

Stormwater Management Plan



City of Lambertville

Hunterdon County, NJ

February 2021

ORDINANCE NUMBER 08-2021
An Ordinance to Amend the Lambertville City Code, Chapter Z, Zoning Ordinance, Article XV, Stormwater Management

§ Z-1500 STORMWATER MANAGEMENT.

[Added 4-17-2006 by Ord. No. 2006-09; amended 9-15-2015 by Ord. No. 23-2015]¹

§ Z-1500.1. Scope and Purpose.

A. Policy Statement.

As municipalities throughout New Jersey are developed, impervious surfaces create increased amounts and rates of stormwater runoff during precipitation events. This runoff picks up large amounts of pollutants that collect on parking lots, roadways, rooftops, and other paved or hardened surfaces, and then flows through stormwater conveyances to our streams, rivers, and beaches. The increased runoff rate and volume also lead to erosion and flooding in and downstream developed areas.

Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including green infrastructure Best Management Practices (GI BMPs) and nonstructural stormwater management strategies. GI BMPs and low impact development (LID) should be utilized to meet the goal of maintaining natural hydrology to reduce stormwater runoff volume, reduce erosion, encourage infiltration and groundwater recharge, and reduce pollution. GI BMPs and LID should be developed based upon physical site conditions and the origin, nature and the anticipated quantity, or amount, of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge. Stormwater management measures shall occur with the understanding and acceptance of stormwater as a resource; GI BMPs, LID and non-structural measures shall be tailored to a site and applied wherever and to the maximum extent.

GI BMPs and LID practices not only address stormwater runoff but may also result in multiple benefits, including providing open space and beautifying neighborhoods, cooling and cleansing the air, reducing asthma and heat-related illnesses, and saving on heating and cooling energy costs.

B. Purpose.

The purpose of this § 1500 is to establish minimum stormwater management requirements and controls for major development and to reduce the amount of nonpoint source pollution entering surface and ground waters. This § 1500 guides new development in a manner that is proactive and minimizes harmful impacts to natural resources. The requirements of this ordinance are intended not only to meet but also exceed the design and performance standards found in the New Jersey Stormwater Management Rules at N.J.A.C. 7:8. The

¹ Editor's Note: See also the City of Lambertville Stormwater Management Plan dated March 2005 on file at the City Offices.

environmental objectives of these requirements are to reduce pollution in waterways from stormwater runoff, reduce flooding and streambank erosion, and enhance groundwater recharge. Specifically, this § 1500 shall:

1. Reduce artificially induced flood damage to public health, life, and property;
2. Minimize increased stormwater runoff rates and volumes;
3. Minimize the deterioration of existing infrastructures that would result from increased rates of stormwater runoff;
4. Induce water recharge into the ground wherever suitable infiltration, soil permeability, and favorable geological conditions exist;
5. Prevent an increase in nonpoint source pollution and improve future water quality;
6. Maintain the integrity and stability of stream channels and buffers for their ecological functions, as well as for drainage, the conveyance of floodwater, and other purposes;
6. Control and minimize soil erosion and the transport of sediment;
7. Minimize public safety hazards at any stormwater detention facility constructed pursuant to subdivision or site plan approval;
8. Maintain adequate baseflow and natural flow regimes in all streams and other surface water bodies to protect the aquatic ecosystem;
9. Protect all surface water resources from degradation; and
10. Protect ground water resources from degradation and diminution.

C. Applicability.

1. This § 1500 shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:
 - a. Non-residential major developments; and
 - b. Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The provisions of both this § 1500 and the RSIS are to be applied and reviewed concurrently for any residential major development.
 - c. In the case of agricultural or horticultural development that meets the definition of "major development" under N.J.A.C. 7:8, a farm conservation plan that addresses the protection of soil and water resources shall be developed and implemented. Such a plan shall be approved by the Hunterdon County Soil Conservation District.
2. This § 1500 shall also be applicable to all major developments undertaken by the City of Lambertville.
3. This § 1500 does not apply, but the goals here within shall be encouraged,

for activities of Hunterdon County, the State of New Jersey and the government of the United States of America when those activities are specifically exempted from municipal regulation by relevant State or Federal law.

D. Compatibility with Other Permit and Ordinance Requirements.

Development approvals issued for subdivisions and site plans pursuant to this § 1500 are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this § 1500 shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

This § 1500 shall be construed to assure consistency with the requirements of New Jersey laws and acts amendatory thereof or supplementary thereto, applicable implementing regulations, and any existing or future municipal NJPDES Permits and any amendments or revisions thereto or re-issuance thereof. This § 1500 is not intended to interfere with, abrogate, or annul any other § 1500, rule or regulation, statute, or other provision of law. Where any provision of this ordinance imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher standards shall control.

§ Z-1500.2. Definitions. [Ord. No. 23-2015]

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

CAFRA CENTER, CORES or NODES

Areas with boundaries incorporated by reference or revised by the Department in accordance with N.J.A.C. 7:7-13.16.

CAFRA PLANNING MAP

The map used by the Department to identify the location of Coastal Planning Areas, CAFRA centers, CAFRA cores, and CAFRA nodes. The CAFRA Planning Map is available on the Department's Geographic Information System (GIS).

CATEGORY ONE (C1) WATERS

Waters of the State, including unnamed waterways that appear on Soil Survey and USGS Topographic Quadrangle within the same HUC 14 watershed, designated in N.J.A.C. 7:9B-1.15(c) through (h) for purposes of implementing the anti-degradation policies set forth at N.J.A.C. 7:9B-1.5(d) for protection from measurable changes in water quality characteristics because of their

clarity, color, scenic setting, other characteristics of aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resources(s).

COMMUNITY BASIN

An infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond, established in accordance with N.J.A.C. 7:8-4.2(c)14, that is designed and constructed in accordance with the New Jersey Stormwater Best Management Practices Manual, or an alternate design, approved in accordance with N.J.A.C. 7:8-5.2(g), for an infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond and that complies with the requirements of this chapter.

COMPACTION

The increase in soil bulk density

CONTRIBUTORY DRAINAGE AREA

The area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.

CORE

A pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

COUNTY REVIEW AGENCY

The Hunterdon County Planning Board, as designated by the County Board of Chosen Commissioners to review municipal stormwater management plans and implementing ordinance(s).

DEPARTMENT

The New Jersey Department of Environmental Protection.

DESIGN ENGINEER

A person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications. The design engineer shall note his/her education and training specific to stormwater management in the qualification process.

DESIGNATED CENTER

A State Development and Redevelopment Plan Center, such as urban, regional, town, village, or hamlet, as designated by the State Planning Commission.

DEVELOPMENT

The division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, by any person, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq. In the case of development of

agricultural lands, development means: any activity that requires a State permit; any activity reviewed by the County Agricultural Board (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right to Farm Act, N.J.S.A. 4:1C-1 et seq.

DISTURBANCE

The placement or reconstruction of impervious surface or motor vehicle surface, or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation. Milling and repaving is not considered disturbance for the purposes of this definition.

DRAINAGE AREA

A geographic area within which stormwater, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

ENVIRONMENTALLY CONSTRAINED AREA

Areas where the physical alteration of the land is in some way restricted, either through regulation, easement, deed restriction or ownership such as: wetlands, floodplains, threatened and endangered species sites or designated habitats, and parks and preserves. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

ENVIRONMENTALLY CRITICAL AREA

An area or feature which is of significant environmental value, including but not limited to: stream corridors; natural heritage priority sites; habitat of endangered or threatened species; large areas of contiguous open space or upland forest; steep slopes; well head protection areas; and ground water recharge areas. Habitats of endangered or threatened species are those identified by the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program, or by the Department pursuant to the Highlands Act at N.J.S.A. 13:20-32k. and 13:20-34a(4).

EMPOWERMENT NEIGHBORHOODS

Neighborhoods designated by the Urban Coordinating Council "in consultation and conjunction with" the New Jersey Redevelopment Authority pursuant to N.J.S.A 55:19-69.

EROSION

The detachment and movement of soil or rock fragments by water, wind, ice or gravity.

GREEN INFRASTRUCTURE

A stormwater management measure that manages stormwater close to its source by:

1. Treating stormwater runoff through infiltration into subsoil;
2. Treating stormwater runoff through filtration by vegetation or soil; or
3. Storing stormwater runoff for reuse.

GROUND WATER

A body of water below the surface of the land in a zone of saturation where the spaces between the soil or geological materials are fully saturated with water.

"HUC 14" or "HYDROLOGIC UNIT CODE 14"

An area within which water drains to a particular receiving surface water body, also known as a sub watershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

IMPERVIOUS SURFACE

A surface that has been covered with a layer of material so that it is highly resistant to infiltration by water relative to natural conditions in the area.

INFILTRATION

The process by which water from precipitation seeps into the soil to a level below the normal root soil of plant species.

LEAD PLANNING AGENCY

One or more public entities having stormwater management planning authority designated by the regional stormwater management planning committee pursuant to N.J.A.C. 7:8-3.2, that serves as the primary representative of the committee.

LOW IMPACT DEVELOPMENT (LID)

A development approach that uses practices to manage stormwater close to its source that results in or mimics that of natural hydrologic processes in order to preserve hydrologic and ecologic functions of receiving waters, such as preservation of natural landscape features, minimizing impervious surfaces, infiltration, evapotranspiration, or other use of stormwater.

MAINTENANCE PLAN

A document required for all major development projects for stormwater management maintenance. The document shall contain specific preventive maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventive and corrective maintenance (including replacement).

