N.J.A.C. 7:8
STORMWATER MANAGEMENT

Statutory Authority: N.J.S.A. 12:5-3, 13:1D-1 et seq., 13:9A-1 et seq., 13:19-1 et seq., 40:55D-93 to 99, 58:4-1 et seq., 58:10A-1 et seq., 58:11A-1 et seq. and 58:16A-50 et seq.

Date last amended: July 17, 2023

For regulatory history and effective dates see the New Jersey Administrative Code

SUBCHAPTER 1. GENERAL PROVISIONS

7:8-1.1 Scope and purpose

(a) This chapter establishes general requirements for stormwater management plans and stormwater control ordinances, as well as content requirements and procedures for the adoption and implementation of regional stormwater management plans and municipal stormwater management plans under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.; the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq.: the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq.; and the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.; and implementing rules.

(b) This chapter establishes design and performance standards for stormwater management measures required by rules pursuant to the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.; the Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq.; the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq.; the Waterfront Development Law, N.J.S.A. 12:5-3; the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.; and the Dam Safety Act, N.J.S.A. 58:4-1 et seq.

(c) This chapter establishes safety standards for stormwater management basins pursuant to N.J.S.A. 40:55D-95.1.

7:8-1.2 Definitions

The following words and terms, when used in this chapter, shall have the following meanings unless the context clearly indicates otherwise.

"CAFRA Planning Map" means the geographic depiction of the boundaries for Coastal Planning Areas, CAFRA Centers, CAFRA Cores and CAFRA Nodes pursuant to N.J.A.C. 7:7E-5B.3.

"CAFRA Centers, Cores or Nodes" means those areas within boundaries accepted by the Department pursuant to N.J.A.C. 7:8E-5B.

“Community basin” means an infiltration basin, 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 basin, sand filter designed to infiltrate, standard constructed wetland, or wet pond and that complies with the requirements of this chapter.

"Compaction" means the increase in soil bulk density.

“Contributory drainage area” means the area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.

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

"County review agency" means an agency designated by the County Board of Chosen Freeholders to review municipal stormwater management plans and implementing ordinance(s). The county review agency may either be:

1. A county planning agency; or
2. A county water resources association created under N.J.S.A. 58:16A-55.5, if the ordinance or resolution delegates authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

"Department" means the Department of Environmental Protection.

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

"Design engineer" means 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.

"Development" means 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, 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 on agricultural land, development means: any activity that requires a State permit; any activity reviewed by the County Agricultural Boards (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” means 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" means a geographic area within which stormwater runoff, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

"Environmentally constrained area" means the following 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" means an area or feature which is of significant environmental value, including, but not limited to: stream corridors; natural heritage priority sites; habitats of endangered or threatened species; large areas of contiguous open space or upland forest; steep slopes; and well head protection and groundwater recharge areas. 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.

"Empowerment Neighborhoods" means 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" means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

“Green infrastructure” means 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.

"HUC 14" or "hydrologic unit code 14" means an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

"Impervious surface" means a surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

"Infiltration" is the process by which water seeps into the soil from precipitation.

"Lead planning agency" means 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.

“Major development” means an individual “development,” as well as multiple developments that individually or collectively result in:

1. The disturbance of one or more acres of land since February 2, 2004;
2. The creation of one-quarter acre or more of “regulated impervious surface” since February 2, 2004;
3. The creation of one-quarter acre 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 one-quarter acre or more. The same surface shall not be counted twice when determining if the combination area equals one-quarter acre 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.”

"Motor vehicle" means 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" means 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" means any city, borough, town, township, or village.

“New Jersey Stormwater Best Management Practices (BMP) Manual” or “BMP Manual” means 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 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 review agency, in accordance with 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" means an area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

"Nutrient" means a chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

"Person" means any individual, corporation, company, partnership, firm, association, political subdivision of this State and any state, interstate or Federal agency.

"Pollutant" means 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, groundwaters or surface waters of the State, or to a domestic treatment works. "Pollutant" includes both hazardous and nonhazardous pollutants.

"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.

"Recharge" means the amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

"Regulated impervious surface" means 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" means any of the following, alone or in combination:

1. A net increase in motor vehicle surface; and/or
2. The total 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, where the water quality treatment will be modified or removed.

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

"Site" means the lot or lots upon which a major development is to occur or has occurred.

"Soil" means all unconsolidated mineral and organic material of any origin.

"State Development and Redevelopment Plan Metropolitan Planning Area (PA1)" means 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" is defined as 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" means 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 runoff" means water flow on the surface of the ground or in storm sewers, resulting from precipitation.

"Stormwater management basin" means an excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management basin 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 (most constructed stormwater wetlands).

"Stormwater management measure" means any 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 groundwater recharge of stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.

"Stormwater management planning agency" means a public body authorized by legislation to prepare stormwater management plans.

"Stormwater management planning area" means 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.

"Tidal Flood Hazard Area" means 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.

"Urban Coordinating Council Empowerment Neighborhood" means a neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.

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

et seq.

"Urban Redevelopment Area" is defined as 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" means 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" means the ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or groundwater, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

"Wetlands" or "wetland" means an area that is inundated or saturated by surface water or groundwater 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.

7:8-1.3 Program information

Questions or submissions regarding this chapter should be directed to the Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420.

7:8-1.4 Severability

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

7:8-1.5 Relationship to other regulatory programs

(a) Nothing in this chapter shall be construed as preventing the Department or other agencies or entities from imposing additional or more stringent stormwater management requirements necessary to implement the purposes of any enabling legislation including those measures necessary to achieve the Surface Water Quality Standards at N.J.A.C. 7:9B.

