ORDINANCE #2023-33

AN ORDINANCE OF THE MUNICIPALITY OF PRINCETON PERTAINING TO STORMWATER MANAGEMENT AND AMENDING CHAPTER 10B OF THE "CODE OF THE TOWNSHIP OF PRINCETON, NEW JERSEY, 1968"

WHEREAS, the New Jersey Department of Environmental Protection (DEP) has adopted updates to its Stormwater and Flood Hazard Area regulations as part of the Inland Flood Protection Rule; and

WHEREAS, municipalities are required to amend their stormwater regulations in accordance with the DEP's updated new regulations by July 18, 2024;

NOW THEREFORE, BE IT ORDAINED by the Mayor and Council of Princeton as follows:

SECTION 1. Scope and purpose of stormwater management requirements supplemented. Section T10B-227 in Chapter T10B of the "Code of the Township of Princeton, New Jersey 1968" is hereby amended and supplemented to read as follows (new text is underlined thus):

§ T10B-227 Stormwater management: scope and purpose.

(a) Policy Statement. Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including low impact development techniques (LID) and green infrastructure Best Management Practices (GI BMPs). LID and GI BMPs 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. LID and GI BMPs 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.

(b) Purpose. The purpose of sections 10B-227 through 227.13 of this chapter, also referred to herein as the "Stormwater Management

Ordinance" or "ordinance," is to establish minimum stormwater management requirements and controls for "major development" and "minor development," as defined below in section 10B-227.1.

(c) Applicability.

(1) This Stormwater Management Ordinance shall be applicable to the following applications:

a. Non-residential minor developments; and

b. Non-residential major developments; and

c. Residential major developments, excepting aspects that are preempted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

d. Residential minor developments, excepting aspects that are preempted by the Residential Site Improvement standards at N.J.A.C. 5:21.

(2) This Stormwater Management Ordinance shall also be applicable to all major developments undertaken by the Municipality of Princeton.

(3) An application required by ordinance pursuant to (c)1 above that has been submitted prior to March 3, 2021, shall be subject to the stormwater management requirements in effect on March 2, 2021.

(4) An application required by ordinance for approval pursuant to (c)1 above that has been submitted on or after March 3, 2021, but prior to {adoption date of this ordinance}, shall be subject to the stormwater management requirements in effect on {1 day prior to the adoption date of this ordinance}.

(5) Notwithstanding any rule to the contrary, a major development for any public roadway or railroad project conducted by a public transportation entity that has determined a preferred alternative or reached an equivalent milestone before July 17, 2023, shall be subject to the stormwater management requirements in effect prior to July 17, 2023.

(d) Compatibility with other permit and ordinance requirements.

(1) Development approvals issued pursuant to this Stormwater Management Ordinance are to be considered an integral part of development approvals 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 Stormwater Management Ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

(2) This Stormwater Management Ordinance is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of said requirements imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

SECTION 2. New definitions added, and definition of "minor development" updated. Section T10B-227.1 of the Township Code is hereby amended and supplemented by adding thereto new definitions "public roadway or railroad" and "public transportation entity" and by updating the existing definition of "minor development," which shall read as follows (new text is underlined thus):

PUBLIC ROADWAY OR RAILROAD

A pathway for use by motor vehicles or trains that is intended for public use and is constructed by, or on behalf of, a public transportation entity. A public roadway or railroad does not include a roadway or railroad constructed as part of a private development, regardless of whether the roadway or railroad is ultimately to be dedicated to and/or maintained by a governmental entity.

PUBLIC TRANSPORTATION ENTITY

A Federal, State, county, or municipal government, an independent State authority, or a statutorily authorized public-private partnership program pursuant to P.L. 2018, c. 90 (N.J.S.A. 40A:11-52 et seq.), that performs a public roadway or railroad project that includes new construction, expansion, reconstruction, or improvement of a public roadway or railroad.

MINOR DEVELOPMENT

Any development which results in an increase in impervious surface of 400 or more square feet but does not meet the definition of a "major development." "Minor development" shall not include "small project" as defined in section 10B-241

of this chapter. The amount of disturbance or impervious surface shall be measured on a cumulative basis since February 2, 2004.