MAJOR DEVELOPMENT

An individual "development," as well as multiple developments that individually or collectively result in:

1. The disturbance of one-half or more acres of land since February 2, 2004;
2. The creation of 5,000 square feet or more of "regulated impervious surface" since February 2, 2004;
3. The creation of 5,000 square feet or more of "regulated motor vehicle surface" since March 2, 2021; or
4. A combination of 2 and 3 above that totals an area of 5,000 square feet or more. The same surface shall not be counted twice when determining if the

combination area equals 5,000 square feet or more.

Major development includes all developments that are part of a common plan of development or sale (for example, phased residential development) that collectively or individually meet any one or more of paragraphs 1, 2, 3, or 4 above. Projects undertaken by any government agency that otherwise meet the definition of “major development” but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., are also considered “major development.”

MAXIMUM EXTENT PRACTICABLE

Compliance with the specific objective to the greatest extent possible taking into account equitable considerations and competing factors, including but not limited to, environmental benefits, pollutant removal effectiveness, regulatory compliance, ability to implement given site-specific environmental conditions, cost and technical or engineering feasibility.

MITIGATION

An action by an applicant -providing compensation or offset actions for onsite stormwater management requirements where the applicant has demonstrated the inability or impracticality of strict compliance with the stormwater management requirements set forth in N.J.A.C. 7:8, in an adopted regional stormwater management plan, or in this § 1500, and has received a waiver from strict compliance from the municipality. Mitigation, for the purposes of this § 1500, includes both the mitigation plan detailing how the project's failure to strictly comply will be compensated, and the implementation of the approved mitigation plan within the same.

MOTOR VEHICLE

Land vehicles propelled other than by muscular power, such as automobiles, motorcycles, autocycles, and low speed vehicles. For the purposes of this definition, motor vehicle does not include farm equipment, snowmobiles, all-terrain vehicles, motorized wheelchairs, go-carts, gas buggies, golf carts, ski-slope grooming machines, or vehicles that run only on rails or tracks.

MOTOR VEHICLE SURFACE

Any pervious or impervious surface that is intended to be used by “motor vehicles” and/or aircraft, and is directly exposed to precipitation including, but not limited to, driveways, parking areas, parking garages, roads, racetracks, and runways.

MUNICIPALITY

Any city, borough, town, township, or village, but refers specifically to the City of Lambertville in this document.

NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES (BMP) MANUAL

The manual maintained by the Department providing, in part, design specifications, removal rates, calculation methods, and soil testing procedures approved by the Department as being capable of contributing to the achievement of the stormwater management standards specified in this

chapter. The BMP Manual is periodically amended by the Department as necessary to provide design specifications on additional best management practices and new information on already included practices reflecting the best available current information regarding the particular practice and the Department's determination as to the ability of that best management practice to contribute to compliance with the standards contained in this chapter. Alternative stormwater management measures, removal rates, or calculation methods may be utilized, subject to any limitations specified in this chapter, provided the design engineer demonstrates to the municipality, in accordance with §1500.4.E.5. of this §1500 and N.J.A.C. 7:8-5.2(g), that the proposed measure and its design will contribute to achievement of the design and performance standards established by this chapter.

NODE

An area designated by the State Planning Commission concentrating facilities and activities that are not organized in a compact form.

NONSTRUCTURAL STORMWATER MANAGEMENT TECHNIQUES

Techniques that control or reduce stormwater runoff in the absence of stormwater structures (e.g., basins and piped conveyances), such as minimizing site disturbance, preserving important site features including, but not limited to, natural vegetation, reducing and disconnecting impervious cover, minimizing slopes, utilizing native vegetation, minimizing turf grass lawns, increasing time of concentration and maintaining and enhancing natural drainage features and characteristics.

NUTRIENT

A chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of plants, algae and other organisms or vegetation.

NUTRIENT CONCENTRATION

The amount of a nutrient in a defined volume of water (such as milligrams of nitrogen per liter). The relationship between nutrient concentration and nutrient load can vary and depends on the surface water flow, the volume of water in the water body or aquifer, and watershed characteristics.

NUTRIENT LOAD

The total amount of a nutrient such as nitrogen or phosphorus entering the water during a given time, such as "tons of nitrogen per year", or "pounds of phosphorus per day." Nutrients may enter the water from runoff, ground water recharge, point source discharges, or the air (in the form of wet deposition such as rain or snow as well as dry deposition).

PERMEABLE

A surface or land cover capable of transmitting or percolating a significant amount of precipitation into the underlying soils.

PERSON

Any individual, corporation, company, partnership, firm, association, City of Lambertville, political subdivision of this State and any state, interstate, or

Federal agency subject to municipal jurisdiction pursuant to the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

POLLUTANT

Any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.), thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff, or other residue discharged directly or indirectly to the land, ground waters or surface waters of the State, or to a domestic treatment works. "Pollutant" includes both hazardous and non-hazardous pollutants.

POLLUTION

The man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water to the extent that the pollutant concentration or level violates either the Ground Water Quality Standards (N.J.A.C. 7:9C) or the Surface Water Quality Standards (N.J.A.C. 7:9B) of New Jersey.

RECHARGE

The amount of water from precipitation that infiltrates into the ground, and becomes part of a ground water body.

REGULATED IMPERVIOUS SURFACE

Any of the following, alone or in combination:

1. A net increase of impervious surface;
2. The total area of impervious surface collected by a new stormwater conveyance system (for the purpose of this definition, a "new stormwater conveyance system" is a stormwater conveyance system that is constructed where one did not exist immediately prior to its construction or an existing system for which a new discharge location is created);
3. The total area of impervious surface proposed to be newly collected by an existing stormwater conveyance system; and/or
4. The total area of impervious surface collected by an existing stormwater conveyance system where the capacity of that conveyance system is increased.

REGULATED MOTOR VEHICLE SURFACE

Any of the following, alone or in combination:

1. The total area of motor vehicle surface that is currently receiving water;
2. A net increase in motor vehicle surface; and/or
3. quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant, where the water quality treatment will be modified or removed.

RETENTION

The storage of runoff indefinitely until it is lost through soil infiltration, evaporation, plant uptake, irrigation, non-potable reuse or any combination of these destinations.

REVIEW AGENCY (MUNICIPAL)

The municipal body or official that is responsible for the review of a major development project for compliance with the stormwater management requirements.

SEDIMENT

Solid material, mineral or organic, that is in suspension and is being transported or has been moved from its site of origin by air, water or gravity as a product of erosion.

SITE

The lot or lots upon which a major development is to occur or has occurred.

SOIL

All unconsolidated mineral and organic material of any origin.

SOLID AND FLOATABLE MATERIALS

Sediment, debris, trash, and other floating, suspended, or settleable solids.

SOURCE MATERIAL

Any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing, or other industrial activities, that could be a source of pollutants in any industrial stormwater discharge to ground or surface water. Source materials include, but are not limited to raw materials, intermediate products, final products, waste materials, by-products, industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

SPECIAL RESOURCE WATERS

Water bodies receiving special protections due to their drinking water status or role as high-quality habitat for Threatened and Endangered species or species of commercial or recreational importance. This includes waterways so designated through the NJ Stormwater Management Rules (N.J.A.C. 7:8) because of exceptional ecological significance, exceptional water supply significance, exceptional recreational significance, exceptional shellfish resource, or exceptional fisheries resource. Waters so designated are protected by a 300-foot buffer extending on either side of the waterway measured perpendicular from top-of-bank or center of channel for waterways lacking a defined top-of-bank.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN METROPOLITAN PLANNING AREA (PA1)

An area delineated on the State Plan Policy Map and adopted by the State Planning Commission that is intended to be the focus for much of the State's future redevelopment and revitalization efforts.

STATE PLAN POLICY MAP

The geographic application of the State Development and Redevelopment Plan's goals and statewide policies, and the official map of these goals and policies.

STORMWATER

Water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities, or conveyed by snow removal equipment.

STORMWATER MANAGEMENT BMP

An excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management BMP may either be normally dry (that is, a detention basin or infiltration basin), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (a most constructed stormwater wetlands).

STORMWATER MANAGEMENT MEASURE

Any structural or nonstructural strategy, practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or ground water recharge of stormwater or to eliminate illicit or illegal non-stormwater discharges into stormwater conveyances.

STORMWATER RUNOFF

The flow of stormwater on or across the surface of the ground, in drainage facilities or in storm sewers, resulting from precipitation.

STORMWATER MANAGEMENT PLANNING AGENCY

A public body authorized by legislation to prepare stormwater management plans.

STORMWATER MANAGEMENT PLANNING AREA

The geographic area for which a stormwater management planning agency is authorized to prepare stormwater management plans, or a specific portion of that area identified in a stormwater management plan prepared by that agency.

STREAM BUFFER

A strip of land located immediately adjacent to a stream channel consisting of natural, undisturbed vegetative cover, which serves as a transition area between uplands and riparian lands. A stream buffer may encompass wetlands, may be contained within a flood plain or floodway or may extend beyond a wetland, floodplain or floodway boundary.

STRUCTURAL STORMWATER TECHNIQUES

A stormwater management measure that involves control of concentrated stormwater runoff or infiltration such as stormwater basins, piped conveyance systems and manufactured stormwater devices, and can include various types of basins, filters, surfaces, and devices located on individual lots in a residential development or throughout a commercial, industrial, or institutional development site in areas not typically suited for larger, centralized structural facilities.