(b) If a stormwater management measure is used as a soil erosion or sediment control measure, the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., shall also apply.

(c) These stormwater requirements are the Department's standards referenced by the stormwater management provisions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.

7:8-1.6 Applicability to major development

(a) Except as provided in (b) below, all major development shall comply with the requirements of this chapter.

(b) Major development shall be subject to the stormwater management requirements in effect prior to July 17, 2023 as follows:

1. Major development that does not require any of the Department permits listed at (c) below and for which a complete application has been submitted prior to July 17, 2023 shall be subject to the stormwater management requirements in effect pursuant to (b)2 or 3 below, provided that the application includes both the application form and all accompanying documents required by ordinance for one of the following approvals pursuant to the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.):
    i. Preliminary or final site plan approval;
    ii. Final municipal building or construction permit;
    iii. Minor subdivision approval where no subsequent site plan approval is required;
    iv. Final subdivision approval where no subsequent site plan approval is required; or
    v. Preliminary subdivision approval where no subsequent site plan approval is required;
2. An application required by ordinance for approval pursuant to (b)1 above that has been submitted prior to March 2, 2021, shall be subject to the stormwater management requirements in effect on March 1, 2021;
3. 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 July 17, 2023 shall be subject to the stormwater management requirements in effect on March 2, 2021; and
4. Major development for which a technically complete application was submitted to the Department for one of the approvals listed at (c) below prior to July 17, 2023, shall be subject to the stormwater management requirements as follows, provided that the application included a stormwater management review component**:**
    i. A technically complete application submitted to the Department for any of these approvals prior to March 2, 2021, shall be subject to the stormwater management requirements in effect on March 1, 2021; and
    ii. A technically complete application submitted to the Department for any of these approvals on or after March 2, 2021, and prior to July 17, 2023 shall be subject to the stormwater management requirements in effect on March 2, 2021.

(c) For the purposes of this section, the term "permit" shall include transition area waivers pursuant to the Freshwater Wetlands Protection Act. In order to qualify pursuant to (b)2 above, a technically complete permit application must have been submitted to the Department for the major development under the following statutes, provided that the permit included a stormwater management review component, prior to the applicable date listed in (b)4i and ii above:

1. Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.;
2. Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.;
3. Coastal Area Facility Review Act, N.J.S.A. 13:19-1 et seq.;
4. Waterfront and Harbor Facilities Act, N.J.S.A. 12:5-3; or
5. Highlands Water Protection and Planning Act, N.J.S.A. 13:20.

(d) An exemption provided by (b) above shall expire with the expiration, termination or other loss of duration or effect of either of the qualifying local approval or Department permit, whichever comes first. The expiration of local approvals under (b)1 above shall be governed by local ordinance. In the event there are multiple qualifying Department permits under (c) above, the expiration date is governed by that permit which expires last provided that the permit is still in effect. Once the exemption expires, the major development shall be subject to all requirements of this chapter upon reapplication for that permit and all subsequent permits or local approval(s) under the Municipal Land Use Law.

(e) An exemption under (b) above is limited to the land area and the scope of the project addressed by the qualifying applications or subsequent approval(s). Exemptions under this section shall be deemed void if revisions are made to the qualifying application in (b) above or its subsequent approval, including applications or approvals under the Municipal Land Use Law, unless, the review agency determines that each revision would have a de minimis impact on water resources. In making this determination, the Department shall consider the extent of any impacts on water resources resulting from the revision, including, but not limited to:

1. Increases in stormwater generated;
2. Increases in regulated impervious surface;
3. Increases in regulated motor vehicle surface;
4. Increases in stormwater pollutant loading;
5. Changes in land use;
6. New encroachments in 300-foot wide near-stream areas protected through ordinance or regulation including the 300-foot riparian zone as established at N.J.A.C. 7:13-4.1(c)1; and
7. Changes in vegetative cover.

(f) 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.

SUBCHAPTER 2. GENERAL REQUIREMENTS FOR STORMWATER MANAGEMENT PLANNING

7:8-2.1 Scope

This subchapter provides general principles applicable to all stormwater management plans and stormwater control ordinances, including the goals of stormwater management planning, the process for identification of stormwater management planning agencies, and stormwater management plan requirements.

7:8-2.2 Goals of stormwater management planning

(a) All stormwater management plans, and stormwater control ordinances shall be designed to:

1. Reduce flood damage, including damage to life and property;
2. Minimize, to the extent practical, any increase in stormwater runoff from any new development;
3. Reduce soil erosion from any development or construction project;
4. Assure the adequacy of existing and proposed culverts and bridges, and other instream structures;
5. Maintain groundwater recharge;
6. Prevent, to the greatest extent feasible, an increase in nonpoint pollution;
7. Maintain the integrity of stream channels for their biological functions, as well as for drainage;
8. Minimize pollutants in stormwater runoff from new and existing development in order to restore, enhance and maintain the chemical, physical, and biological integrity of the waters of the State, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water; and
9. Protect public safety through the proper design and operation of stormwater management basins.

7:8-2.3 Stormwater management planning agencies

(a) The following entities may be stormwater management planning agencies provided they are authorized under their enabling legislation to prepare stormwater management plans:

1. A municipality;
2. A county;
3. A county water resources agency or association;

4. A designated planning agency under N.J.A.C. 7:15;
5. A Soil Conservation District, in coordination with the State Soil Conservation Committee;
6. The Delaware River Basin Commission;
7. The Pinelands Commission;
8. The Delaware and Raritan Canal Commission;
9. The New Jersey Meadowlands Commission;
10. The Department; or
11. Other regional, State or interstate agencies.

