

April 18, 2024

**BETHLEHEM TOWNSHIP**  
**Hunterdon County, New Jersey**

**Ordinance #255-48-2024**

**(UPDATED for Cross Reference Numbers)**

AN ORDINANCE OF THE TOWNSHIP OF BETHLEHEM, IN HUNTERDON COUNTY, NEW JERSEY, AMENDING AND REVISING ARTICLE XII STORMWATER MANAGEMENT OF THE LAND USE AND DEVELOPMENT CODE

**WHEREAS**, the Legislature of the State of New Jersey adopted amendments to the stormwater management rules at N.J.A.C. 7:8 on July 17, 2023;

**WHEREAS**, each municipality in New Jersey is required to adopt a revised stormwater management ordinance to ensure compliance with the new state rules by July 18, 2024;

**WHEREAS**, the New Jersey Department of Environmental Protection (NJDEP) created a sample ordinance to assist municipalities in revising their municipal stormwater control ordinances to reflect the amendments to the stormwater management rules;

**WHEREAS**, the below ordinance is consistent with the model ordinance, with limited changes;

**NOW THEREFORE, BE IT ORDAINED** by the Township Committee of the Township of Bethlehem, as follows:

**Section 1.** Section 102-67B of the Code of the Township of Bethlehem, entitled “Applicability” is modified as follows:

Additions [underline]:

(3) An application required by ordinance pursuant to (b)1 above that has been submitted prior to **June 6, 2024**, shall be subject to the stormwater management requirements in effect on **June 5, 2024**.

(4) An application required by ordinance for approval pursuant to (b)1 above that has been submitted on or after March 2, 2021, but prior to **June 6, 2024**, shall be subject to the stormwater management requirements in effect on **June 5, 2024**.

(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.

**Section 2.** Section 102-68 of the Code of the Township of Bethlehem, entitled “Definitions” is modified as follows:

Additions [underline]:

"Public roadway or railroad" means 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” means 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.

**Section 3.** Section 102-70 of the Code of the Township of Bethlehem, entitled “Stormwater management requirements for major development” is modified as follows:

Additions [underline] and Deletions [~~striketrough~~]:

(E) 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 § 102-70O, P, Q and R. 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 Manual 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://njstormwater.org/bmp_manual2.htm)~~ <https://dep.nj.gov/stormwater/bmp-manual/>, or website link as may be revised by the Department.

(P) 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 § 102-71, either:

(a) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual preconstruction groundwater recharge volume for the site; or

(b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from preconstruction to post-construction for the projected two-year storm, as defined and determined pursuant to Section § 102-71D 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 § 102-70P(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.

(R) Stormwater runoff quantity standards.

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

(2) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § 102-71, 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 two-, ten-, and 100-year storm events, as defined and determined in § 102-71C and § 102-71D, respectively, of this ordinance, do not exceed, at any point in time, the preconstruction runoff hydrographs for the same storm events;
- (b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the preconstruction condition, in the peak runoff rates of stormwater leaving the site for the current and projected two-, ten-, and 100-year storm events, as defined and determined in § 102-71C and § 102-71D, 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; or
- (c) Design stormwater management measures so that the post-construction peak runoff rates for the current and projected two-, ten- and 100-year storm events, as defined and determined in § 102-71C and § 102-71D, respectively, of this ordinance, are 50%, 75% and 80%, respectively, of the preconstruction 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;~~or~~

(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.

**Section 4.** Section 102-71 of the Code of the Township of Bethlehem, entitled “Calculation of stormwater runoff and groundwater recharge” is modified as follows:

Additions [underline] and Deletions [~~striketrough~~]:

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

(1) The design engineer shall calculate runoff using ~~one of~~ the following methods:

- (a) 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.nres.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb10441-71.pdf](https://www.nres.usda.gov/Internet/FSE_DOCUMENTS/stelprdb10441-71.pdf); <https://directives.sc.egov.usda.gov/viewerFS.aspx?hid=21422>, or website link as may be revised by the USDA, or at United States Department of Agriculture Natural Resources Conservation Service, New Jersey State Office, 220 Davison Avenue, Somerset, New Jersey 08873; or

~~(b) The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. 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) For the purpose of calculating ~~runoff coefficients~~ curve numbers and groundwater recharge, there is a presumption that the preconstruction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "~~runoff coefficient curve number~~ " applies to ~~both~~ the NRCS methodology above at Subsection § 102-71A(1)(a) and ~~the Rational and Modified Rational Methods at Subsection § 102-71A(1)(b)~~. A runoff coefficient curve number 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. 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 preconstruction 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 preconstruction 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, urban impervious area modifications as described in the NRCS Technical Release 55 - Urban Hydrology for Small Watersheds or other methods may be employed.