Section 3. Stormwater management requirements for major developments amended. Sections T10B-227.3 and T10B-22.4 of the Township Code are hereby amended and supplemented to read as follows (new text is underlined thus; deleted text is in brackets [thus]):

§ T10B-227.3 Stormwater management: requirements for major development.

(a)- (e) no changes

(f) (Reserved)

(g) 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 subsection 10B-227.3(q), (r), (s) and (t). 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.]https://dep.nj.gov/stormwater/bmp-manual/.

(h) – (q) no changes

(r) Groundwater Recharge Standards.

(1) This subsection contains the minimum design and performance standards for groundwater recharge as follows.

(2) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at subsection 10B-227.4, either:

a. Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual pre-construction groundwater recharge volume for the site; or

b. Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the projected two-year storm, as defined and determined pursuant to Section T10B-227.4 (d) of this ordinance, is infiltrated.

(3) This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to subsection 10B-227.4(r)(4) below.

(4) The following types of stormwater shall not be recharged:

a. Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; 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; areas where recharge would be inconsistent with Department approved remedial action work plan approved pursuant to the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C, or Department landfill closure plan and areas; 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.

(s) no change

(t) Stormwater Runoff Quantity Standards.

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quantity impacts of major development.

(2) The site shall be designed to manage through on-site retention of the water quality design storm. The management shall be through the utilization of one or more green infrastructure techniques.

(3) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at section 10B-227.4, complete one of the following:

a. Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the current and projected 2-, 10-, and 100-year storm events, as defined and determined in Section T10B-227.4 (c) and (d), respectively, of this ordinance, do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events at all points of runoff from the site;

b. Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the current and projected 2-, 10- and 100-year storm events, as defined and determined in Section T10B-227.4 (c) and (d), respectively, of this ordinance, and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area;

c. Design stormwater management measures so that the post-construction peak runoff rates for the current and projected 2-, 10- and 100-year storm events, as defined and determined in Section T10B-227.4 (c) and (d), respectively, of this ordinance, are 50%, 75% and 80%, respectively, of

the pre-construction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed.

(4) The stormwater runoff quantity standards shall be applied at the site's boundary to each abutting lot, roadway, watercourse, or receiving storm sewer system.

SECTION 4. Calculations of stormwater runoff and groundwater recharge amended. Section T10B-227.4 of the Township Code is hereby amended and supplemented to read as follows (new text is underlined thus; deleted text is in brackets [thus]):

§ T10B-227.4 Stormwater management: calculation of stormwater runoff and groundwater recharge.

(a) Stormwater runoff shall be calculated in accordance with the following:

(1) The design engineer shall calculate runoff using the following method: The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph 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, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the Natural Resources Conservation Service website at: [https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf]https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21422 or at United States Department of Agriculture Natural Resources Conservation Service[, 220 Davison Avenue, Somerset, New Jersey 08873] New Jersey State Office.

(2) For the purpose of calculating [runoff coefficients]curve numbers and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "[runoff coefficient]curve number" applies to the NRCS methodology above at subsection 10B-227.4(a)(1)(a). A [runoff coefficient]curve number or a groundwater recharge land cover for existing areas of impervious surface may be

used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the impervious portion of the site for at least five years without interruption prior to the time of application; there is a presumption that the pre-construction condition of the remaining portion of the site is a wooded land use with good hydrologic condition. If more than one land cover has existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. 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 computing pre-construction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction stormwater runoff rates and volumes.

(4) In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, use the Department's Two-Step Technique as described in the BMP Manual.