7:8-2.4 Stormwater management plan requirements

(a) A stormwater management plan shall include stormwater management measures, including green infrastructure, and nonstructural stormwater management strategies necessary to meet the stormwater management goals of this chapter.

(b) A regional stormwater management plan shall comply with the requirements of this subchapter and N.J.A.C. 7:8-3.

(c) A municipal stormwater management plan shall comply with the requirements of this subchapter and N.J.A.C. 7:8-4.

(d) A stormwater management plan shall incorporate the safety standards for stormwater management basins at N.J.A.C. 7:8-6.

(e) In developing a stormwater management plan and identifying appropriate stormwater management measures thereunder, each stormwater management planning agency shall consider the physical characteristics and ecological resources of the stormwater management planning area.

(f) A stormwater management plan and any stormwater management ordinance shall be coordinated with any other stormwater management plans related to the same river basin or drainage area.

(g) For stormwater management plans developed pursuant to N.J.A.C. 7:8-3 and 4, "nonstructural stormwater management strategies" may include one or more of the following practices that:

1. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
2. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
3. Maximize the protection of natural drainage features and vegetation;
4. Minimize the decrease in the "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;

5. Minimize land disturbance, including clearing and grading;
6. Minimize soil compaction;
7. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers, and pesticides;
8. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas; and
9. Provide other source controls to prevent or minimize the use or exposure of pollutants from development sites in order to prevent or minimize the release of those pollutants into stormwater runoff. These source controls include, but are not limited to:
    i. Development design features that help to prevent accumulation of trash and debris in drainage systems;
    ii. Development design features that help to prevent discharge of trash and debris from drainage systems;
    iii. Development design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and
    iv. 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.

7:8-2.5 Exemptions

A municipality or other entity conducting stormwater management planning under this chapter may petition the Department at the address provided at N.J.A.C. 7:8-1.3 for an exemption to the requirements of this chapter by submitting documentation to demonstrate that, if granted, the exemption will not result in an increase in flood damage, water pollution, including threats to the biological integrity, or constitute a threat to the public safety.

SUBCHAPTER 3. REGIONAL STORMWATER MANAGEMENT PLANNING

7:8-3.1 Scope

(a) This subchapter describes stormwater management planning and implementation at the regional level, including plan elements; planning process; characterization; development of drainage area-specific objectives and standards; selection of stormwater management measures; strategy for implementing the measures and evaluating the effectiveness of the regional stormwater management plan; plan review, adoption, amendment or revision; and implementation and periodic evaluation of the plan.

(b) A regional stormwater management plan shall address stormwater-related water quality, groundwater recharge and/or water quantity impacts of new and existing land uses in a regional stormwater management planning area. A regional stormwater management planning area shall consist of one or more continuous drainage areas. For example, a

drainage area could be an area defined by a hydrologic unit code 14 (HUC14) as defined by the United States Geological Survey.

7:8-3.2 Regional stormwater management planning committee and lead planning agency

(a) A regional stormwater management planning committee (the committee) shall be established for the purposes of creating a regional stormwater management plan.

(b) A person or entity seeking to establish a regional stormwater management committee shall solicit participation from municipalities, interstate agencies, regional agencies, counties, designated planning agencies under N.J.A.C. 7:15, Soil Conservation Districts, regional environmental commissions, Pinelands Commission, mosquito control and extermination commissions, public water supply and wastewater treatment utilities and agencies, lake associations, watershed associations, the watershed management planning area public advisory committee, environmental organizations, businesses, the Department and other appropriate State and Federal agencies and, members of the general public in the drainage area(s) to be addressed by the proposed plan. The solicitation for members of the general public to be part of the regional stormwater management planning committee can be performed through notices in local paper.

(c) The regional stormwater management planning committee shall designate a lead planning agency, which shall be recognized as the primary contact for the committee. The regional stormwater management planning committee, through the lead planning agency, shall:

1. Prepare the regional stormwater management plan;
2. Coordinate the regional stormwater management planning process with any applicable watershed management area planning process;
3. Provide opportunities for public participation throughout the regional stormwater management planning process; and
4. Perform other activities appropriate to facilitate the regional stormwater management planning process, including mediation, public information, providing technical assistance, and seeking and providing grants or other financial assistance, as available, to municipalities and/or local or regional agencies pursuant to N.J.S.A. 40:55D-99 or other applicable authority.

(d) A request for recognition as a regional stormwater management planning committee shall be submitted to the Department at the address listed in N.J.A.C. 7:8-1.3 by the lead planning agency, and include the following information:

1. A draft work plan and schedule for completing a regional stormwater management plan;
2. A copy of the mailing list used to solicit participation, including the entities identified in (b) above;
3. A copy of the letter of invitation to participate in the committee;
4. A copy of each response to the letter of invitation; and

5. In cases where no response from a public entity to the letter of invitation is received within 60 days, the group shall send a follow-up request by certified mail, return receipt requested, and submit proof of such follow-up.

(e) The Department shall respond in writing within 45 days of the receipt of a complete request for recognition as a regional stormwater management planning committee. The Department shall either approve the application, request additional information or deny the request for recognition. Denials will include a justification for the decision.

The Department shall base approval or denial on the information submitted in the draft work plan and schedule for plan completion, completion of the requirements to involve and notify impacted parties, and whether there are other competing or overlapping requests for recognition for the same regional stormwater management planning area.