(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 website link as may be revised by the Department; or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

(C) The precipitation depths of the current two-, ten-, 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](https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=nj), or website link as may be revised by NOAA; 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 adjustment factors for Hunterdon County, found at N.J.A.C. 7:8-5.7(c), Table 5-5. 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 Table 5-5 at N.J.A.C. 7:8-5.7(c).

Table 5

Current Precipitation Adjustment Factors, Hunterdon County		
2-year Design Storm	10-year Design Storm	100-year Design Storm
1.02	1.05	1.13

(D) The applicant shall utilize Table 6: Future Precipitation Change Factors below, which sets forth the change factors to be used in determining the projected two-, 10-, and 100-year storm events for use in this chapter, in accordance with the county adjustment factors for Hunterdon County, found at N.J.A.C. 7:8-5.7(d), Table 5-6. The precipitation depth of the projected two-, ten-, and 100-year storm events of a site shall be determined by multiplying the precipitation depth of the two-, ten-, 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. 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 Table 5-6 at N.J.A.C. 7:8-5.7(d).

Table 6

Future Precipitation Adjustment Factors, Hunterdon County		
2-year Design Storm	10-year Design Storm	100-year Design Storm
1.19	1.23	1.42

**Section 5.** Section 107-72 of the Code of the Township of Bethlehem, entitled “Sources for Technical Guidance” is modified as follows:

Additions [underline] and Deletions [~~strikethrough~~]:

(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 [https://njstormwater.org/bmp\\_manual2.htm](https://njstormwater.org/bmp_manual2.htm) <https://dep.nj.gov/stormwater/bmp-manual/>, or website link as may be revised by the Department.

(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://www.njstormwater.org/maintenance_guidance.htm) <https://dep.nj.gov/stormwater/maintenance-guidance/>, or website link as may be revised by the Department.

(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~~ 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.** Section 102-74C of the Code of the Township of Bethlehem, entitled “Requirements for trash racks, overflow grates and escape provisions,” Subsection 102-74C(2)(b) is modified as follows:

Additions [underline] and Deletions [~~striketrough~~]:

(b) The overflow grate spacing shall be no ~~less~~ greater than two inches across the smallest dimension.

**Section 7. Repealer.** All ordinances or parts thereof inconsistent herewith are repealed as to such inconsistencies.

**Section 8. Severability.** Where any section, subsection, sentence, clause, or phrase of these regulations is, for any reason, declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the regulations as a whole, or any part thereof, other than the part so declared.

**Section 9. Effective date.** This ordinance shall take effect from and after its adoption any publication as required by law.

**INTRODUCED:**

**APRIL 18, 2024**

**REFERRED TO:**

**TOWNSHIP PLANNING BOARD:**

**APRIL 19, 2024**

**Per Township Planning Board meeting of 05/13/2024: Ordinance was found To be ‘Not Substantially Inconsistent with the Master Plan.’**



**COUNTY PLANNING BOARD: APRIL 19, 2024**

**Per County Planning Board ‘Conditional Approval’ letter dated 05/03/2024 –  
Cross-references need to be changed and updated ordinance  
resubmitted to the County for approval.**

**Updated ordinance resubmitted to County on MAY 10, 2024.**

**Per County Planning Board email of 05/10/2024: “Ordinance with conditional  
approval is fully approved when the revised version is adopted by the  
Municipality.”**

**PUBLISHED: APRIL 25, 2024**

**PUBLIC HEARING: JUNE 6, 2024**

**ADOPTION: JUNE 6, 2024**

**PUBLISHED: JUNE 20, 2024**