THREATENED AND ENDANGERED SPECIES

Endangered Species are those whose prospects for survival in New Jersey are in immediate danger because of a loss or change in habitat, over- exploitation, predation, competition, disease, disturbance or contamination. Assistance is needed to prevent future extinction in New Jersey. Threatened Species are those who may become endangered if conditions surrounding them begin to or continue to deteriorate. Habitats of endangered or threatened species are those identified by the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program, or by the Department pursuant to the Highlands Act at N.J.S.A. 13:20-32k. and 13:20-34a(4).

TIDAL FLOOD HAZARD AREA

A flood hazard area in which the flood elevation resulting from the two-, 10-, or 100-year storm, as applicable, is governed by tidal flooding from the Atlantic Ocean. Flooding in a tidal flood hazard area may be contributed to, or influenced by, stormwater runoff from inland areas, but the depth of flooding generated by the tidal rise and fall of the Atlantic Ocean is greater than flooding from any fluvial sources. In some situations, depending upon the extent of the storm surge from a particular storm event, a flood hazard area may be tidal in the 100-year storm, but fluvial in more frequent storm events.

TIME OF CONCENTRATION

The time it takes for stormwater runoff to travel from the hydraulically most distant point of the watershed to the point of interest within a watershed.

TRANSITION AREA

An area of protected upland adjacent to a freshwater wetland that minimizes adverse impacts on the wetland or serves as an integral component of the wetland's ecosystem. Also called "buffer" area.

“URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD”

A neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.

“URBAN ENTERPRISE ZONES”

A zone designated by the New Jersey Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et. Seq.

“URBAN REDEVELOPMENT AREA”

Previously developed portions of areas:

1. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;
2. Designated as CAFRA Centers, Cores or Nodes;
3. Designated as Urban Enterprise Zones; and
4. Designated as Urban Coordinating Council Empowerment Neighborhoods.

“WATER CONTROL STRUCTURE”

A structure within, or adjacent to, a water, which intentionally or coincidentally

alters the hydraulic capacity, the flood elevation resulting from the two-, 10-, or 100-year storm, flood hazard area limit, and/or floodway limit of the water.

Examples of a water control structure may include a bridge, culvert, dam, embankment, ford (if above grade), retaining wall, and weir.

WATERS OF THE STATE

The ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

WETLANDS OR WETLAND

An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

§ Z-1500.3. General Standards. [Ord. No. 23-2015]

A. Design and Performance Standards for Stormwater Management Measures.

1. Stormwater management measures for major development shall be designed to meet the erosion control, ground water recharge, stormwater runoff quantity control and quality treatment standards in § 1500.4, as described in technical guidance documents listed in § 1500.7. As detailed in § 1500.4, to the maximum extent practicable, these standards shall be met by incorporating green infrastructure strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design along with the practicable green infrastructure strategies.
2. The standards in this § 1500 only apply to new major development as defined in this § 1500 and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or Water Quality Management Plan adopted in accordance with Department rules. When these standards (§ 523) are applicable, they shall be applied in lieu of § 522, Drainage Requirements, of the City's Zoning Ordinance.

§ Z-1500.4. Stormwater Management Requirements. [Ord. No. 23-2015]

A. Green Infrastructure Standards

1. This subsection specifies the types of green infrastructure BMPs that may be used to satisfy the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.
2. To the maximum extent practicable, the standards in paragraphs C, D, and E shall be met by incorporating green infrastructure measures set forth in this § 1500.4 into the design. The applicant shall identify the green

infrastructure measures incorporated into the design of the project. Documentation of the use of stormwater management measures shall require the preparation by the applicant of the NJDEP Low Impact Development Checklist and provide testimony. If the applicant contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any or only specific green infrastructure stormwater management measures identified in paragraph A.2 below into the design of a particular project, the applicant shall identify the strategy or strategies considered and provide a basis for the contention. In both cases, the applicant bears the burden of proving any impracticability.

3. To satisfy the groundwater recharge and stormwater runoff quality standards at § 1500.C and E, the design engineer shall utilize green infrastructure BMPs identified in Table 1 at § 1500.E. and/or an alternative stormwater management measure approved in accordance with § 1500.C. The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

Best Management Practice	Maximum Contributory Drainage Area
Dry Well	1 acre
Manufactured Treatment Device	2.5 acres
Pervious Pavement Systems	Area of additional inflow cannot exceed three times the area occupied by the BMP
Small-scale Bioretention Systems	2.5 acres
Small-scale Infiltration Basin	2.5 acres
Small-scale Sand Filter	2.5 acres

4. To satisfy the stormwater runoff quantity standards at § 1500.D, the design engineer shall utilize BMPs from Table 1 or from Table 2 and/or an alternative stormwater management measure approved in accordance with § 1500.C.
5. If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with § 1500.H is granted from the requirements of this subsection, then BMPs from Table 1, 2, or 3, and/or an alternative stormwater management measure approved in accordance with § 1500.E may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 1500.4 C, D, and E.

6. The New Jersey Stormwater Best Management Practices Manual provides guidance and qualitative assessment called the Low Impact Development Checklist for green infrastructure BMP's that shall be used to describe the measures proposed by the applicant.
- B. Erosion Control
1. For major development projects the minimum design and performance standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules. While the trigger to submit an Application for Soil Erosion and Sediment Control Plan Certification is 5,000 square feet, there may be instances, such as with steep slopes, where a lower threshold has merit. In the case where slopes exceed 15% as defined by the City's Steep Slope Ordinance, and a 150 square feet area is proposed to be disturbed, an Erosion Control Design must accompany the application.
- C. Onsite Retention and Groundwater Recharge Standards
1. The minimum design and performance standards for onsite retention and ground water recharge are as follows:
 2. The design engineer shall, using the assumptions and factors for stormwater runoff, onsite retention, and ground water recharge calculations in § 1500.5B, the following criteria that results in the greatest infiltration volume :
 - a. Demonstrate through hydrologic and hydraulic analysis that the post-developed project site maintains 100% of the site's pre-developed average annual ground water recharge volume;
 - b. Demonstrate through hydrologic and hydraulic analysis that any increase in the project site's projected stormwater runoff volume produced by the two-year, twenty-four-hour storm from pre-developed to post-developed conditions is fully infiltrated ; or
 - c. Demonstrate through hydrologic and hydraulic analysis that the onsite retention volume of 1.0 inches over all impervious surfaces is infiltrated or retained onsite.
 3. This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to 4 below
 4. The following two types of stormwater runoff shall not be recharged:
 - a. Stormwater runoff from areas of high pollutant loading. High pollutant loading areas are: 1) areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied; 2) areas where pesticides are loaded/unloaded or stored; 3) areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; and 4) areas where recharge would be inconsistent with a Department approved remedial action work plan or landfill closure plan and areas with high

risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

- b. Industrial stormwater exposed to “source material.” “Source material” means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.
5. Where the onsite retention volume cannot be infiltrated, reused or evapotranspired, the onsite retention volume shall be slowly released at a rate of not more than 0.02 cfs per acre of drainage area to mimic receiving water groundwater discharge flow. The retention volume shall be released within 72 hours.
 6. Whenever the stormwater management design includes one or more BMPs that will infiltrate stormwater into subsoil, the design engineer shall assess and certify the hydraulic impact on the groundwater table and design the project site and all site groundwater recharge measures so as to avoid adverse hydraulic impacts. Adverse hydraulic impacts include, but are not limited to, raising the groundwater table so as to cause surface ponding, flooding of basements and other subsurface facilities, and interference with the proper operation of subsurface sewage disposal systems and other subsurface structures in the vicinity of a ground water recharge measure.

D. Stormwater Runoff Quantity Standards

1. The minimum design and performance standards for the control of stormwater runoff quantity are as follows:
2. In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § 1500.5, complete one of the following:
 - a. Demonstrate through hydrologic and hydraulic analysis that the post-developed stormwater runoff hydrographs from the project site for the two-, ten-, and 100-Year storms do not exceed, at any point in time, the site's pre-developed runoff hydrographs for the same storms;
 - b. Demonstrate through hydrologic and hydraulic analysis that under post-developed site conditions: 1) there is no increase in pre-developed stormwater runoff rates from the project site for the two-, ten-, and 100-Year storms; and 2) any increased stormwater runoff volume or change in stormwater runoff timing for these storms will not increase flood damage at or downstream of the project site. When performing this analysis for pre-developed site conditions, all off-site development levels shall reflect existing conditions. When performing this analysis

for post-developed site conditions, all off-site development levels shall reflect full development in accordance with current zoning and land use ordinances.

- c. Design onsite stormwater management measures so that the peak post-developed stormwater runoff rates from the project site for the two-, ten- and 100-Year storms are 50%, 75% and 80%, respectively, of the site's peak pre-developed stormwater runoff rates. Peak stormwater outflow rates for these storms shall be adjusted where necessary to account for the discharge of increased stormwater runoff rates and/or volumes from project site areas not controlled by the onsite measures. The percentages do not have to be applied to those portions of the project site that are not proposed for development at the time of application provided that such areas are: 1) protected from future development by conservation easement, deed restriction, or other acceptable legal measures or 2) would be subject to review under these standards if they are proposed for any degree of development in the future.
3. The stormwater runoff quantity standards shall be applied at the site's boundary to each abutting lot, roadway, watercourse, or receiving storm sewer system.

