff volumes for each watershed area;
 - (e) Infiltration rates, where applicable;
 - (f) Stormwater conveyance system capacities;
 - (g) Flow velocities;
 - (h) Rate and volume of runoff data for the design storms events referenced in *Section 18-313 subsections (4), (5), and (6)*;
 - (i) Documentation of sources for all computation methods and field test results;
 - (j) Stormwater discharges from new development and redevelopment sites must be managed such that post development hydrology does not exceed the pre development hydrology at the site.
- (18) Soils Information. If a stormwater control measure is dependent on the hydrologic properties of soils, 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.

STORMWATER CONVEYANCE SYSTEM STANDARDS

- (1) Stormwater conveyance systems including, but not limited to, open ditches, pipes, culverts, catch basins, drop inlets, and bridges shall be incorporated in the Site Plan in conjunction with minimum standards prescribed in this ordinance, and shall be designed by a civil engineer licensed in the State of Tennessee. Stormwater facilities constructed in conjunction with a proposed development or property improvements shall be an integral component of the site's stormwater quantity and quality control system that shall be reviewed and approved by the City of Cleveland Development and Engineering Services Department prior to issuance of a QLP-NOC permit or land disturbance permit. Stormwater hydrology and hydraulic calculations shall be provided in the Stormwater Management Plan and reflected in the Site Plan.
- (2) The stormwater conveyance system design shall satisfy the minimum design standards:
 - (a) Erosion, sedimentation, and stormwater control measures, pipes, structures, and devices shall be planned, designed, constructed, operated and maintained so as to provide effective soil erosion and stormwater control from the peak runoff rates. The stormwater conveyance system shall be designed to accommodate a ten (10) year return frequency twenty-four (24) hour duration storm, except for those facilities which would flood public roadway classified by the Tennessee Department of Transportation as a collector or arterials. Where warranted by local controlling factors, an alternative storm frequency shall be required;
 - (b) In conjunction with Federal Emergency Management Agency (FEMA) requirements, stormwater receiving inlets shall not restrict the flow of floodwaters or increase flood heights. Stormwater culverts shall be designed for a one hundred (100) year flood frequency, when such culvert is located in a one hundred (100) year floodplain. Transportation facilities classified as a collector or arterial by the Tennessee Department of Transportation facility inventory shall utilize a fifty (50) year flood frequency for stormwater culvert design, and a ten (10) year flood frequency shall be utilized for local transportation facilities. Although roadway overtopping will be allowed for 10 year and 50 year floods, the design shall be such that damage will not occur to the roadway or adjacent properties during a 100 year flood;
 - (c) Stormwater swales shall be designed utilizing acceptable engineering principles and practices to accommodate a one hundred (100) year storm event and the design shall demonstrate that the stormwater swale at full capacity will not result in structural flooding of adjacent buildings and structures;
 - (d) Stormwater site runoff calculations shall be developed utilizing the Rational Formula for watersheds of forty (40) acres of less. For watersheds less than two thousand (2000) acres, the Natural Resource Conservation Service (NRCS, formerly the Soil Conservation Service) TR-55 method shall be utilized. For watersheds greater than two thousand (2000) acres, the flood frequency methodology utilized by the US Army Corps of Engineers such as HEC-1, HEC-HMS, or TR-20 shall be employed in the stormwater calculations;
 - (e) The minimum culvert size shall be fifteen (15) inch inside diameter. The maximum allowable slope of a culvert shall be fifteen (15) percent without pipe restraining methods utilized in the design and construction. Energy dissipaters shall be provided at the outlet end of all culverts;

- (f) Stormwater discharges and conveyances originating from storage facilities including, but not limited to, detention basin(s) must be routed to an existing natural or manmade stormwater channel. Hydraulic calculations utilizing the methodology of *Section 18-314, Subsection (2)(d)* shall demonstrate that the capacity of the receiving stormwater channel will accommodate a two (2) year and ten (10) year design flood event. The hydraulic calculations and stormwater computations must extend at a minimum to the second downstream roadway crossing, or to a blue- line stream appearing on a United States Geological Society (USGS) map. Routing calculations must be extended further downstream, if the City of Cleveland Development and Engineering Services Department has reasonable concern of adverse downstream impacts to public infrastructure or property;
- (g) Stormwater drainage culverts shall be installed on a uniform grade and with a compacted base. In the event rock is encountered in the culvert trench, the rock shall be removed four (4) inches below the site plan grade. Stormwater culverts shall be installed with the spigot end directed as the flow inlet with joints established utilizing manufacture's specifications, at a sufficient depth below the surface to ensure the culvert will not collapse, and in conjunction with specifications applicable to the product. The minimum depth of a culvert below a roadbed surface shall be one (1) foot. Roadway cross drains shall be of a minimum length to collect stormwater from the full roadway width, including shoulders and side slopes;
- (h) All stormwater conveyance structures, pipes, or culverts, located under roadways shall incorporate end walls, headwalls, concrete aprons, concrete wing walls, and/ or rip-rap rock as end treatment, as necessary, to prevent erosion;
- (i) The designer shall incorporate stormwater collection structures to capture runoff from paved surfaces in all sag locations and other depressed areas to ensure positive drainage. Collection structures should be spaced so that the spread (width of stormwater) in roadway areas to collect the design flow shall not exceed six (6) feet;
- (j) Inlet capacity at sags shall include provisions for debris blockage by providing twice the required operational flow. Where inlet conditions control the amount of flow that can pass through the culvert, improved inlets can greatly increase the hydraulic performance of a culvert and shall be required at the discretion of the City of Cleveland Development and Engineering Services Department;
- (k) Stormwater collection structures, manholes, and junction boxes shall consist of prefabricated reinforced concrete structures, cast in-place, or an approved equivalent. Stormwater collection or inlet structures shall conform to Tennessee Department of Transportation standards or an approved equivalent;
- (l) Open stormwater conveyance channels, trenches, or ditches incorporated in the Stormwater Management Plan shall include stabilization in accordance with *Section 18-310 Subsection (1)* to abate erosion within the channel;
- (m) When necessary for proper stormwater conveyance, inlet and outlet ditches shall be provided at drainage structures. Minimum drainage easements shall be provided for residential subdivision developments in accordance with the *Cleveland Subdivision Regulations, Section 4.08B*, and incorporated on side and rear parcel lines. Where at all possible, primary