7:8-3.3 Regional stormwater management plan and elements

(a) A regional stormwater management plan shall incorporate, at a minimum, the following elements:

1. Identification of the lead planning agency and a description of the structure and members of the committee;
2. A statement of authority to develop and implement a stormwater management plan from public entities, as appropriate, represented on the regional stormwater management planning committee;
3. A characterization and assessment of the regional stormwater management planning area prepared in accordance with N.J.A.C. 7:8-3.4;
4. A statement of drainage area-specific water quality, groundwater recharge, and water quantity objectives established under N.J.A.C. 7:8-3.5;
5. The drainage area-specific stormwater-related water quality, groundwater recharge and water quantity design and performance standards established under N.J.A.C. 7:8-3.6;
6. The stormwater management measures selected in accordance with N.J.A.C. 7:8-3.7 and a summary of the rationale for the selection of each measure;
7. A description of the strategy for implementing the selected stormwater management measures for the regional stormwater management planning area and for evaluating the effectiveness of the regional stormwater management plan in accordance with N.J.A.C. 7:8-3.8, including a long-term monitoring program; and
8. To the extent elements of the plan do not represent the consensus of the committee, the plan shall identify and provide a discussion of the majority and minority positions.

(b) The regional stormwater management plan may also include:

1. Innovative stormwater measures and strategies such as nonpoint source pollutant trading, mitigation strategies, or special protection measures; and
2. A stream corridor protection plan to address protection of areas adjacent to waterbodies.

7:8-3.4 Characterization and assessment of the regional stormwater management planning area

(a) The regional stormwater management plan shall include a characterization and assessment that addresses the following components, unless the committee determines that a component is not appropriate for the regional stormwater management planning area and provides a rationale for not including the component:

1. Maps showing the following information. Maps developed on a Geographical Information System shall meet the Digital Data standards in N.J.A.C. 7:1D unless a rationale for a different format is provided.

   i. The regional stormwater management planning area boundary;

   ii. Existing land uses;

   iii. Projected land uses assuming full development under existing zoning;

   iv. Soil mapping units based on the detailed soil maps in County Soil Surveys published by the U.S. Department of Agriculture or, in areas for which County Soil Surveys are not available, on information obtained from Soil Conservation Districts;

   v. Topography based on the U.S. Geological Survey Topographic Map, 7.5 minute quadrangle series, or other sources of information depicting topography in similar or greater detail;

   vi. Water bodies based on detailed map sheets in County Soil Surveys published by the U.S. Department of Agriculture; the U.S. Geological Survey Topographic Map, 7.5 minute quadrangle series; or other sources of information depicting water bodies in similar or greater detail;

   vii. Coastal wetlands based on maps prepared by the Department under the Wetlands Act of 1970, N.J.S.A. 13:9A-1 et seq., and freshwater wetlands based on maps prepared by the Department under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq.;

   viii. Flood hazard areas based on delineations made by the Department under the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq. For a water body for which the Department has not delineated the flood hazard area, a map of the flood hazard area prepared in accordance with N.J.A.C. 7:13 is acceptable;

   ix. Groundwater recharge areas and well head protection areas based on maps prepared by the Department or ordinances of an affected municipality;

   x. Environmentally constrained areas and environmentally critical areas;

   xi. River areas designated under the New Jersey Wild and Scenic Rivers Act, N.J.S.A. 13:8-45 et seq., or the Federal Wild and Scenic Rivers Act, 16 U.S.C. §§ 1278 et seq.;

   xii. For each waterbody in the regional stormwater management planning area, identification of the waterbody or waterbody segment, the drainage area, and the classification of the waterbody pursuant to N.J.A.C. 7:9B-1.15;

   xiii. Each waterbody designated as a water quality limited surface water pursuant to N.J.A.C. 7:15-5;

xiv. Man-made stormwater conveyance, storage and discharge systems, including municipal separate storm sewer outfall pipes and the drainage areas as appropriate for these outfall structures; and

xv. Source water areas of potable public surface water supply intakes and public water supply reservoirs available on the Department's webpage at https://www.state.nj.us/dep/watersupply/swap/index.html;

2. A map showing jurisdictional boundaries within the regional stormwater management planning area of municipal, county, and other agencies with responsibility for implementing stormwater management;

3. Identification of the physical characteristics of the regional stormwater management planning area pertinent to stormwater management, such as slopes, swales and impoundment areas as necessary for completing the analysis in N.J.A.C. 7:8-3.4(a)4;

4. A water quality, groundwater recharge and water quantity hydrologic and hydraulic model or analysis of the regional stormwater management planning area which addresses existing land uses and projected land uses assuming full development under existing zoning and taking into account permanently preserved lands;

5. An identification and evaluation of existing municipal, county, State, Federal, and other stormwater-related groundwater recharge, water quality and water quantity regulations and programs shall be conducted, including, where applicable, programs to develop total maximum daily loads (TMDLs) in accordance with N.J.A.C. 7:15-5; and

6. A summary of information that has been identified as useful for purposes of stormwater management planning but that is not available for technical, financial, or other reasons.

(b) The Department encourages the use of existing information to the extent that it is available to minimize the cost of data acquisition, such as information available on the Department's Geographical Information System website (https://www.state.nj.us/dep/gis/) or as developed through a watershed planning process.

(c) The characterization and assessment shall include information on locations and activities outside the regional stormwater management planning area that drain into the planning area (for example, stormwater originating in an adjacent drainage area that is transferred to the stormwater management planning area).