E. Stormwater Runoff Quality Standards.

1. This subsection contains the minimum design and performance standards to control stormwater runoff quality impacts of major development. Stormwater runoff quality standards are applicable when the major development results in an increase of 5,000 square feet or more of regulated motor vehicle surface.
2. Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm as follows:
 - a. Eighty percent TSS removal of the anticipated load, expressed as an annual average shall be achieved for the stormwater runoff from the net increase of motor vehicle surface.
 - b. If the surface is considered regulated motor vehicle surface because the water quality treatment for an area of motor vehicle surface that is currently receiving water quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant is to be modified or removed, the project shall maintain or increase the existing TSS removal of the anticipated load expressed as an annual average.
3. The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Every major development, including any

that discharge into a combined sewer system, shall comply with 2 above, unless the major development is itself subject to a NJPDES permit with a numeric effluent limitation for TSS or the NJPDES permit to which the major development is subject exempts the development from a numeric effluent limitation for TSS.

4. The water quality design storm shall be 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 4, below. The calculation of the volume of runoff may take into account the implementation of stormwater management measures.
5. Tables 1 through 3 below summarize the ability of stormwater best management practices identified and described in the New Jersey Stormwater Best Management Practices Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified in § 1500.4A, C, D, and E. When designed in accordance with the most current version of the New Jersey Stormwater Best Management Practices Manual, the stormwater management measures found at N.J.A.C. 7:8-5.2 (f) Tables 5-1, 5-2 and 5-3 and listed below in Tables 1, 2 and 3 are presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. Upon amendments of the New Jersey Stormwater Best Management Practices to reflect additions or deletions of BMPs meeting these standards, or changes in the presumed performance of BMPs designed in accordance with the New Jersey Stormwater BMP Manual, the Department shall publish in the New Jersey Registers a notice of administrative change revising the applicable table. The most current version of the BMP Manual can be found on the Department's website at: https://njstormwater.org/bmp_manual2.htm.
6. Where the BMP tables in the NJ Stormwater Management Rule are different due to updates or amendments with the tables in this ordinance the BMP Tables in the Stormwater Management rule at N.J.A.C. 7:8-5.2(f) shall take precedence.

Table 1 Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity				
Best Manageme nt Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwat er Runoff Quantity	Groundw ater Recharge	Minimum Separation from Seasonal High Water Table (feet)

Cistern	0	Yes	No	--
Dry Well ^(a)	0	No	Yes	2
Grass Swale	50 or less	No	No	2 ^(e) 1 ^(f)
Green Roof	0	Yes	No	--
Manufactured Treatment Device ^{(a) (g)}	50 or 80	No	No	Dependent upon the device
Pervious Paving System ^(a)	80	Yes	Yes ^(b) No ^(c)	2 ^(b) 1 ^(c)
Small-Scale Bioretention Basin ^(a)	80 or 90	Yes	Yes ^(b) No ^(c)	2 ^(b) 1 ^(c)
Small-Scale Infiltration Basin ^(a)	80	Yes	Yes	2
Small-Scale Sand Filter	80	Yes	Yes	2
Vegetative Filter Strip	60-80	No	No	--

(Notes corresponding to annotations ^(a) through ^(g) are found on Page D-15)

Table 2 Green Infrastructure BMPs for Stormwater Runoff Quantity (or for Groundwater Recharge and/or Stormwater Runoff Quality with a Waiver or Variance from N.J.A.C. 7:8-5.3)				
Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)
Bioretention System	80 or 90	Yes	Yes ^(b) No ^(c)	2 ^(b) 1 ^(c)
Infiltration Basin	80	Yes	Yes	2
Sand Filter ^(b)	80	Yes	Yes	2
Standard Constructed Wetland	90	Yes	No	N/A
Wet Pond ^(d)	50-90	Yes	No	N/A

(Notes corresponding to annotations ^(b) through ^(d) are found on Page D-15)

Table 3 BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity only with a Waiver or Variance from N.J.A.C. 7:8-5.3				
Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)
Blue Roof	0	Yes	No	N/A

Extended Detention Basin	40-60	Yes	No	1
Manufactured Treatment Device ^(h)	50 or 80	No	No	Dependent upon the device
Sand Filter ^(c)	80	Yes	No	1
Subsurface Gravel Wetland	90	No	No	1
Wet Pond	50-90	Yes	No	N/A

Notes to Tables 1, 2, and 3:

(a) subject to the applicable contributory drainage area limitation specified at Section §1500.4.A.3;

(b) designed to infiltrate into the subsoil;

(c) designed with underdrains;

(d) designed to maintain at least a 10-foot-wide area of native vegetation along at least 50 percent of the shoreline and to include a stormwater runoff retention component designed to capture stormwater runoff for beneficial reuse, such as irrigation;

(e) designed with a slope of less than two percent;

(f) designed with a slope of equal to or greater than two percent;

(g) manufactured treatment devices that meet the definition of green infrastructure at §1500.2;

(h) manufactured treatment devices that do not meet the definition of green infrastructure at §1500.2.

7. An alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate may be used if the design engineer demonstrates the capability of the proposed alternative stormwater management measure and/or the validity of the alternative rate or method to the municipality. A copy of any approved alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate shall be provided to the Department in accordance with § 1500.6. Alternative stormwater management measures may be used to satisfy the requirements at § 1500.4A only if the measures meet the definition of green infrastructure at § 1500.2. Alternative stormwater management measures that function in a similar manner to a BMP listed at § 1500.4A are subject to the contributory drainage area limitation specified at § 1500.4A for that similarly functioning BMP. Alternative stormwater management measures approved in accordance with this subsection that do not function in a similar manner

to any BMP listed at § 1500.4A shall have a contributory drainage area less than or equal to 2.5 acres, except for alternative stormwater management measures that function similarly to cisterns, grass swales, green roofs, standard constructed wetlands, vegetative filter strips, and wet ponds, which are not subject to a contributory drainage area limitation. Alternative measures that function similarly to standard constructed wetlands or wet ponds shall not be used for compliance with the stormwater runoff quality standard unless a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with § 1500.4H is granted from § 1500.4A.

Table 4
Water Quality Design Storm Distribution

Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)
1	0.00166	41	0.1728	81	1.0906
2	0.00332	42	0.1796	82	1.0972
3	0.00498	43	0.1864	83	1.1038
4	0.00664	44	0.1932	84	1.1104
5	0.00830	45	0.2000	85	1.1170
6	0.00996	46	0.2117	86	1.1236
7	0.01162	47	0.2233	87	1.1302
8	0.01328	48	0.2350	88	1.1368
9	0.01494	49	0.2466	89	1.1434
10	0.01660	50	0.2583	90	1.1500
11	0.01828	51	0.2783	91	1.1550
12	0.01996	52	0.2983	92	1.1600
13	0.02164	53	0.3183	93	1.1650
14	0.02332	54	0.3383	94	1.1700
15	0.02500	55	0.3583	95	1.1750
16	0.03000	56	0.4116	96	1.1800
17	0.03500	57	0.4650	97	1.1850
18	0.04000	58	0.5183	98	1.1900
19	0.04500	59	0.5717	99	1.1950
20	0.05000	60	0.6250	100	1.2000
21	0.05500	61	0.6783	101	1.2050
22	0.06000	62	0.7317	102	1.2100
23	0.06500	63	0.7850	103	1.2150
24	0.07000	64	0.8384	104	1.2200
25	0.07500	65	0.8917	105	1.2250

26	0.08000	66	0.9117	106	1.2267
27	0.08500	67	0.9317	107	1.2284
28	0.09000	68	0.9517	108	1.2300
29	0.09500	69	0.9717	109	1.2317
30	0.10000	70	0.9917	110	1.2334
31	0.10660	71	1.0034	111	1.2351
32	0.11320	72	1.0150	112	1.2367
33	0.11980	73	1.0267	113	1.2384
34	0.12640	74	1.0383	114	1.2400
35	0.13300	75	1.0500	115	1.2417
36	0.13960	76	1.0568	116	1.2434
37	0.14620	77	1.0636	117	1.2450
38	0.15280	78	1.0704	118	1.2467
39	0.15940	79	1.0772	119	1.2483
40	0.16600	80	1.0840	120	1.2500

8. If more than one BMP in series is necessary to achieve the required 80% TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$R = A + B - (AXB)/100$, where

R = total TSS percent load removal (expressed as a whole number) from application of both BMPs, and

A = the TSS percent removal rate (whole number) applicable to the first (upstream) BMP

B = the TSS percent removal rate (whole number) applicable to the second (downstream) BMP

In cases where three (or more) BMPs are used in series, the applicant shall calculate the TSS reduction for the two most upstream BMPs in the series using the above formula, then substitute the result (R) of that calculation in the formula for "A" when calculating the combined result with the next BMP in the series.

9. If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at § 1500.4A, C, D, and E shall be met in each drainage area, unless the runoff from the drainage areas converge onsite and no adverse environmental impact would occur as a result of compliance with any one or more of the individual standards being determined utilizing a weighted average of the results achieved for that individual standard across the affected drainage areas.