stormwater conveyances shall be incorporated at the rear of the lot lines and not parallel to the roadway to avoid having oversized stormwater structures under driveway;

- (n) Plans and specifications for all retaining walls, cribbing, planting, anti-erosion devices, or other protective devices, whether temporary or permanent, to be constructed in conjunction with or as a part of the proposed development shall be included in the SWMP. Retaining walls shall meet the requirements specified in Section 18-311 of this ordinance.

18-315 STORMWATER DETENTION DESIGN STANDARDS

(1) Stormwater detention design- minimum standards.

In the interest of public safety and stormwater quality, stormwater detention measures shall be integrated into the site to abate increased peak stormwater. The primary criteria in evaluating the Stormwater Management Plan and site designs shall be the comparison of pre-development site runoff and post-development site runoff. Other evaluation processes shall include an assessment of potential increase in stormwater flood height, the frequency of flooding, and the proximity to any structures. Stormwater detention shall be implemented as follows:

- (a) Residential development where more than one-half (1/2) acre of impervious surface (including stone and other partially impervious materials) is added to the property.
 - (b) Commercial and industrial development where more than one-half (1/2) acres of impervious surface (including stone and other partially impervious materials) is added to the property.
 - (c) For the re-development of residential, commercial, and industrial land where the existing impervious area is greater than one-half (1/2) acre or development improvements increase the impervious surface on the property to more than one-half (1/2) acre, the property will be evaluated by the City Engineer for stormwater detention requirements to mitigate increased runoff.
- (2) When a proposed development, re-development, or activities such as land disturbance or property stormwater facility improvements does not exceed the criteria listed above in *Section 18-315 (b)*, the City of Cleveland Development and Engineering Services Department shall have the authority to require a drainage study prepared by a licensed civil engineer in the State of Tennessee to evaluate the impacts of the proposed development. If required by the City of Cleveland Development and Engineering Services Department, the developer shall obtain approval for design measures and implement the stormwater storage detention measure to mitigate increased stormwater runoff from the property.
- (3) All development or re-development meeting the criteria listed in Section 18-315 (1) shall control the peak stormwater flow rates of the site stormwater discharges associated with design storms specified in Section 18-315 (5) and reduce the post construction stormwater to pre-construction levels.
- (4) The stormwater detention or retention storage requirements may be waived or modified if the following occurs:
- (a) The peak runoff discharge from the site is mitigated by a regional detention stormwater facility

or by off-site detention banking.

- (b) The applicant(s) licensed civil engineer shall demonstrate that installing the required on-site stormwater storage facility(s) is unwarranted, would not increase the potential for flooding hazards, and would not be in the best interest of the City of Cleveland. Hydrologic and hydraulic computations shall be submitted that utilizes accepted engineering practices to support such a conclusion. The primary occurrence of such conditions typically involves direct stormwater discharges into a main stream such as South Mouse Creek, Little Chatata, Candies Creek, and Fillauer Branch without flowing through a named creek or stream, through a public drainage system, or across a downstream property boundary, and is located in the very lowest downstream reaches of that watershed. It shall be determined by acceptable engineering principles and practices that post development stormwater should be released quickly to avoid the peak discharge timing for the entire watershed and not increase the peak runoff rate for storm events identified in the design standards for storage in *Section 18-315 Subsection 1(f)(i)* of this ordinance. The hydrologic analysis for such demonstration shall include more than one representative downstream location for comparing hydrographs. Even if stormwater detention is waived for the above situation, the site development must provide first flush treatment or an acceptable alternative in order to protect water quality.

(5) Detention structure design criteria. Standards governing drainage detention control shall comply with the following standards and specifications:

- (a) All stormwater detention structures must detain the post development peak flow rates for two (2) year, five (5) year, ten (10) year, and twenty-five (25) year within a twenty-four (24) hour design storm frequency to discharge at or below pre-development peak flow rates and pass a one-hundred (100) year storm without damage to the facility or adjacent property.
- (b) The required hydrologic and hydraulic computations shall be in accordance with Natural Resource Conservation Service (NRCS), formerly the Soil Conservation Service; unit hydrograph procedures using Antecedent Moisture Condition (AMC) II curve numbers and Type II rainfall distribution. All post development conditions must be routed to the maximum extent possible at time intervals of one-tenth (0.1 hour) through the detention pond utilizing hand calculations or computer models;
- (c) If hydrologic or topographic conditions warrant greater control than that provided by the minimum control requirements, the City of Cleveland Development and Engineering Services Department shall impose any requirements deemed necessary to control the volume, timing, and rate of runoff in the interest of public safety;
- (d) The civil engineer representing the owner or developer is charged with determining the predevelopment conditions, including the curve number. If the engineer cannot determine the predevelopment conditions, then a maximum pre-development curve number of seventy (70) may be used to compute the predevelopment flow and satisfy the requirement. If the downstream system extending from the site to the second existing road crossing or blue line stream is examined and found to be adequate to carry the two (2) and ten (10) year storm events for a twenty-four (24) hour storm event, the requirement for detention for areas of redevelopment may be waived;