(d) Using the modeling or other information obtained under (a) through (c) above, the stormwater-related water quality impacts of existing land uses and projected land uses assuming full development under existing zoning shall be identified and ranked in accordance with the following process:

1. Inventory existing and potential stormwater-related pollutant sources and stormwater-related pollutants in the regional stormwater management planning area.

   i. Stormwater-related pollutant sources include, for example, urban and suburban development, roads, storm sewers, agriculture, mining, and waterfront development.

   ii. Stormwater-related pollutants include, for example, nutrients, pathogens,

hydrocarbons, metals, pesticides, sediments, and suspended solids;

2. For surface water bodies and/or segments thereof and aquifers and/or portions thereof in the regional stormwater management planning area, identify and describe the existing or designated uses that are or may be adversely affected by stormwater-related pollutants, and to the extent feasible, identify the source(s) of the pollutant. The use of the report and list prepared by the Department to comply with Federal Clean Water Act, Section 303(d) and 305(b) (33 U.S.C. §§ 1313(d) and 1315(b)) and underlying data, including biological assessments, is encouraged; and
3. Identify and rank the most significant existing and potential stormwater-related pollutants and, for each pollutant, identify and rank the sources.

(e) Using the modeling or other information obtained under (a) through (c) above for stormwater-related water quantity impacts and stormwater-related groundwater recharge impacts of existing and projected land uses assuming full development under existing zoning, the most significant existing and potential stormwater-related water quantity problems, including flooding, erosion, mosquitoes, base-flow reduction, groundwater depletion, and associated ecosystem impacts shall be identified and described. The problems shall be ranked based on consideration of threat to public health, safety, and welfare as evidenced by history of or potential for flood damage; risk of loss of or damage to water supplies; and risk of damage to the biological integrity of water bodies.

7:8-3.5 Drainage area-specific water quality, groundwater recharge and water quantity objectives

(a) The regional stormwater management plan shall identify drainage area-specific water quality, groundwater recharge and water quantity objectives that are consistent with the goals of stormwater management planning at N.J.A.C. 7:8-2.3, and address each of the stormwater-related pollutant sources and pollutants ranked under N.J.A.C. 7:8-3.4(d) and the water quantity and groundwater recharge problems ranked under N.J.A.C. 7:8-3.4(e). The objectives shall address the elimination, reduction, or minimization of stormwater-related impacts associated with new and existing land uses. The objectives developed for the regional stormwater management plan may take into consideration environmental, social, and economic factors.

(b) Notwithstanding (a) above, the drainage area-specific objectives for major development shall provide, at a minimum, the protection that would be achieved through the application of N.J.A.C. 7:8-5, Design and Performance Standards for Stormwater Management Measures.

(c) If a TMDL has been established pursuant to N.J.A.C. 7:15 for a waterbody or waterbody segment in the regional stormwater management planning area, drainage area-specific objectives shall incorporate the loading reductions established in the TMDL for stormwater sources of pollution. In addition, if a waterbody or waterbody segment in the regional stormwater management planning area is on the Department's list prepared to comply with Federal Clean Water Act, Section 303(d) (33 U.S.C. § 1313(d)) for one or more designated uses by stormwater runoff, then drainage area objectives shall be included that address the pollutants or pollution for which the waterbody is threatened or impaired.

7:8-3.6 Drainage area-specific design and performance standards

(a) The regional stormwater management plan shall identify drainage area-specific design and performance standards in order to meet the drainage area-specific water quality, groundwater recharge and water quantity objectives identified under N.J.A.C. 7:8-3.5.

(b) Drainage area-specific design and performance standards may include performance standards for control of stormwater quantity, erosion, groundwater recharge and stormwater quality, as well as design standards for stormwater management measures, including green infrastructure, and nonstructural stormwater management strategies.

(c) The design and performance standards for stormwater management measures for major development described in N.J.A.C. 7:8-5 shall be incorporated into the regional stormwater management plan. Alternative drainage area-specific design and performance standards may be developed provided the alternative standard is at least as protective as would be achieved under N.J.A.C. 7:8-5 when considered on a regional stormwater management planning area basis.

(d) For structural stormwater management measures, drainage area-specific design and performance standards shall conform to the general standards at N.J.A.C. 7:8-5.2(f), (g), (i), and (j).

(e) Drainage area-specific design and performance standards do not have to be uniform throughout a drainage area provided the drainage area, when considered in its entirety, satisfies N.J.A.C. 7:8-5.

7:8-3.7 Selection of stormwater management measures

(a) The regional stormwater management plan shall identify stormwater management measures necessary to achieve the drainage area-specific water quality, groundwater recharge and water quantity objectives developed in accordance with N.J.A.C. 7:8-3.5, and design and performance standards developed in accordance with N.J.A.C. 7:8-3.6.

(b) Stormwater management measures in the following categories shall be considered and selected, as appropriate:

1. Stormwater management measures for new land uses;
2. Stormwater management measures for existing land uses, including, for example, retrofit measures for the modification of existing structural stormwater management measures or other structures affecting stormwater runoff; elimination of illicit or illegal discharges; prevention or minimization of the exposure of pollutants to stormwater; and control of floatables;
3. Stormwater management measures that enhance, protect, and/or preserve land or water areas possessing characteristics or features that provide for flood control, maintenance or improvement of water quality, or conservation of natural resources (for example, land use controls, local and regional open space plans and taxes, buffer zones, redirecting, recharging or minimizing stormwater discharges, pretreatment and/or end-of-pipe treatment); and
4. Public education programs that address stormwater quantity and quality.

(c) A written rationale shall be provided for each selected stormwater management measure, including an analysis of feasibility, benefits and costs, estimated percent pollutant load reduction and anticipated performance longevity;

(d) Each selected stormwater management measure shall include, as appropriate, a program for preventative and corrective maintenance, including a long-term implementation schedule and identification of the entity responsible for implementation and maintenance.