10. Stormwater management measures shall also be designed to reduce, to the maximum extent practicable, the post- construction nutrient load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent practicable, the design of the site shall include green infrastructure measures that optimize nutrient removal while still achieving the performance standards in § 1500.4A, C, D, and E. This standard may be superseded by a more stringent numeric effluent limitation imposed under the New Jersey Pollution Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Daily limits for nutrient loading (TMDL) may apply to the site development based on conditions of regulatory approvals.
11. The Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-4.1(c)1 establish 300-foot riparian zones along Category One (C-1) waters, as designated in the Surface Water Quality Standards at N.J.A.C. 7:9B, and certain upstream tributaries to Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys, within the associated HUC14 drainage area, and all perennial or intermittent streams. An applicant shall not undertake a major development that is located within or discharges into a 300-foot riparian zone without prior authorization from the Department under N.J.A.C. 7:13.
 - a. C-1 Corridors. The applicant shall preserve and maintain a riparian zone around C-1 corridors in accordance with the following:
 - (1) A 300-foot riparian zone shall be provided on each side of the waterway, measured perpendicular to the waterway from the top of the bank outwards or from the centerline of the waterway where the bank is not defined, consisting of existing vegetation or vegetation allowed to follow natural succession.
 - (2) All stormwater shall be discharged outside of and flow through the riparian zone and shall comply with the Standard for Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. (applies to both C-1 and local stream corridors)
 - (3) If stormwater discharged outside of and flowing through the C-1 special water resource protection area cannot comply with the Standard for Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., then the stabilization measures in accordance with the requirements of the above standards may be placed within the riparian zone, provided that:
 - (a) Stabilization measures shall not be placed within 150 feet of

the Category One waterway;

- (b) Stormwater discharges allowed by this section shall achieve a 95% TSS post-construction removal rate;
 - (c) Thermal pollution by stormwater discharges shall be addressed to ensure no significant increase or decrease in temperature occurs in the receiving waterway outside of the mixing zone;
 - (d) The encroachment shall only be allowed where the applicant demonstrates to the satisfaction of the review agency that the ecological value and condition of the riparian zone will be maintained to the maximum extent practicable;
 - (e) A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and
 - (f) All encroachments proposed under this section shall be reviewed and approved by the Department prior to approval by the review agency.
- (4) A stream corridor protection plan for a waterway subject to paragraph E.11 shall maintain or enhance the current ecological value and condition of the riparian zone as defined in paragraph E.11 .a(1) above.
 - (5) Paragraph E.11 does not apply to the construction of one individual single-family dwelling that is not part of a larger development and is on a lot receiving preliminary or final site plan approval on or before prior to December 3, 2018. (applies to both C-1 and local stream corridors).
 - (6) Encroachment within the designated 300-foot riparian zone under paragraph E.11 .a(1) above shall only be allowed where previous development or disturbance has occurred (for example, pre-existing active agricultural use, parking area or maintained lawn area). The encroachment shall only be allowed where the applicant demonstrates to the satisfaction of the review agency that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable. Waivers and requests for encroachments from the buffer requirements applicable to C-1 waters as defined in N.J.A.C. 7:9B cannot be granted by any local board or official, but, as required by State law, can only be sought and obtained from the New Jersey Department of Environmental Protection.
- b. Local Stream Corridors. Applicants proposing development on properties abutting waters and watercourses which are not designated as Category One (C-1) but constitute permanent freshwater streams and classified as FW1 or FW2 pursuant to N.J.A.C. 7:9B-1.4 shall be

designed to prevent any increase in stormwater and meet the following criteria:

- (1) Preserve and maintain a City of Lambertville stream corridor on each side of the waterway, of 75 feet, measured perpendicular to the waterway from the top of bank outwards or from the centerline of the waterway where the bank is not defined, consisting of existing structures, vegetation or vegetation allowed to follow natural succession is provided.
 - (2) Applicants must comply with paragraphs 1500.4-E.11 .a(2) and a(5) above.
 - (3) A waiver to permit encroachment within the designated riparian zone as defined above shall be allowed where the applicant can show that previous development or disturbance has occurred (for example, active residential use, parking, accessory structure or maintained lawn area). The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the local special water resource protection area will be maintained to the maximum extent practicable. All encroachments proposed under this subparagraph shall be subject to review and approval by the City of Lambertville Board having jurisdiction over the application.
12. Provide other source controls to prevent or minimize the use, exposure and/or mobilization of pollutants and prevent or minimize the release and transport of those pollutants into stormwater runoff. Such source controls include, but are not limited to:
- a. Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy paragraph 12.c below;
 - b. Site design features that help to prevent discharge of trash and debris from drainage systems;
 - c. Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and
 - d. When establishing vegetation after land disturbance, application of fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules. Prior to applying fertilizer, soil tests must be conducted onsite to determine the type of fertilization necessary.

Best Management Practice	Maximum Contributory Drainage Area
Dry Well	1 acre

Manufactured Treatment Device	2.5 acres
Pervious Pavement Systems	Area of additional inflow cannot exceed three times the area occupied by the BMP
Small-scale Bioretention Systems	2.5 acres
Small-scale Infiltration Basin	2.5 acres
Small-scale Sand Filter	2.5 acres

- e. For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this subsection shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right-of-way or easement held or controlled by the government agency or utility; the entity shall not be required to obtain additional property or property rights to fully satisfy the requirements of this subsection. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this subsection, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at Section 1500.4, unless the project is granted a waiver from strict compliance in accordance with Section 1500.4.

F. Maintenance Plan.

The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with § 1500.11.

G. Exemptions.

The following linear development projects are exempt from the ground water recharge, stormwater runoff quantity, and stormwater runoff quality requirements of § 1500.4A, C, D, and E:

1. The construction of an underground utility line provided that the disturbed areas are revegetated upon completion;
2. The construction of an aboveground utility line provided that the existing conditions are maintained to the maximum extent practicable; and
3. The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is constructed of

permeable material such as wood chips, unpacked gravel, and porous pavement (See § 1500.9 for guidance).

H. Waivers from Strict Compliance.

1. A waiver from strict compliance with the ground water recharge, stormwater runoff quantity, and stormwater runoff quality requirements of § 1500.4A, C, D, and E may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:
 - a. The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;
 - b. The applicant demonstrates, through an alternatives analysis acceptable to the review agency, that through the use of stormwater management measures, the option selected complies with the requirements of § 1500.4A, C, D, and E to the maximum extent practicable;
 - c. The applicant demonstrates that, in order to meet the requirements of § 1500.4A, C, D, and E, existing structures currently in use, such as homes and buildings, would need to be condemned; and
 - d. The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under paragraph F.1.c above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of § 1500.4A, C, D, and E that were not achievable on-site.
2. A waiver from strict compliance with the requirements of § 1500.4A, C, D, and E may be issued only in those cases where an applicant has demonstrated the inability or impracticality of strict compliance, other than projects addressed under paragraph F.1, with the stormwater management requirements set forth in N.J.A.C. 7:8, in an adopted regional stormwater management plan, or in this local ordinance, whichever is stricter. A waiver from strict compliance for such projects can only be obtained if the applicant agrees to undertake a suitable mitigation measure meeting the policy contained in § 1500.15 of this section and Section 6.0 of the City of Lambertville Municipal Stormwater Management Plan. In such cases, the applicant must submit a mitigation plan detailing how the project's failure to strictly comply will be compensated. In cases where a waiver is granted, an applicant should provide mitigation, if possible and/or practical within the same HUC-14 watershed within which the subject project is proposed, or contribute funding toward a regional stormwater control project, or provide for equivalent treatment at an alternate location, or other equivalent water quality benefit, in lieu of implementing the required stormwater control measures on their specific

site. See § 1500.15, Mitigation Plan, for further details.²

I. Threatened and Endangered Species.

When habitat for threatened and endangered species as documented in the Department's Landscape Project or Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlenbergi* (bog turtle) (see also definition for Environmental Critical Areas in § 1500.2), is present on a site, stormwater management measures shall be implemented to avoid adverse impacts caused by pollutant discharge, the creation of concentrated flow, or the alteration of recharge. Applicants should consult the City's Environmental Resource Inventory for technical information.

J. Any stormwater management measure authorized under the municipal stormwater management plan or ordinance shall be reflected in a deed notice recorded in the Office of the County Clerk. A form of deed notice shall be submitted to the municipality for approval prior to filing. The deed notice shall contain a description of the stormwater management measure(s) used to meet the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Section 1500.4 O, P, Q and R and shall identify the location of the stormwater management measure(s) in NAD 1983 State Plane New Jersey FIPS 2900 US Feet or Latitude and Longitude in decimal degrees. The deed notice shall also reference the maintenance plan required to be recorded upon the deed pursuant to Section 1500.10.B.5. Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the municipality. Proof that the required information has been recorded on the deed shall be in the form of either a copy of the complete recorded document or a receipt from the clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the municipality is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the municipality within 180 calendar days of the authorization granted by the municipality.

K. A stormwater management measure approved under the municipal stormwater management plan or ordinance may be altered or replaced with the approval of the municipality, if the municipality determines that the proposed alteration or replacement meets the design and performance standards pursuant to § 1500.4 of this ordinance and provides the same level of stormwater management as the previously approved stormwater management measure that is being altered or replaced. If an alteration or replacement is approved, a revised deed notice shall be submitted to the municipality for approval and subsequently recorded with the Office of the County Clerk and shall contain a description and location of the stormwater management measure, as well as reference to the maintenance plan, in accordance with M above. Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to

² The Stormwater Management Plan can be found on file at the City Offices.

the municipality in accordance with M above.

- L. Any application for a new agricultural development that meets the definition of major development at Section 1500.2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at § 1500.4A, C, D, and E and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this subsection, "agricultural development" means land uses normally associated with the production of food, fiber, and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.