- (e) Typical stormwater detention or storage facilities are dry detention basins, wet detention basins, retention basins, and constructed wetlands. All detention computations must use NRCS design methods with Type II twenty- four (24) hour storm and average antecedent moisture conditions;
- (f) Detention facilities shall be designed and graded to allow access for maintenance personnel, maintenance vehicles, and equipment. The SWPPP shall incorporate a permanent drainage easement to provide access for future maintenance or repair, which shall be designated on the final recorded plat.
- (g) The detention pond design shall incorporate a trash rack or trash collection appurtenance.

18-316 INSPECTION AND MAINTENANCE AGREEMENTS

(1) Inspection and Maintenance Agreements Required.

- (a) The developer or owner of real property that is served by an on-site or off-site storm water management system, including stormwater detention/retention facilities and stormwater control measures (SCMs), shall be responsible for maintenance, repair, and operation during site development. The developer’s responsibility will terminate after a two-year period from the issuance of a QLP-NOC permit or land disturbance permit upon satisfying two conditions:
 - (i) Successful completion of post construction in accordance with *Sections 18-317 and 18-318*, and
 - (ii) The sale or transfer of ownership of fifty-one percent (51%) of all parcels in the platted subdivision.
- (b) As a precondition to any plat approval by the Planning Commission, all subdivision plats shall contain a “Stormwater Inspection and Maintenance Agreement”, which shall include the provisions for future maintenance of each stormwater detention/retention facility and stormwater control measure.
 - (i) As a general rule, this verbiage contained on the plat shall designate that all lot owners in the platted subdivision shall have an easement interest in the stormwater detention/retention facilities and stormwater control measures for stormwater generated by all lots in the subdivision. This easement interest shall be designated upon the recorded plat.
 - (ii) Private stormwater facilities shall be shown on the final recorded plat. Private storm water facilities shall include but are not limited to stormwater detention/retention facilities, stormwater control measures, and open channel conveyances that are not located within public right of ways.
- (c) The future maintenance, repair and operation of the private storm water facilities shall be the responsibility of all subdivision lot owners of record of those lots shown on the recorded plat. In the event, a subdivision is developed in phases then all subsequently developed lots in the subdivision shall share the same easement as those lot owners shown on the initial plat and/ or plats. It being the intent that all lot owners in any particular subdivision; whether in the

initial or any later phase shall share equally in the easement rights in and to the stormwater facilities as well as sharing equally in the future maintenance and upkeep of the stormwater facilities.

- (d) As an additional requirement to the approval of any plat, there shall be stormwater easements shown on any recorded plat that contains a storm water detention/retention basin, stormwater control measure, or open channel.
- (i) This stormwater easement shall be a twenty (20) foot wide access easement.
 - (ii) This easement is for the purpose of allowing City of Cleveland Development and Engineering Services Department personnel, storm water inspectors, grading equipment operators, storm water monitoring personnel and/ or other necessary personnel to investigate, inspect, repair and/ or maintain the stormwater facility as needed to determine proper functioning, need for maintenance, maintenance and/ or other necessary repairs and/ or situations that may occur in times of emergency or urgent conditions.
 - (iii) This twenty (20) foot wide access easement shall be shown on the recorded plat and shall be provided to and from storm water facilities and shall abut on a public right of way for at least twenty (20) feet and must be easily traversable by potential grading equipment (bulldozers and/ or back hoes) as well as those individuals noted above.
 - (iv) This twenty (20) foot wide stormwater easement shall not contain any buildings or structures, large trees or heavy shrubbery, utility poles, manholes, overhead utility lines without adequate clearance, deep ditches or channels and/ or any other structures or items causing the storm water facility to be inaccessible. However, the property owner may plant small shrubs of little or no value that can be easily removed or cleared. The property owner may also place small fences in the area that can be easily removed; ideally any fence contained in this easement area shall contain a gate through the fence. Any structure located upon the stormwater detention basin access easement area must be portable and quickly and easily removable.
 - (v) The City of Cleveland shall not be responsible for damage to any structure, utilities or vegetation located within this storm water easement.
 - (vi) The City of Cleveland and/ or its designated officials shall have access over and across this stormwater easement as they deem the same necessary to inspect and/or maintain the stormwater facility. The City of Cleveland shall not be responsible for the repair or replacement of structures, utilities and/ or vegetation located upon the stormwater easement. This storm water easement is normally intended for heavy equipment access rather than ordinary passenger vehicle access. A city stormwater inspector will normally gain access to the stormwater facility while parking nearby.
- (e) Division of tract into parcels for resale.
- (i) For larger common plans of development, each parcel or lot served by one or more private stormwater facilities shall have equivalent or proportioned easement ownership in the stormwater facilities. This ownership of each private stormwater facility shall be equally appropriated by the recorded plat

to each parcel of the larger common plan of development.