7:8-3.8 Strategy for implementing and evaluating effectiveness of stormwater management measures

(a) The regional stormwater management plan shall include a strategy for implementing the stormwater management measures. The lead planning agency or another entity designated by the committee shall be responsible for coordination and tracking of the implementation of the regional stormwater management plan, including the long-term monitoring program.

(b) The implementation strategy shall:

1. Identify agencies and/or entities necessary to implement the measures and conduct the long-term monitoring program;
2. Identify the respective measures and/or monitoring each agency and/or entity will implement and the enabling mechanisms by which the measures will be implemented, including, for example, new or amended municipal ordinances or interagency agreements;
3. Establish a schedule for the implementation of the measures based on priority, including specific milestones for all mechanisms identified under (b)2 above;
4. Provide an estimate of short term and long-term implementation costs to be incurred; and
5. Identify existing and potential private, local, State, and Federal funding sources to implement the regional stormwater management plan.

(c) The implementation strategy shall include a long-term monitoring program that will provide information about land use, water quality, water quantity, groundwater resources and riparian and aquatic habitat condition, as appropriate. Information for the monitoring program may include data obtained through watershed management, local, county, State, interstate, and/or Federal monitoring programs, including volunteer monitoring programs.

(d) The implementation strategy shall include a procedure for evaluating and then updating as necessary, at least every five years, the effectiveness of the implemented measures in achieving the objectives and design and performance standards established in the regional stormwater management plan.

7:8-3.9 Regional stormwater management plan review, adoption, and amendment and/or revision

(a) Upon completion of a regional stormwater management plan, the lead planning agency shall submit the plan to the Department and, if applicable, to the designated water quality

management planning agency as an amendment to the areawide water quality management plan(s) in accordance with the Water Quality Management Planning Rules at N.J.A.C. 7:15.

(b) In reviewing a regional stormwater management plan submitted under (a) above, the Department shall determine whether the plan conforms to the requirements of this chapter. The Department will disapprove, return for additional information or proceed with a proposed amendment in accordance with N.J.A.C. 7:15-3.5(g).

(c) Modifications to an adopted regional stormwater management plan shall be processed as a revision or amendment in accordance with N.J.A.C. 7:15-3.4 or 3.5, as applicable.

7:8-3.10 Implementation of adopted regional stormwater management plan

(a) Once the regional stormwater management plan has been adopted pursuant to

N.J.A.C. 7:8-3.9, implementation responsibilities are as follows:

1. The Department will use the adopted regional stormwater management plan as the basis for reviewing the stormwater management aspects of projects or activities regulated pursuant to Coastal Permit Program rules, N.J.A.C. 7:7; the Freshwater Wetland Protection Act rules, N.J.A.C. 7:7A; the Coastal Zone Management rules, N.J.A.C. 7:7E; the Flood Hazard Area Control Act rules, N.J.A.C. 7:13; the New Jersey Pollutant Discharge Elimination System rules, N.J.A.C. 7:14A; and the Dam Safety Standards, N.J.A.C. 7:20. The requirements of this chapter are considered to be the minimum stormwater standards. Additional requirements may be imposed as necessary under the respective programs.
2. Each municipality in the regional stormwater management planning area shall incorporate the applicable provisions of the regional stormwater management plan into a new or amended municipal stormwater management plan and ordinances.
3. In accordance with the Residential Site Improvement Standards at N.J.A.C. 5:21-7, if a stormwater management plan for the region has been approved by the Department, stormwater management systems must conform with that plan.
4. The Department shall not issue a permit for a project or activity that conflicts with an Areawide Water Quality Management Plan pursuant to N.J.A.C. 7:15-3.2.

SUBCHAPTER 4. MUNICIPAL STORMWATER MANAGEMENT PLANNING

7:8-4.1 Scope

This subchapter describes stormwater management planning and implementation at the municipal level, including plan elements, county review and technical assistance, the schedule for adoption of the plan and ordinances, and variance or exemption from design and performance standards for stormwater management measures.

7:8-4.2 Municipal stormwater management plan and elements

(a) A municipal stormwater management plan shall address stormwater-related water quality, groundwater recharge and water quantity impacts of major development, and may also address stormwater-related water quality, water quantity and groundwater recharge impacts of existing land uses. For purposes of this subchapter, major development is limited to projects that ultimately disturb one or more acres of land.

(b) A municipal stormwater management plan and stormwater control ordinance(s) shall conform with applicable regional stormwater management plan(s).

(c) A municipal stormwater management plan shall, at a minimum:

1. Describe how the municipal stormwater management plan will achieve the goals of stormwater management planning set forth at N.J.A.C. 7:8-2.2;
2. Include maps showing water bodies based on Soil Surveys published by the U.S. Department of Agriculture; the U.S. Geological Survey Topographic Map, 7.5 minute quadrangle series; or other sources of information depicting water bodies in similar or greater detail;
3. Map groundwater recharge areas and well head protection areas based on maps prepared by the Department under N.J.S.A. 58:11A-13 or a municipal ordinance;
4. Describe how the municipal stormwater management plan incorporates design and performance standards in N.J.A.C. 7:8-5 or alternative design and performance standards adopted as a part of a regional stormwater management plan or water quality management plan;
5. Describe how adequate long-term operation as well as preventative and corrective maintenance (including replacement) of the selected stormwater management measures will be ensured;
6. Describe how the plan will ensure compliance with Safety Standards for Stormwater Management Basins at N.J.A.C. 7:8-6;
7. Describe how the municipal stormwater management plan is coordinated with the appropriate Soil Conservation District and any other stormwater management plans, including any adopted regional stormwater management plan, prepared by any stormwater management planning agency related to the river basins or drainage areas to which the plans and/or ordinances apply;
8. Evaluate the extent to which the municipality's entire master plan (including the land use plan element), official map and development regulations (including the zoning ordinance) implement green infrastructure and the principles expressed in the nonstructural stormwater management strategies at N.J.A.C. 7:8-2.4. This evaluation shall also be included (with updating as appropriate) in the reexamination report adopted under N.J.S.A. 40:55D-89;
9. Include a map of the municipality showing:
   i. Projected land uses assuming full development under existing zoning; and
   ii. The hydrologic unit code 14 (HUC 14) drainage areas as defined by the United States Geological Survey; and an estimate, for each HUC 14 drainage area, of the