(5) 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) Groundwater recharge may be calculated in accordance with the following: 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; at the New Jersey Geological Survey website at: https://www.nj.gov/dep/njgs/pricelst/gsreport/gsr32.pdf or at New Jersey Geological and Water Survey, 29 Arctic Parkway, P.O. Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

(c) The precipitation depths of the current two-, 10-, and 100-year storm events shall be determined by multiplying the values determined in accordance with items 1 and 2 below:

(1) The applicant shall utilize the National Oceanographic and Atmospheric Administration (NOAA), National Weather Service's Atlas 14 Point Precipitation Frequency Estimates: NJ, in accordance with the location(s) of the drainage area(s) of the site. This data is available at: https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj; and

(2) The applicant shall utilize Table 5: Current Precipitation Adjustment Factors below, which sets forth the applicable multiplier for the drainage area(s) of the site, in accordance with the county or counties where the drainage area(s) of the site is located. Where the major development lies in more than one county, the precipitation values shall be adjusted according to the percentage of the drainage area in each county. Alternately, separate rainfall totals can be developed for each county using the values in the table below.

Table 5: Current Precipitation Adjustment Factors

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Mercer	1.01	1.02	1.04
Middlesex	1.00	1.01	1.03
Somerset	1.00	1.03	1.09

(d) Table 6: Future Precipitation Change Factors provided below sets forth the change factors to be used in determining the projected two-, 10-, and 100-year storm events for use in this chapter, which are organized alphabetically by county. The precipitation depth of the projected two-, 10-, and 100-year storm events of a site shall be determined by multiplying the precipitation depth of the two-, 10-, and 100-year storm events determined from the National Weather Service's Atlas 14 Point Precipitation Frequency Estimates pursuant to (c)1 above, by the change factor in the table below, in accordance with the county or counties where the drainage area(s) of the site is located. Where the major development and/or its drainage area lies in more than one county, the precipitation values shall be adjusted according to the percentage of the drainage area in each county. Alternately, separate rainfall totals can be developed for each county

using the values in the table below.

Table 6: Future Precipitation Change Factors

County	Future Precipitation Change Factors		
	2-year Design Storm	10-year Design Storm	10-year Design Storm
Mercer	1.16	1.17	1.36
Middlesex	1.19	1.21	1.33
Somerset	1.19	1.24	1.48

SECTION 5. Provisions regarding sources of guidance amended. Section T10B-227.5 of the Township Code is hereby amended and supplemented to read as follows (new text is underlined thus; deleted text is in brackets [thus]):

§ T10B-227.5 Stormwater management: 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.]https://dep.nj.gov/stormwater/bmp-manual/.

(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]https://dep.nj.gov/stormwater/maintenance-guidance/.

(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, P.O. Box 420, Trenton, New Jersey 08625-0420.]The Division of Watershed Protection and Restoration, New Jersey Department of Environmental Protection, Mail Code 501-02A, PO Box 420, Trenton, New Jersey 08625-0420.

SECTION 6. Referral to Princeton Planning Board. A copy of this ordinance shall be referred to the Princeton Planning Board following its introduction for review pursuant to N.J.S.A. 40A:55D-26a.

SECTION 7. Repealer. Any article, section, paragraph, subsection, clause, or other provision of the Code of the Township of Princeton and the Code of Borough of Princeton inconsistent with the provisions of this ordinance is hereby repealed to the extent of such inconsistency.

SECTION 8. Severability. If any section, paragraph, subsection, clause, or provision of this ordinance shall be adjudged by a court of competent jurisdiction to be invalid, such adjudication shall apply only to the section, paragraph, subsection, clause, or provision so adjudged, and the remainder of this ordinance shall be deemed valid and effective.

SECTION 9. Effective date. This ordinance shall take effect upon its passage and publication, filing with the Mercer County Planning Board, and as otherwise provided for by law.

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Rayna E. Harris, RMC, Clerk Hon. Mark Freda, Mayor

Ordinance Introduced: October 23, 2023
Ordinance Adopted: November 21, 2023

NEWSPAPER PUBLICATIONS:

First Insertion: October 27, 2023
Final Insertion: December 1, 2023

STATEMENT OF PURPOSE: The purpose of this ordinance is to revise Princeton's stormwater management requirements in conformance with revisions made by the New Jersey Department of Environmental Protection to the State's Stormwater and Flood Hazard Area regulations as part of the Inland Flood Protection Rule.