- (ii) Maintenance of private stormwater facilities serving multiple parcels shall be the cumulative responsibility of each parcel owner of record of any platted tract or lot in the subdivision. The final recorded subdivision plat shall reflect the easement ownership for each parcel in a larger common plan of development, whether residential, commercial, or industrial.
 - (iii) The applicant for a QLP-NOC permit or land disturbance permit or owner of record shall present a final plat prior to recording as a final document that designates easement ownership of stormwater facilities to each parcel prior to recording as an official recorded Plat in the Bradley County Register of Deeds.
- (f) Single tract of land. The maintenance of private stormwater facilities constructed in conjunction with development on a single tract shall be the responsibility of the owner by record. The final recorded plat shall identify all private stormwater facilities on the same parcel as the associated structure.
- (g) The Inspection and Maintenance Agreement shall:
- (i) Provide for maintenance of stormwater facilities in accordance with *Section 18-313 subsection (1)*;
 - (ii) If private stormwater facilities are not properly maintained as set out herein, then the City of Cleveland shall require the subdivision parcel owners of record served to perform the maintenance and repair at the expense of parcel owners served by said facilities.
 - (iii) The City reserves the right to conduct repair(s) of stormwater storage facilities, or may cause to be repaired, and to assess a lien on each individual subdivision parcel owners of record served by the private stormwater facilities.
 - (iv) The Inspection and Maintenance Agreement shall also provide that the City of Cleveland will be compensated for all expenses associated with performing the maintenance and repair of private stormwater facilities, including legal expenses, court costs and/or other expenses incurred in the repair and any associated legal action associated therewith.
 - (v) In the event legal action is deemed necessary by the City of Cleveland and in the event a judgment is rendered on behalf of the City of Cleveland, then the City shall be authorized to issue a lien against each subdivision parcel owner of record, which lien shall be a lien on their respected properties and/ or interests in the property.
- (2) Maintenance and repair plan:

The design and planning of all permanent stormwater facilities shall include detailed maintenance and repair procedures to ensure their continued performance. These plans will identify the parts or components of a stormwater 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.

**PERMANENT STORMWATER FACILITY OPERATION,
MAINTENANCE, AND INSPECTION.**(1) As built plans.

All persons or entities designated as having a valid QLP-NOC permit or land disturbance permit are required to submit actual as-built plans developed from field survey data at the post construction phase.

- (a) Two benchmarks of public record referenced to Tennessee State Plane Coordinates shall be identified on the as-built plans.
- (b) The as-built plans shall include all stormwater management facilities, and conveyances, roadways, private stormwater detention/retention facilities, and stormwater control measures located on-site.
- (c) The plan must show the final (actual) design specifications for all stormwater structures and roadway gutters and shall include a description of: 1) structure materials, 2) invert elevations, 3) structure dimensions shall include inside pipe diameter(s), 4) slope of stormwater conveyances and pipes, and the water quality riparian buffer metes and bounds. The water quality riparian buffer will remain intact, with no removal of vegetation, including upper and lower story vegetative canopy, during all phases of construction.
- (d) The as-built drawings must also include infrastructure to be accepted by the City of Cleveland and constructed as part of the development and/or redevelopment, including but not limited to curb and gutters, edge of pavement, and stormwater facilities. The as-built drawings must bear the seal by a Civil Engineer or registered licensed Surveyor in the State of Tennessee and submitted to the Engineering Division of the City of Cleveland Development and Engineering Services Department in hard copy and electronic format compatible with AutoCAD or Micro station.
- (e) A final post inspection will be conducted by the Engineering Division of the City of Cleveland Development and Engineering Services Department prior to the release of the performance security or performance bond. The Engineering Division shall have the discretion to adopt provisions for a partial pro-rata release of the performance surety or performance bond on the completion of various stages of development. The performance value of mapping shall be held in abeyance until as-built drawings required under this provision are submitted and approved by the Engineering Division. In addition, occupation permits shall not be granted until corrections to all SCMs have been made and accepted by the city.

(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 be stabilized. 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 15 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 15 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 18-318*.
- (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 city 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 city, 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.
- (6) In the event that the stormwater management facility becomes a danger to public safety or public

health, the city 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 city may take necessary corrective action. The cost of any action by the city under this section shall be charged to the responsible party.

18-318 EXISTING LOCATIONS AND ONGOING DEVELOPMENTS

(1) On-site stormwater management facilities Inspection and 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 Inspection and 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 Inspection and 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 subsection (5) below for the purpose of documenting maintenance and repair needs and to ensure compliance with the requirements of this ordinance. 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 City of Cleveland Development and Engineering Services Department. It shall also grant permission to the city 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 stormwater control measures, 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 SCM manual.
 - (iv) Provide that maintenance needs must be addressed in a timely manner, on a schedule to be determined by the City of Cleveland Development and Engineering Services Department.
 - (v) Provide that if the property is not maintained or repaired within the prescribed schedule, the City of Cleveland Development and Engineering Services Department shall perform the maintenance and repair at its expense and bill the same to the property owner. The Inspection and Maintenance Agreement shall also provide that the City of Cleveland Development and Engineering Services Department's cost of performing the maintenance shall be a lien

against the property.

(2) Existing problem locations – no Inspection and Maintenance Agreement.

(a) The City of Cleveland Development and Engineering Services Department shall in writing notify the owners of existing locations and developments 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 SCMs that have not been maintained and/or inspected in accordance with this ordinance shall be regarded as illicit.

(b) Inspection of existing facilities.

(i) The city 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.

(ii) 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 city's NPDES stormwater permit; and joint inspections with other agencies inspecting under environmental or safety laws.

(iii) 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 SCMs.