total acreage in the municipality of impervious surface and associated future nonpoint source pollutant load assuming full build out of the projected land uses.

10. At the option of the municipality, document that it has a combined total of less than one square mile of vacant or agricultural lands rather than provide the information required in (c)8 and 9 above. Agricultural lands may be excluded if the development rights to these lands have been permanently purchased or restricted by covenant, easement or deed. Vacant or agricultural lands in environmentally constrained areas may be excluded if the documentation also includes an overlay map of these areas at the same scale as the map under (c)10i below:

    i. Documentation shall include an existing land use map at an appropriate scale to display the land uses of each parcel within the municipality. Such a map shall display the following land uses: residential (which may be divided into single family, two-to-four family, and other multi-family), commercial, industrial, agricultural, parkland, other public uses, semipublic uses, and vacant land;

11. In order to grant a variance from the stormwater management measures set forth in its approved muninicipal stormwater management plan and stormwater control ordinance(s), include a mitigation plan that identifies what measures are necessary**,** potential mitigation projects, and/or criteria to evaluate mitigation projects that can be used to offset the deficit created by granting a variance in accordance with N.J.A.C. 7:8-4.6.

12. Include a copy of the recommended implementing stormwater control ordinance(s) requiring stormwater management measures;

13. The municipal stormwater management plan may also include a stream corridor protection plan to address protection of areas adjacent to waterbodies**;** and

14. If a municipality that includes an area served by a combined sewer system or a separate storm sewer system that is hydraulically connected to a combined sewer system seeks to establish a community basin(s), include a demonstration, through hydrologic and hydraulic analysis, that the community basin(s) would alleviate existing or prevent potential flood damage or combined sewer overflow. A municipality may allow developments to use the community basin to meet the stormwater runoff quantity control standards at N.J.A.C. 7:8-5.6, provided the following minimum requirements are met:

    i. Each contributory site to the community basin is presently served by a combined sewer system or a separate storm sewer system that is hydraulically connected to the combined sewer system;

    ii. The runoff from each contributory site meets the green infrastructure, groundwater recharge, and water quality standards at N.J.A.C. 7:8-5.3, 5.4, and 5.5, as applicable, before leaving the site, unless a variance is granted pursuant to N.J.A.C. 7:8-4.6;

    iii. The conveyance from each contributory site to the community basin is capable of carrying the 100-year storm to the community basin without overflow;

    iv. The community basin has sufficient capacity to meet the stormwater runoff quantity standards considering all stormwater contributing to the community basin;

v. The municipality is the party responsible for the maintenance of the community basin in accordance with N.J.A.C. 7:8-5.8; and

vi. The municipality adopts ordinances to regulate the conditions and limitations of the inflow contributing to the community basin to ensure the continued function of the community basin.

7:8-4.3 Schedule for adoption of municipal stormwater management plan and ordinances

(a) A municipality shall adopt a municipal stormwater management plan as an integral part of its master plan and official map in accordance with the schedule in (a)1 or 2 below, whichever is sooner. The requirements in N.J.A.C. 7:8-4.2(c)8 and 9 are not operative until February 2, 2006.

1. By the deadline established in a New Jersey Pollutant Discharge Elimination System permit obtained by the municipality for a municipal separate storm sewer system under N.J.A.C. 7:14A; or

2. By the next reexamination of the master plan under N.J.S.A. 40:55D-89, if a grant for 90 percent of the costs for the preparation of the municipal stormwater management plan has been made available to a municipality by the Department;

(b) Within one year after the municipality adopts the municipal stormwater management plan, the municipality shall adopt stormwater control ordinance(s) to implement the adopted plan and shall submit the adopted municipal stormwater management plan and ordinance(s) to the county review agency for approval. The adopted municipal stormwater management plan and ordinance(s) shall not take effect without approval by the county review agency.

(c) The municipality shall amend the municipal stormwater management plan and stormwater control ordinance(s) as necessary and submit the amended plan and amended ordinance(s) to the county review agency for approval.

(d) The municipality shall reexamine the municipal stormwater management plan at each reexamination of the municipality's master plan in accordance with N.J.S.A. 40:55D-89.

(e) Within one year of the adoption of a regional stormwater management plan as an amendment to the Areawide Water Quality Management Plan, or an amendment thereto, each municipality within the regional stormwater management planning area shall amend their respective municipal stormwater management plans and stormwater control ordinance(s) to implement the regional stormwater management plan.

7:8-4.4 County review process

(a) A municipality shall submit a copy of the adopted stormwater management plan and stormwater control ordinance(s) to the county review agency and the Department.

(b) In reviewing the adopted municipal stormwater management plan and ordinance(s), the county review agency shall consider whether the plan and ordinance(s) conform with the requirements of this chapter.