§ Z-1500.5. Calculation of Stormwater Runoff, Onsite Retention, and Ground Water Recharge.
[Ord. No. 23-2015]

A. Stormwater Surface Runoff Calculations.

1. In complying with the design and performance standards in § 1500.4, the design engineer shall calculate stormwater runoff using one of the following methods:
 - a. The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation, NRCS Dimensionless Unit Hydrograph, and appropriate NRCS Twenty-Four-Hour design storm, as described in Chapters 7, 9, 10, 15 and 16 Part 630, Hydrology National Engineering Handbook, incorporated herein by reference as amended and supplemented. This methodology is additionally described in [Technical Release 55 – Urban Hydrology for Small Watersheds \(TR-55\)](#), dated June 1986 or superseding document; or at United States Department of Agriculture Natural Resources Conservation Services, 220 Davison Avenue, Somerset, New Jersey 08873; or
 - b. The Rational Method for peak stormwater runoff rate calculations and the Modified Rational Method for stormwater runoff hydrograph calculations. Use of the Rational Method and Modified Rational Method are limited to drainage areas of two acres or less. Neither the Rational Method nor Modified Rational Method shall be used to calculate runoff volumes for ground water recharge or stormwater runoff infiltration purposes. The Intensity-Duration-Frequency curves determining the rainfall rates in inches per hour for the Rational Method must be taken from NOAA - National Weather Service. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)3. The location, address, and telephone number for each Soil Conservation District is available from the State Soil Conservation Committee, PO Box 330,

Trenton, New Jersey 08625. The document is also available at: <http://www.nj.gov/agriculture/divisions/anr/pdf/2014NJSoilErosionControlStandardsComplete.pdf>.

2. When selecting or calculating runoff coefficients for pre-developed project site conditions using any of the above methods, the project site's land cover shall be assumed to be woods with good hydrologic condition. However, another land cover may be used to calculate runoff coefficients if: 1) such land cover has existed at the site or portion thereof site without interruption for at least two years immediately prior to the time of application; and 2) the design engineer can document the character and extent of such land cover through the use of photographs, affidavits, and/or other acceptable land use records. If more than one land cover other than woods has existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential (including woods) shall be used for the computations. All pre-developed land covers shall be assumed to be in good hydrologic condition and, if cultivated, shall be assumed to have applied appropriate conservation practices. The term "runoff coefficient" applies to both the NRCS methodology above at § 1500.5A.1.a and the Rational and Modified Rational Methods at § 1500.5A.1.b. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).
3. In calculating pre-developed site stormwater runoff, the design engineer shall include the effects of all land features and structures, such as ponds, wetlands, depressions, hedgerows and culverts, that reduce pre-developed site stormwater runoff rates and/or volumes.
4. In calculating stormwater runoff using the NRCS methodology, the design engineer shall use appropriate twenty-four-hour rainfall depths as developed for the project site by the National Oceanic and Atmospheric Administration.
5. In calculating stormwater runoff using the NRCS methodology, the design engineer shall separately calculate and then combine the runoff volumes from pervious and directly connected impervious surfaces within a drainage area.
6. Calculation of stormwater runoff from unconnected impervious surfaces shall be based, as applicable, upon the Two-Step methodology as described in the Department's current Stormwater Best Management Practices Manual or the NRCS methodology described in the current Technical Release 55 — Urban Hydrology for Small Watersheds.

7. If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.
- B. Ground Water Recharge Calculations.
1. In complying with the design and performance standard in § 1500.4, the design engineer-professional hydrogeologist may calculate ground water recharge in accordance with The New Jersey Geological Survey Report GSR-32, A Method for Evaluating Groundwater-Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the [New Jersey Stormwater Best Management Practices Manual](#) or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420
 2. Field testing is required to derive values for permeability (hydraulic conductivity). Field methodologies that are applied should be as per N.J.A.C. 7:9A-6.4 through 7:9A-6.7.

C. Onsite Retention Volume

Onsite retention volume shall be calculated as the prescribed depth of precipitation over all impervious surfaces proposed as part of a major development.

Onsite retention volume (ft³) = Precipitation Depth (in) x (1 ft/12 in) x Impervious Area (ft²)

§ Z-1500.6. Standards for Structural Stormwater Management Measures.

[Ord. No. 23-2015]

- A. Structural Management Measures Standards for structural stormwater management measures are as follows:
1. Structural stormwater management measures shall be designed to factor into the design the existing site conditions which may cause the measure to fail, have an adverse effect on water quality or quantity, or cause harm or damage to persons or property, including, for example, environmentally critical areas, wetlands; flood-prone areas; slopes; depth to seasonal high-water table; soil type, permeability and texture; drainage area and drainage patterns; and significant land filling.
 2. Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at

the outlet structure shall be spaced no greater than $\frac{1}{3}$ the width of the diameter of the orifice or $\frac{1}{3}$ the width of the weir, with a minimum spacing between bars of one-inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of § 1500.9B. All structures must be reviewed and approved by the Planning Board and/or the City Public Works Director for compliance with this section.

3. Structural stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement. The measures are to be sequenced in the site development process so that erosion control standards are met and so the measure is not compromised or impaired by construction runoff.
4. At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of 2 $\frac{1}{2}$ inches in diameter.
5. Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at § 1500.9.
6. Where tailwater will affect the hydraulic performance of a stormwater management measure, the design engineer shall include such effects in the measure's design.

B. Guidelines for Management Measures.

Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual and other documents as described in § 1500.9. Other stormwater management measures may be utilized provided the design engineer demonstrates to the satisfaction of the review agency that the proposed measure and its design will accomplish the required water quantity, ground water recharge, retention and water quality design and performance standards established by § 1500.4.

C. Manufactured Treatment Devices.

1. Manufactured treatment devices may be used to meet the requirements found in § 1500.4, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department and the applicant has made a record that non-structural techniques are infeasible for the site in question.
2. Non-verified manufactured treatment devices may also be used for purposes other than underground discharge of stormwater, where such devices provide a clear benefit to stormwater quality or flow control in a manner that facilitates improved nonstructural stormwater management controls on the site, or avoids the need for approval of off-site mitigation. Such devices may be beneficial as pretreatment to aboveground stormwater management systems. The benefits of proposed non-verified manufactured treatment devices must be proved to the satisfaction of the review agency.

3. Manufactured treatment devices may be used only where the maintenance plan required by § 1500.11 ensures that the manufactured device will be properly maintained for its functional lifespan and will be replaced as needed with management measures that are at least as effective as the original manufactured treatment device working in accordance with manufacturers specifications.

§ Z-1500.7. Sources for Technical Guidance.

- A. Technical guidance for stormwater management measures can be found in the documents listed below, which are available to download from the Department's website at:

http://www.nj.gov/dep/stormwater/bmp_manual2.htm.

1. Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended and supplemented. Information is provided on stormwater management measures such as, but not limited to, those listed in Tables 1, 2, and 3.
2. Additional maintenance guidance is available on the Department's website at:

https://www.njstormwater.org/maintenance_guidance.htm.

- B. Submissions required for review by the Department should be mailed to:

The Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420.

§ Z-1500.8. Solids and Floatable Materials Control Standards.

- A. Site design features identified under § 1500.4.E.6 above, or alternative designs in accordance with § 1500.4.E.7 above, to prevent discharge of trash and debris from drainage systems shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see § 1500.8.A.2 below.

1. Design engineers shall use one of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:
 - a. The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines; or
 - b. A different grate, if each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is no greater than 0.5 inches across the smallest dimension.

Examples of grates subject to this standard include grates in grate

inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater system floors used to collect stormwater from the surface into a storm drain or surface water body.

- c. For curb-opening inlets, including curb-opening inlets in combination inlets, the clear space in that curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches, or be no greater than two (2.0) inches across the smallest dimension.
2. The standard in A.1. above does not apply:
- a. Where each individual clear space in the curb opening in existing curb-opening inlet does not have an area of more than nine (9.0) square inches;
 - b. Where the municipality agrees that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;
 - c. Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:
 - (1) A rectangular space four and five-eighths (4.625) inches long and one and one-half (1.5) inches wide (this option does not apply for outfall netting facilities); or
 - (2) A bar screen having a bar spacing of 0.5 inches.

Note that these exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

- d. Where flows are conveyed through a trash rack that has parallel bars with one-inch (1 inch) spacing between the bars, to the elevation of the Water Quality Design Storm as specified in N.J.A.C. 7:8; or
- e. Where the New Jersey Department of Environmental Protection determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

§ Z-1500.9. Safety Standards for Stormwater Management Basins.

A. General Scope.

This § 1500.9 sets forth requirements to protect public safety through the proper design and operation of stormwater management BMPs. This § 1500.9 applies to any new stormwater management BMP.

B. Requirements for Trash Racks, Overflow Grates and Escape Provisions.

1. A trash rack is a device intended to intercept runoff-borne trash and debris that might otherwise block the hydraulic openings in the outlet structure of a structural stormwater management measure. Trash racks shall be installed upstream of such outlet structure openings to ensure proper functioning of the structural stormwater management measure in accordance with the following:
 - a. The trash rack should be constructed primarily of bars aligned in the direction of flow with a maximum bar spacing of approximately $1/2$ the diameter or width of the hydraulic opening it is protecting, with no space greater than six-inches between the bars.
 - b. The trash rack shall not adversely affect the hydraulic performance of either the outlet structure opening it is protecting or the overall outlet structure.
 - c. The trash rack shall have sufficient net open area under clean conditions to limit the peak design storm velocity through it to a maximum of 2.5 feet per second.
 - d. The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs.
2. An overflow grate is a device intended to prevent obstruction to the opening in the top of a stormwater management measure outlet structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:
 - a. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.
 - b. The overflow grate spacing shall be no more than two inches across the smallest dimension.
 - c. The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 lbs./ft sq.
3. Structural stormwater management measures shall include escape provisions as follows:
 - a. If a stormwater management measure has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide readily accessible means of ingress and egress from the outlet structure.