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

(a) Perform routine inspections to ensure that the facilities 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 City of Cleveland Development and Engineering Services Department 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) Facility owner information (e.g. name, address, phone number, fax, and email);
 - (v) A description of facility 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 facilities; and
 - (vii) Specific maintenance items or violations that need to be corrected by the facility owner along with deadlines and reinspection dates.
- (c) Owners or operators shall maintain documentation of these inspections. The City of Cleveland Development and Engineering Services Department 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 disturbance activities have occurred previous to the enactment of this ordinance:
- (a) Denuded areas must be vegetated or covered under the standards and guidelines specified in 18-317 (2)(c)(i), (ii), (iii) and on a schedule acceptable to the City of Cleveland Development and Engineering Services Department.
 - (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 shall, at the discretion of the City of Cleveland Development and Engineering Services Department, 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
 - (1) Detention pond;
 - (2) Extended detention pond;
 - (3) Wet pond;
 - (4) Alternative storage measures.
 - (ii) Constructed wetlands
 - (iii) Infiltration systems
 - (1) Infiltration/percolation trench;
 - (2) Infiltration basin;
 - (3) Drainage (recharge) well;
 - (4) Porous pavement.
 - (iv) Filtering systems
 - (1) Catch basin inserts/media filter;

- (2) Sand filter;
- (3) Filter/absorption bed;
- (4) Filter and vegetated strips.
- (v) Open channel
 - (1) Swale.

- (5) Corrections of problems subject to appeal. Corrective measures imposed by the Stormwater Coordinator under this Section are subject to appeals process under Section 18-322.

18-319 ILLICIT DISCHARGES

- (1) General.

This section shall apply to all water generated on developed or undeveloped land entering the municipality'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. 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) Groundwater infiltration to storm drains;
- (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);
- (xiv) Firefighting activities; and
- (xv) Dye testing conducted in conjunction with the operation of water distribution and wastewater utilities.

- (3) Prohibition of illicit connections.

- (a) The construction, use, maintenance, or continued existence of illicit connections to the separate municipal storm sewer system is prohibited.
- (b) 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.

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 BMP'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 compliance with the provisions of this section.

(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 stormwater, or the municipal separate storm sewer system, the person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release.

- (a) 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.
- (b) In the event of a release of non-hazardous materials, the person shall notify the City of Cleveland Development and Engineering Services Department Stormwater Division in person or by telephone or facsimile no later than the next business day.
- (c) Notifications in person or by telephone shall be entered in a telephone log maintained by the City of Cleveland Development and Engineering Services Department Stormwater Division.
- (d) 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 in accordance with NPDES requirements for the facility, or in accordance with the *Tennessee Water Quality Control Act* and/or any subsequent revisions as a matter of law.

18-320 ENFORCEMENT AND COMPLIANCE

(1) Enforcement authority.

It shall be unlawful for any person to violate the provisions of this ordinance or conduct operations that violate the terms of the *Tennessee Water Quality Control Act 69-3-101*. Under the provisions of *Tennessee Code Annotated 68-221-1106*, violations will be subject to enforcement action. City of Cleveland Development and Engineering Services Department are authorized under the provisions of *Tennessee Code Annotated 68-221-1106* to conduct administrative enforcement and shall have the authority to issue notices of violation and citations.

(2) Notification of violation.

- (a) Written Notice. Whenever the Stormwater Coordinator or the Building Official, or designees of, determines that any permittee or any other person discharging stormwater has violated or is violating a provision of this ordinance, a permit, or order issued hereunder, the Stormwater Coordinator or the Building Official, or designees of, may serve upon such person written notice of the violation. Within ten (10) days of this 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 Stormwater Coordinator. 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.
- (b) Consent Orders. The Stormwater Coordinator with approval or concurrence of the Development and Engineering Services Director is empowered to execute 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.
- (c) Show Cause Hearing. The Stormwater Coordinator may order any person who violates this ordinance 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 five (5) days prior to the hearing.
- (d) Compliance Order. When the Stormwater Coordinator finds that any person has violated or continues to violate this ordinance or a permit or order issued hereunder, the Stormwater Coordinator may issue an order to the violator directing that, following a specific time period, adequate structures, devices, be installed 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 installation of structures and devices, self-monitoring, and management practices.
- (e) Cease and Desist Orders. When the Stormwater Coordinator finds that any person has violated or continues to violate this ordinance or any permit or order issued hereunder, the Stormwater engineer may issue 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 and terminating the discharge.

18-321 **PENALTIES**

(1) Violations.

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

(2) Penalties.

Under the authority provided in *Tennessee Code Annotated 68-221-1106*, the municipality declares that any person violating the provisions of this ordinance may be assessed a civil penalty by administrative order signed by the Development and Engineering Services Director 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 Development and Engineering Services Director with recommendations from the Stormwater Coordinator shall consider:

- (a) The harm done to the public health or the environment, including the severity of the discharge and its effect upon public stormwater facilities and upon the quality and quantity of the receiving waters;
- (b) Whether the civil penalty imposed will be a substantial economic deterrent to the illegal activity;
- (c) The economic benefit gained by the violator;
- (d) The amount of effort put forth by the violator to remedy this violation and the effectiveness of action taken by the violator to cease the violation;
- (e) Damages to the City, including compensation for the damage or destruction of public storm water facilities, and also including any penalties, costs and attorneys' fees incurred by the city as a result of the illegal activity, as well as the expenses involved in enforcing this ordinance and the costs involved in rectifying any damages;
- (f) The amount of penalty established by ordinance or resolution for specific categories of violations, if any;
- (g) The technical and economic reasonableness of reducing or eliminating the discharge;
- (h) The cause of the discharge or violation;
- (i) Any equities of the situation, which outweigh the benefit of imposing any penalty or damage assessment.

(4) Schedule of Civil Penalties and Enforcement protocol.