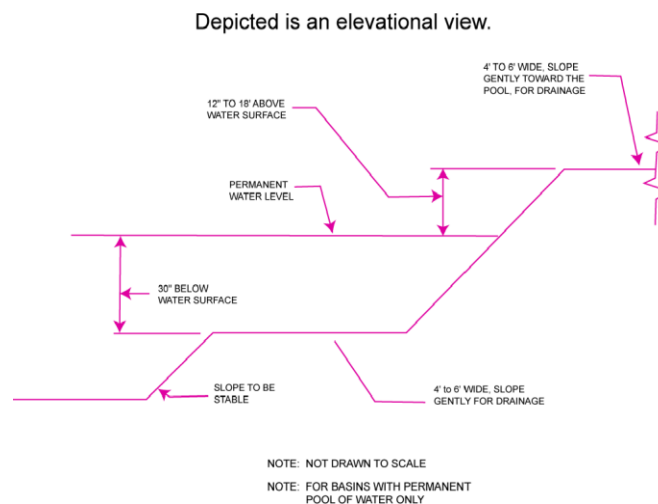
- b. Safety ledges shall be constructed on the slopes of all new structural stormwater management measures having a permanent pool of water deeper than 2 1/2 feet. Such safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately 2 1/2 feet below the permanent water surface, and the second step shall be located one to 1 1/2 feet above the permanent water surface. See § 1500.9D for an illustration of safety ledges in a stormwater management basin.
- c. In new stormwater management basins, the maximum slope of the interior and exterior of an earthen dam, embankment, or berm shall not be steeper than three horizontals to one vertical in accordance with N.J.A.C. 7:8-6.2(c)3.
- d. An emergency drawdown method for detention basins is required where the permanent pool will be more than 2 1/2 feet deep. This drawdown method must consider downstream or offsite stability at the outfall in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey.

C. Variance or Exemption from Safety Standards.

1. A variance or exemption from the safety standards for stormwater management BMPs may be granted only upon a written finding by the appropriate reviewing agency (municipality, county or Department) that the variance or exemption will not constitute a threat to public safety.

D. Safety Ledges in a New Stormwater Management Basin. Figure 1.

Depicted is an elevational view.



§ Z-1500.8- 10 Requirements for a Site Development Stormwater Plan.

A. Submission of Site Development Stormwater Plan.

1. Whenever an applicant seeks municipal approval of a development subject to this § 1500, the applicant shall submit all of the required components of

the Checklist for the Site Development Stormwater Plan at § 1500.10c below as part of the submission of the applicant's application for subdivision or site plan approval.

2. The applicant shall demonstrate through paragraph C., Submission Requirements, that the project meets the standards set forth in this § 1500.
3. The applicant shall submit to the approving municipal authority the required number of copies of the materials listed in the checklist for site development stormwater plans in accordance with § 1500.10C of this section.

B. Site Development Stormwater Plan Approval.

The applicant's site development project shall be reviewed as a part of the review process by the municipal board or official from which municipal approval is sought (the review agency). That review agency shall consult the engineer retained by the Planning and/or Zoning Board (as appropriate) to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this § 1500.

C. Submission Requirements.

The information in § 1500.10C.1 through C.7 below shall be provided unless a waiver is approved through § 1500.10C.8 below:

1. Existing Site Conditions Topographic Base Map (including topography, streams, roads and current built environment).

The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale appropriate to show site details, showing two-foot contour intervals. The following additional elements should be considered and presented as appropriate and in combinations sufficient to adequately indicate the existing site conditions and that of the surrounding environs:

a. Hydrology.

- (1) Perennial or intermittent streams as shown on the USGS 7.5 Minute Quadrangle Maps and as indicated in the Soil Survey of Hunterdon County, New Jersey.
- (2) Special water resource protection areas along all waters designated Category One at N.J.A.C. 7:9B and perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys.
- (3) Wetlands, NJDEP Linear Non-Tidal Wetlands, Marshlands and NJDEP Letter of Interpretation findings.
- (4) FEMA Q3 Flood Data 100-Year-Floodplains and Floodways.

- (5) Geometry of on-site drainage areas.
- b. Boundaries and Buffers.
 - (1) Appropriate buffers to streams, rivers, wetlands, marshlands, ponds, lakes and other water bodies as specified in pertinent ordinances, rules, regulations, statutes or other provisions of law imposed by local, County, State or Federal agencies.
 - (2) Existing and proposed bearing and distances of property lines.
 - (3) Existing and proposed conservation, maintenance, construction, reconstruction, sight, utility, drainage and right-of way easements and dedications.
- c. Vegetation and Landscaping.
 - (1) Pervious and vegetated surfaces, i.e., woodlands, grasslands and other significant natural features not listed if being utilized for LID credit.
 - (2) Native and invasive stands of vegetation.
 - (3) Vegetated habitat for Threatened and Endangered Species.
- d. Geology and Soils (as indicated in the Soil Survey of Hunterdon County, New Jersey).
 - (1) Steep slopes, 10% or > slopes.
 - (2) Soil types.
 - (3) Highly erodible soils, with an erodibility factor (K) of
0.40 or <.
 - (4) Drainage Class and recharge potential.
 - (5) Colloidal soils.
 - (6) Depth to bedrock.
 - (7) Seasonal high-water table.
 - (8) Soils subject to dynamic compaction and compacted soils.
 - (9) Soil pH.
 - (10) Shrink swell potential.
 - (11) Deeply fractured bedrock.
 - (12) Hardpans and plough pans.
- e. Existing Man-Made Structures and Activities.
 - (1) Existing buildings and significant permanent manmade features.
 - (2) Roads by classification, parking areas and other impervious surfaces.
 - (3) Bridges and culverts.

- (4) Utilities, sub-surface and above ground.
- (5) Mining/quarry operations and blasting areas.
- (6) Acid or other hazardous runoff.
- (7) Areas of fill and buried debris.
- (8) Wellheads and associated ground water withdrawals pipes, discharges and BMP's of existing stormwater utilities.
- (9) Groundwater mounding.
- (10) Septic systems and wells of adjacent lots.
- (11) Leaking sanitary lines.
- (12) Previous land use (agricultural, industrial, commercial).

2. Environmental Site Analysis.

A written and graphic description of the natural and man-made features of the site and its environs. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally critical areas and to those that provide particular opportunities or constraints for development. The applicant should consult the City's Environmental Resource Inventory, DEP websites and other pertinent sources of local data. Incorporation of nonstructural strategies demonstrates adherence to a low impact development (LID) approach. The written description should include a list of the following nonstructural strategies (1500.10.C.2.i-ix), with a clear yes/no indication of if the strategy was included in the plan and brief description:

- i. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
- ii. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
- iii. Maximize the protection of natural drainage features and vegetation;
- iv. Minimize the decrease in "time of concentration" from pre-construction to post-construction. "Time of concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the drainage area to the point of interest within a watershed;
- v. Minimize land disturbance including clearing and grading;
- vi. Minimize soil compactions;
- vii. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;

- viii. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas; and
- ix. Provide other source controls in order to prevent or minimize the use or exposure of pollutants at the site in order to prevent or minimize the release of those pollutants into stormwater runoff. These source controls include, but are not limited to:
 - 1. Site design features that help to prevent accumulation of trash and debris in drainage systems;
 - 2. Site design features that help to prevent discharge of trash and debris in drainage systems;
 - 3. Site design features that help prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and
 - 4. When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.

3. Project Description and Site Plan(s).

A map (or maps) at a scale appropriate for the site indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high ground water elevations. A written description of the site plan and justification of proposed changes in natural conditions may also be provided.

- 4. Stormwater Site Planning and Design Summary. This plan shall provide a demonstration of how the goals and standards of Sections 1500.3 through 1500.6 are being met, including both nonstructural and structural approaches. The focus of this plan shall be to describe how the site is being managed or developed to meet the objective of controlling ground water recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible. Refer to the Municipal Stormwater Management Plan and/or the Municipal Stormwater Pollution Prevention Plan for additional requirements. It should explain in full the maps required by this section.
- 5. Stormwater Management Facilities Map(s). The following information, illustrated on a map at a scale appropriate for the site, shall be included:
 - a. Total area to be disturbed, paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, land area to remain in natural vegetation, and details of the proposed plan to infiltrate, manage, control and dispose of stormwater.

- b. Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention, and emergency spillway provisions with maximum discharge capacity of each spillway.
- 6. Calculations.
 - a. Comprehensive hydrologic and hydraulic design and discharge stability calculations for the pre-development and post-development conditions for the design storms specified in Section 1500.4 of this ordinance.
 - b. When the proposed stormwater management control measures (e.g., infiltration basins) depend on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure. The municipality shall be notified of site investigation activities and given the opportunity to have a witness, either prior to approval or as a condition of approval, as appropriate for the specific type of measure. Subsequent to approval of the major development, post- construction bulk soil density and infiltration testing shall be required for all infiltration measures that were used as justification for meeting the recharge standard, to ensure that they were properly constructed.
- 7. Maintenance and Repair Plan. The design and planning of the stormwater management facility shall meet the maintenance requirements of § 1500.11.
- 8. Waiver from Submission Requirements. The review agency may, in consultation with the Municipal Engineer, waive submission of any of the requirements in § 1500.10C.1 through C.6 when it can be demonstrated that the information requested is impossible to obtain or it would create a significant economic hardship on the applicant to obtain and its absence will not materially affect the review process.

§ Z-1500. 11. Maintenance and Repair. [Ord. No. 23-2015]

A. Applicability.

- 1. Projects subject to review pursuant to § 1500.1C of this section shall comply with the requirements of § 1500.11B and C.

B. General Maintenance.

- 1. The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development. This plan shall be separate from all other documents and designed for ongoing use by the site owners or operators in performing and documenting maintenance and repair, and by the municipality in ensuring implementation of the maintenance plan. The final maintenance plan shall be updated and provided to the municipality post-construction to include

an evaluation based on the specifications of the initial maintenance plan and as-built conditions.

2. The maintenance plan shall contain specific preventive maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal and disposal; safety needs; identification of methods and disposal sites for materials removed during maintenance; maintenance requirements for created wetlands and other ecological systems; safety devices and systems; warranty and operational standards from the manufacturers of any manufactured treatment devices (See § 1500.6C); and the name, address, and telephone number of the person or persons responsible for preventive and corrective maintenance (including replacement), using maintenance guidelines for stormwater management measures from Section 6 of the Municipal Stormwater Management Plan, Municipal Stormwater Pollution Prevention Plan and any relevant regional stormwater management plan. The plan shall contain information on BMP location, design, ownership, maintenance tasks and frequencies, and other details as specified in Chapter 8 of the NJ BMP Manual, as well as the tasks specific to the type of BMP, as described in the applicable chapter containing design specifics. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for continuing maintenance, the plan shall include documentation of such person's or entity's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.
3. Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project. The individual property owner may be assigned incidental tasks, such as weeding of a green infrastructure BMP, provided the individual agrees to assume these tasks; however, the individual cannot be legally responsible for all of the maintenance required.
4. If the person responsible for maintenance identified under paragraph B.2 above is not a public agency, the maintenance plan and any future revisions based on paragraph B.7 below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.
5. Preventive and corrective maintenance shall be performed to maintain the function of the stormwater management measures, including, but not limited to, repairs or replacement to the structures; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of non-vegetated linings.
6. The person responsible for maintenance identified under paragraph B.2 above shall maintain a detailed log of all preventive and corrective

maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

7. The person responsible for maintenance identified under paragraph B.2 above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.
 8. The person responsible for maintenance identified under paragraph B.2 above shall retain, submit annually to the municipality and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by paragraphs B.6 and B.7 above. The report should be submitted to the Lambertville City Clerk by March 15th of every year that certifies the completion of maintenance responsibilities for the prior year.
 9. The requirements of paragraphs B.3 and B.4 do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency of competent jurisdiction.
 10. In the event that the stormwater management facility becomes a danger to public safety or public health or is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have 14 days to effect maintenance and repair of the facility in a manner that is approved by the Municipal Engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the City or County may immediately proceed to do so and shall bill the cost thereof to the responsible person. Nonpayment of such bill may result in a lien on the property.
- C. Nothing in this § 1500.11 shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.
- D. The maintenance plan shall specifically provide a specific municipal right of access for inspection of measures, and for maintenance if required under paragraph B.9.
- E. The person(s) identified in paragraph B.2 above for the long-term maintenance of the facility shall cause to be prepared and submit a report to the Lambertville City Clerk by March 15th of every year that certifies the completion of maintenance responsibilities for the prior year. The responsible party shall allow a representative of the City to inspect the stormwater management facilities.

§ Z-1500.12. Penalties.

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this ordinance shall be subject to a fine or

imprisonment in accordance with Section 900 of the Lambertville Subdivision Ordinance, Section 1000 of the City Zoning Ordinance, and all applicable sections of the municipal code of the City of Lambertville. In accordance with the aforementioned codes and ordinances, in the event the City determines to abate any violation after the owner thereof has been notified to abate the violation and fails or refuses to do so, the City, upon completing the abatement, shall be entitled to a lien upon the property on which the violation took place, in the amount of the funds expended by the City in conducting the abatement work, which shall run with the property until satisfied in full, with interest, as provided in State law for abatement of nuisances.

§ Z-1500.13. Effective Date. [Ord. No. 2006-09 adopted 4-17-2006]

This § 1500 shall take effect immediately upon the approval by the County Review Agency, or 60 days from the receipt of Ordinance No. 2006-09 by the Hunterdon County Planning Board if the Hunterdon County Planning Board, as county review agency, should fail to act.

§ Z-1500.14. Severability.

If the provisions of any section, subsection, paragraph, subdivision, or clause of this § 1500 shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision, or clause of this § 1500.

§ Z-1500.15. Mitigation Plan.

The Board having jurisdiction over an application requiring a stormwater management plan shall have the jurisdiction to grant a waiver from strict compliance with the performance requirements of this § 1500 or the Stormwater Management Plan. The waiver may be granted where an applicant has demonstrated the inability or impracticality of strict compliance with § 1500, and/or the Stormwater Management Plan upon the following conditions. The applicant must demonstrate one of the following: (1) an inability to apply any of the Best Management Practices and methodologies as defined and approved herein and in the Stormwater Management Plan, due to an extraordinary and exceptional situation uniquely affecting the subject property or the structures thereon, resulting in a peculiar and exceptional practical difficulty or undue hardship; or (2) that the purposes of this § 1500 and Stormwater Management Plan can be advanced by a deviation from the Best Management Practices and methodologies as defined and approved herein and in the Stormwater Management Plan, where the benefits of such deviation substantially outweigh any detriment.

In requesting a waiver as to any application, the applicant may submit as reasons for the waiver the site conditions of the proposed project, including soils types; thin soil cover; low permeability soils, and/or shallow depths to groundwater (high groundwater levels), unique conditions which would create an unsafe design, or conditions which would provide a detrimental impact to public health, welfare or safety.

The waiver cannot be granted due to conditions created by the applicant. If the applicant can comply with the requirements of

§ 1500 and the Stormwater Management Plan through reduction of the size of the project, the hardship is self-imposed and the Board lacks jurisdiction to grant any waiver under this section.

The applicant must propose a suitable mitigation method through submission of a mitigation plan which will conform as closely as possible to the design and performance standards of this § 1500, through structural or non-structural stormwater management measures, governing stormwater quality, quantity, and groundwater recharge.

The mitigation plan shall include sufficient data and analyses, including an alternatives analysis, which demonstrate how on-site compliance is to be maximized.

The mitigation plan must provide stormwater management results compatible with the same HUC-14 watershed within which the subject project is proposed. Alternatively, the mitigation plan may (1) provide for funding toward an offsite or regional stormwater control project, if available and practicable, or (2) fund an analysis to determine a more appropriate mitigation method to be presented to the Board for approval; or (3) provide for equivalent treatment at an alternate location, or (4) provide some other equivalent water quality benefit, if an on-site method is not proposed, provided the results required herein are achieved.

The applicant shall be responsible for locating an appropriate site for mitigation of the performance section for which the waiver is sought.

The funding option shall be allowed only in situations where there will be no immediate impact upon a sensitive receptor. Contribution to a regional, municipal or offsite mitigation plan shall be allowed for any application for one individual single-family residence. When approved by the Board, receipt of the financial contribution shall be deemed to satisfy the mitigation requirement for that application.

The Board having jurisdiction over the individual application may determine that, due to the size of the project necessary to mitigate for the waiver, it is not practical to require a mitigation project.

In all instances the Board having jurisdiction over the application shall have the power to impose additional conditions as may be appropriate under the circumstances of the application. The Board shall make specific findings of fact and conclusions consistent with this section (1) showing the inability or impracticality of strict compliance with § 1500 and the Stormwater Management Plan and (2) justifying the approval of the applicant's mitigation plan, in order to satisfy the reporting requirements of the municipality's NJPDES permit and other applicable state law requiring the submission of reports to any state or county review agency. The Board shall also have the power to require mitigation as to applications which have received waivers from the New Jersey Department of Environmental Protection.

For purposes of this § 1500, "Mitigation" shall incorporate the definition set forth in § 1500.2 and shall include situations where the applicant has demonstrated the inability or impracticality of strict compliance with the stormwater management

requirements set forth in N.J.A.C. 7:8 in addition to the requirements set forth in this § 1500.

INTRODUCTION AND FIRST READING: March 18 2021
CARRIED ON THE APRIL 22, 2021 MEETING AGENDA
PUBLIC HEARING AND SECOND READING: May 20, 2021

CLERKS CERTIFICATE

I, Cynthia L. Ege, CMR, RMC, Clerk of the City of Lambertville, in the County of Hunterdon, State of New Jersey, HEREBY CERTIFY as follows:

1. I am the duly appointed Clerk of the City of Lambertville, in the County of Hunterdon, State of New Jersey (herein called the "City"). In this capacity, I have the responsibility to maintain the minutes of the meetings of the governing body of the City and the records relative to all ordinances and resolutions of the City. The representations made herein are based upon the records of the City.
 2. Attached hereto is a true and complete copy of an ordinance passed by the governing body of the City on first reading March 18, 2021 and finally adopted by the governing body on May 20, 2021.
 3. On March 19, 2021 a copy of the ordinance and a notice that copies of the ordinance would be made available to the members of the general public of the municipality who requested copies, up to and including the time of further consideration of the ordinance by the governing body, was posted in the principal municipal building of the City at the place where public notices are customarily posted. Copies of the ordinance were made available to all who requested them.
 4. After final passage, the ordinance, a copy of which is attached hereto, was duly published on May 24, 2021. No protest signed by any person against making the improvement or incurring the indebtedness authorized therein, nor any petition requesting that a referendum vote be taken on the action proposed in the ordinance has been presented to the governing body or to me or filed in my office within the 20 days after the publication or at any other time after the final passage thereof.
- IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of the City this 24 day of May 2021. Cynthia L. Ege, CMR, RMC, City Clerk.