The Stormwater Regulations Board may establish by regulation a schedule of the amount of civil penalties which can be assessed by the Development and Engineering Services Director for certain specific violations or categories of violations. The Stormwater Regulations Board may also establish by regulation an enforcement protocol in order to assure fair and just enforcement to all parties involved and to provide adequate guidance to stormwater field personnel.

(5) Recovery of damages and costs.

In addition to the civil penalty in *Section 18-321, subsection (2)* above, the City of Cleveland may recover;

- (a) All damages proximately caused by the violator to the municipality, which may include any reasonable expenses incurred in investigating violations of, and attorney's fees and expenses in enforcement procedures associated with this ordinance, or any other actual damages caused by the violation.
- (b) The costs of the municipality's maintenance of stormwater facilities when the user of such facilities fails to maintain them as required by this ordinance.

(6) Other remedies.

The City of Cleveland may institute civil proceedings in any court of competent jurisdiction seeking monetary damages for any damages caused to publicly owned stormwater facilities by any person, or to seek injunctive or other equitable relief to enforce compliance with the provisions of this ordinance or to enforce compliance with any consent order of the Development and Engineering Services Director, the Stormwater Coordinator, or the Stormwater Regulations Board.

(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 that one (1) or more of the remedies set forth herein has been sought or granted.

(8) Failure to appeal civil penalties or damage assessments.

If an appeal to the stormwater regulations board is not filed within thirty (30) days after the date that a civil penalty or damage assessment has been served in any manner allowed by law, the violator shall be deemed to have consented to the civil penalty or damage assessment, and it shall become final. Whenever a damage assessment or civil penalty has become final because of a failure to appeal, and it has not been paid, the City may apply to the appropriate Chancery court for a judgment and seek execution of the judgment in any manner allowed by law. The Chancery Court, in such proceeding, shall treat the failure to appeal such damage assessment or civil penalty as a confession of judgment as provided in *Tennessee Code Annotated-68-221-1106*.

18-322 STORMWATER REGULATIONS BOARD AND ADMINISTRATIVE APPEALS

(1) Board Established.

There is hereby established a Board of five (5) members to be known as the "Stormwater Regulations Board."

(2) Composition; terms; filling vacancies.

The five (5) members of this board shall be appointed by the City Council. The City Council shall appoint members with the following qualifications: one (1) environmental engineer, environmental scientist, or environmental technician, one (1) attorney, one (1) person employed or retired from an industrial or commercial establishment regulated by this article, and two (2) persons that shall not have any particular qualifications, but to the extent practical shall be selected to maintain diversity on the board. Initial appointments are to be made for staggered terms as follows: two (2) seats for a term of one (1) year; two seats for a term of two (2) years; and one seat for a term of three (3) years. Subsequent appointments to each seat are to be for terms of four (4) years. All members shall serve until their successor is appointed and all members shall serve at the pleasure of the City council. A member of the Stormwater Regulations Board may be removed from the board at any time by a majority vote of the City Council when it is demonstrated that such board member has a pattern of repeated absences from board meetings, or when such board member exhibits disregard for controlling state and federal laws and local ordinances, or when such board member fails to declare a conflict of interest in a given case and votes on the case. In the event of a vacancy, the City Council shall appoint a member to fill the unexpired term. The board members shall serve without compensation but shall receive actual expenses incurred in attending meetings of the board and the performance of any duties as members of the board.

(3) General duties of the board.

The Board shall have the following duties and powers in addition to any other duties or responsibilities conferred upon the Board by this Ordinance.

- (a) To recommend from time to time to the City Council that it amend or modify the provisions of this Ordinance;
- (b) To hold hearings upon appeals from orders or actions of the Stormwater Coordinator, the Development and Engineering Services Director, or Building Official as may be provided under any provision of this Ordinance;
- (c) To hold hearings relating to the suspension, revocation, or modification of a stormwater discharge permit and issue appropriate orders relating thereto;
- (d) To hold hearings relating to an appeal concerning any civil penalty imposed under this Ordinance;
- (e) To hold such other hearings as may be required in the administration of this Ordinance and to make such determinations and issue such orders as may be necessary to effectuate the purposes of this Ordinance;
- (f) To request assistance from any officer, agent, or employee of the city and to obtain such information or other assistance as the board might need;

- (g) The board acting through its chairperson shall have the power to issue subpoenas requiring attendance and testimony of witnesses and the production of documentary evidence relevant to any matter properly heard by the board; and
- (h) The chairperson or vice chairperson shall be authorized to administer oaths to those persons giving testimony before the board.

(4) Election of Officers; Meetings; and Quorum.

The following constitutes rules and procedure for the Stormwater Regulations Board. The board may adopt such other rules and procedures as the board deems appropriate provided that such rules are consistent with procedures described herein.

- (a) Election of Officers. The board shall elect from among its own members a chairperson, and a vice-chairperson. Secretarial services shall be provided by the City of Cleveland in a manner to be prescribed by the City Manager.
- (b) Initial meeting. Within thirty (30) days of the initial appointment of the board members, the board shall hold an initial meeting. At the initial meeting the board will elect officers as provided by this ordinance and review the general duties of the board identified in *Section 18-322 subsection 3.*
- (c) Regular meetings. Regular meetings shall be held at a time and place chosen by the Stormwater Regulations Board. The board shall hold regular semiannual meetings and called meetings as the board may find necessary.
- (d) Called Meetings. The chairperson or vice-chairperson or any two members may schedule a called meeting of the Stormwater Regulations Board as deemed necessary provided that advance notice is given to each board member at least forty-eight (48) hours prior to the commencement of the called meeting.
- (e) Public Notice of Regular Meetings. Public notice of regular meetings shall be by publication in a newspaper of general circulation at least five (5) days in advance of the meeting with a general description of the agenda.
- (f) Open Meetings. All meeting of the board shall be open to the public.
- (g) Conduct of Meetings. The board shall generally conduct meetings in accordance with Robert's Rules of Order.
- (h) Quorum and Voting. The presence of three (3) members of the Stormwater Regulations Board shall constitute a quorum. If the chairperson and vice-chairperson are absent from the meeting in which there is a quorum, the members present shall elect from among the board members present a chairperson of the meeting. If only three members are present and one cannot vote due to a conflict of interest on a particular item, the remaining two members shall constitute a quorum for the purpose of that item. In the event of a tie vote on any motion, the motion shall fail. A motion shall have passed upon the affirmative vote of

a majority of the quorum of board members present and voting.

(5) Variances.

- (a) General. The Stormwater Regulations Board may grant a variance from the requirements of this ordinance which would not result in the violation of any state or federal law or stormwater regulation consistent with the NPDES permit issued to the City of Cleveland, and if exceptional circumstances applicable to the site exist such that strict adherence to the provisions of this Ordinance will result in unnecessary hardship and will not result in a condition contrary to the intent of the ordinance.
- (b) Conditions for a variance. The minimum requirements for stormwater management may be waived in whole or in part upon written request of the applicant, provided that at least one of the following conditions applies and the applicant can satisfy *Section 18-321, Subsection (5)(c)*:
 - (i) It can be demonstrated that the proposed variance is not likely to impair attainment of the objectives of this ordinance.
 - (ii) Alternative minimum requirements for on-site management of stormwater discharges have been established in a SWPPP or SWMP that has been approved by the City of Cleveland Development and Engineering Services Department.
 - (iii) Provisions are established to manage stormwater by an off-site facility. The off-site facility must be in place and designed to provide the level of stormwater control that is equal to or greater than that which would be afforded by on-site practices. Further, the facility must be operated and maintained by an entity that is legally obligated to continue the operation and maintenance of the facility.
- (c) Downstream damage and adverse impact prohibited. In order to receive a variance, the applicant must demonstrate utilizing sound engineering principals that the issuance of a variance will not lead to any of the following conditions downstream:
 - (i) Deterioration of existing culverts, bridges, dams, and other structures;
 - (ii) Degradation of biological functions or habitat;
 - (iii) Accelerated stream bank or streambed erosion or siltation;
 - (iv) Increased threat of flood damage to public health, life or property.
- (d) Variance request. The following procedures and information will be required prior to the Stormwater Regulations Boards consideration of a variance.
 - (i) A written petition for a variance shall be required and shall state the specific variance sought and the reasons, with supporting data, and provide specifics regarding valid reasons a variance should be granted. The petition shall include all information necessary to evaluate the proposed variance and shall be filed with the Stormwater Coordinator.
 - (ii) The Stormwater Coordinator shall conduct a review of the request for a variance within ten (10) working days after receipt and may either support the petition or may object to the petition. If the Stormwater Coordinator objects to the variance, the Stormwater Coordinator shall state the reasons.

- (iii) Once the Stormwater Coordinator's review is complete or the ten (10) days for review have expired, the petition shall be subject to board action at the next regularly scheduled meeting or at a called meeting.

(6) Administrative Appeals.

Pursuant to *Tennessee Code Annotated 68-221-1106, subsection (d)*, any person aggrieved by the imposition of an administrative civil penalty or damage assessment as provided by this ordinance may appeal said administrative civil penalty or damage assessment to the Stormwater Regulations Board. Any person or entity aggrieved by any order or determination issued under this ordinance may appeal said order or determination to the Stormwater Regulations Board who shall review the order or determination reviewed under the provisions of this section.

- (a) Appeals must be in writing. All appeals must be in writing and filed with the Stormwater Coordinator and with the board chairperson. The appeal shall set forth with particularity the action or inaction complained of, and the relief sought by the person filing said appeal. The chairperson may call a special board meeting upon the filing of such appeal. As such special meeting, the board may in its discretion suspend or stay the operation of any civil penalty, damage assessment, order, or determination until such time as the board has conducted a public hearing on the appeal.
- (b) Deadline for appeal. All appeals must be filed within thirty (30) days after the civil penalty or damage assessment is served in any manner authorized by law. An appeal of any other order or determination issued under this ordinance shall be filed within thirty (30) days from the effective date of the order or determination.
- (c) Public hearing. Upon the receipt of an appeal to the Stormwater Regulations Board, the Board shall hold a public hearing within thirty (30) days. Five (5) days prior notice of the time, date, and location of said hearing shall be published in a daily newspaper of general circulation. Ten (10) days notice by registered mail or certified mail (return receipt requested) shall also be provided to the appealing party. This notice of hearing shall be sent to the address provided by the appealing party at the time of the filing of the appeal.
- (d) Record of appeal hearing. At any such hearing, all testimony presented shall be under oath or upon solemn affirmation in lieu of oath. The board shall make a record of such hearing, but the same need not be a verbatim record. Any party coming before the board shall have the right to have such hearing recorded stenographically at their expense, but in such event the record need not be transcribed unless any party seeks judicial review of the order or action of the board by common law writ of certiorari, and in such event the party seeking such judicial review shall pay for the transcript and provide the board with the original of the transcript so that it may be certified to the court.
- (e) Subpoenas. The chairperson may issue subpoenas requiring attendance and testimony of witnesses or the production of evidence, or both. A written request for the issuance of a subpoena must be filed with the chairperson by no later than seven (7) days prior to the scheduled hearing date. The written request for a subpoena must set forth the name and address of the party to be subpoenaed and it must identify with particularity any evidence to be produced by the witness. If a request for the issuance of a subpoena is timely, the

chairperson shall issue the subpoena if the witness is a city resident. If the chairperson issues a subpoena, the same shall be delivered to the chief of police for service by any police officer of the city. If the witness does not reside in the city, the chairperson shall mail a written notice to the witness requesting that the witness attend the hearing.

- (f) Depositions. Upon agreement of all parties, the testimony of any person may be taken by deposition or written interrogatories. Unless otherwise agreed, the deposition shall be taken in a manner consistent with Rules 26 through 33 of the Tennessee Rules of Civil Procedure, with the chairperson to rule on such matters as would require a ruling by the court under such rules.
- (g) Hearing procedure. The appealing party at a public hearing shall first call that party's witnesses; to be followed by witnesses called by other parties, to be followed by any witnesses that the board may desire to call. Rebuttal witnesses shall be called in the same order. The chairman shall rule on any evidentiary questions arising during such hearing and shall make such other rulings as may be necessary or advisable to facilitate an orderly hearing subject to approval of the board. The board, the Stormwater engineer, his or her representative, and all parties shall have the right to examine any witness. The board shall not be bound by the rules of evidence applicable to legal proceedings.
- (h) Appeals from a decision of the Stormwater Regulations Board. If a party is not satisfied with the decision of the Stormwater Regulations Board, they may appeal the decision of the Stormwater Regulations Board pursuant to the provisions of *Tennessee Code Annotated, Title 27, Chapter 8*. If an appeal of the decision of the Stormwater Regulations Board is not filed within the time allowed by law, the party shall be deemed to have consented to the decision of the Stormwater Regulations Board, and it shall become final. Whenever a damage assessment or civil penalty has become final because of a failure to appeal and it remains unpaid, the City may apply to the appropriate Chancery Court for a judgment and seek execution of the judgment in any manner allowed by law. The Chancery Court, in such proceeding, shall treat the failure to appeal such damage assessment or civil penalty as a confession of judgment as provided in *Tennessee Code Annotated 68-221-1106*.

18-323 APPENDIX

- (1) As-built agreement form.



Project Title: _____

Tax Map-Group-Parcel _____

Agreement

This agreement is entered into in accordance with the provisions of the City of Cleveland's Stormwater Management Program codified as Sections 18-301 through 18-322 of the City of Cleveland's Municipal Code.

The undersigned _____ is the Developer of a Tract of land as shown and described on the attached Exhibit A. The property shall be referred to herein as "the Property."

Developer agrees that this agreement shall be and is binding upon the undersigned developer, his or her heirs, assigns and successors in interest. Developer, his or her heirs, assigns and successors in interest are collectively referred to herein as "Developer".

As Built Drawings. In compliance with Section 18-307 of the Cleveland Municipal Code, Developer agrees to provide as built drawings of the stormwater infrastructure associated with the proposed development on the Property. Developer understands and agrees that Developer is responsible to provide a cost estimate for the cost of these as built drawings. This cost estimate must be provided at the time this agreement is executed. Developer will not be able to obtain a QLP-NOC permit or land disturbance permit until this cost estimate has been provided to the City. Developer understands and agrees that this written estimate must bear the seal of a licensed Tennessee Civil Engineer or the seal of a licensed Tennessee surveyor.

The as built drawings shall be provided to the City of Cleveland by Developer upon completion of post construction site stabilization as defined in Section 18-307 of the Cleveland Municipal Code. If Developer fails to provide the as built drawings to the City within 30 days after completion of post construction site stabilization as defined in Section 18-307 of the Cleveland Municipal Code, then Developer is in default under this agreement. The City will notify the Developer of this Default and give Developer 30 days to cure the Default. If the Default is not cured within 30 days after notice to the Developer, then the City will have the right to hire a licensed Tennessee Surveyor to provide the as built drawings to the City. If the City is forced to hire a surveyor to provide the as built drawings due to the Developer's default, Developer will be obligated to pay the City an amount equal to twice the City's cost in obtaining the as built drawings. In addition, the Developer will be responsible for the City's attorneys fees and litigation expenses should the City be required to hire an attorney to enforce the City's rights under this agreement.



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Post Construction Site Stabilization. In compliance with Section 18-310 of the Cleveland Municipal Code, the Developer further agrees to complete post construction site stabilization on the Property. If the Developer fails to comply with this provision, the Developer will be subject to enforcement action under Section 18-320 of the Cleveland Municipal Code.

Post Construction Landscape Plan. If applicable, Developer further agrees to provide a post construction landscape plan in accordance with the provisions of Section 18-312 of the Cleveland Municipal Code. If the Developer fails to comply with this provision, the Developer will be subject to enforcement action under Section 18-320 of the Cleveland Municipal Code.

The undersigned understands and agrees that this Agreement and ultimately the overall Application for a QLP-NOC permit or Land Disturbance permit shall be subject to the acceptance, amendment and/or rejection by the City of Cleveland Development and Engineering Services Department.

Dated this _____ day of _____, 20__.

DEVELOPER

By: _____

Title: _____

STATE OF
_____)

COUNTY
OF _____)

Before me personally appeared _____, to me known to be the person(s) described herein (or proved to me on the basis of satisfactory evidence) and who executed the foregoing instrument, and acknowledge the execution of the same as his/ her free act and deed.

WITNESSED by me this _____ day of _____, 20__.

NOTARY PUBLIC

My commission expires: _____.