(c) In accordance with N.J.S.A. 40:55D-97, it is the county review agency's responsibility to review and approve, conditionally approve (specifying the necessary amendments to the plan and ordinance(s)) or disapprove the adopted municipal stormwater management plan and ordinance(s) within 60 calendar days of receipt of the plan and ordinance(s). If the county review agency does not approve, conditionally approve, or disapprove the plan or ordinance(s) within 60 calendar days, the plan and ordinance(s) shall be deemed approved. The county review agency shall issue a written decision to the municipality, with a copy to the Department.

(d) A municipal stormwater management plan and ordinance(s) approved under (c) above shall take effect immediately. A municipal stormwater management plan and ordinance(s) conditionally approved under (c) above shall take effect upon adoption by the municipality of the amendments specified by the county review agency.

(e) Within 30 days of the effective date of the municipal stormwater management plan and ordinance(s) under (d) above, the municipality shall place the plan and ordinance(s) on its website and notify the Department, the Soil Conservation District and State Soil Conservation Committee, or:

1. Submit a copy of the approved municipal stormwater management plan and ordinance(s) to the Department; and
2. Provide notice of such approval to the Soil Conservation District and the State Soil Conservation Committee and, upon request, submit a copy of the approved plan and ordinance(s).

7:8-4.5 Reservation of rights

The Department reserves the right to review stormwater management plans and ordinances for compliance with this subchapter and make recommendations to correct any deficiencies.

7:8-4.6 Variance from the design and performance standards for stormwater management measures

(a) A municipality may grant a variance from the design and performance standards for stormwater management measures set forth in its approved municipal stormwater management plan and stormwater control ordinance(s), provided the municipal plan includes a mitigation plan in accordance with N.J.A.C. 7:8-4.2(c)11 and the following conditions are met:

1. The applicant demonstrates that it is technically impracticable to meet any one or more of the design and performance standards on-site. For the purposes of this analysis, technical impracticability exists only when the design and performance standard cannot be met for engineering, environmental, or safety reasons. A municipality's approval of a variance shall apply to an individual drainage area and design and performance standard and shall not apply to an entire site or project, unless an applicant provides the required analysis for each drainage area within the site and each design and performance standard;
2. The applicant demonstrates that the proposed design achieves the maximum possible

compliance with the design and performance standards on-site; and

3. A mitigation project in accordance with the following is implemented.

i. The mitigation project may be selected from the municipal mitigation plan or may be proposed by the applicant, provided it meets the criteria in the municipal mitigation plan.

ii. The mitigation project shall be approved no later than preliminary or final site plan approval of the major development.

iii. The mitigation project shall be located in the same HUC 14 as the area of the major development subject to the variance.

iv. The mitigation project shall be constructed prior to, or concurrently with, the major development.

v. The mitigation project shall comply with the green infrastructure standards at N.J.A.C. 7:8-5.3.

vi. If the variance that resulted in the mitigation project being required is from the green infrastructure standards at N.J.A.C. 7:8-5.3, then the mitigation project must use green infrastructure BMPs in Table 5-1, and/or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g) that meets the definition of green infrastructure to manage an equivalent or greater area of impervious surface and an equivalent or greater area of motor vehicle surface as the area of the major development subject to the variance. Grass swales and vegetative filter strips may only be used in the mitigation project if the proposed project additionally includes a green infrastructure BMP other than a grass swale or vegetative filter strip. The green infrastructure used in the mitigation project must be sized to manage the water quality design storm, as defined at N.J.A.C. 7:8-5.5(d), at a minimum, and is subject to the applicable contributory drainage area limitation specified at N.J.A.C. 7:8-5.2(g) or 5.3(b), as applicable.

vii. A variance from the groundwater recharge standards at N.J.A.C. 7:8-5.4 may be granted if one of the following is met:

1) The average annual groundwater recharge provided by the mitigation project must equal or exceed the average annual groundwater recharge deficit resulting from granting the variance for the major development; or

2) Runoff infiltrated during the two-year storm from the mitigation project must equal or exceed the deficit resulting from granting the variance from the required infiltration of the increase in runoff volume from pre-construction to post-construction from the major development.

viii. A variance from the stormwater runoff quality standards at N.J.A.C. 7:8-5.5 may be granted if the following are met:

1) The total drainage area of motor vehicle surface managed by the mitigation project(s) must equal or exceed the drainage area of the area of the major development subject to the variance and must provide sufficient TSS removal to equal or exceed the deficit resulting from granting the variance for the major development; and

2) The mitigation project must remove nutrients to the maximum extent feasible in accordance with N.J.A.C. 7:8-5.5(f).

ix. A variance from the stormwater runoff quantity standards at N.J.A.C. 7:8-5.6 may be granted if the following are met:

1) The applicant demonstrates, through hydrologic and hydraulic analysis, including the effects of the mitigation project, that the variance will not result in increased flooding damage below each point of discharge of the major development;

2) The mitigation project discharges to the same watercourse and is located upstream of the major development subject to the variance; and

3) The mitigation project provides peak flow rate attenuation in accordance with N.J.A.C. 7:8-5.6(b)3 for an equivalent or greater area than the area of the major development subject to the variance. For the purposes of this demonstration, equivalent includes both size of the area and percentage of impervious surface and/or motor vehicle surface.

x. The applicant or the entity assuming maintenance responsibility for the associated major development shall be responsible for preventive and corrective maintenance (including replacement) of the mitigation project and shall be identified as such in the maintenance plan established in accordance with N.J.A.C. 7:8-5.8. This responsibility is not transferable to any entity other than a public agency, in which case, a written agreement with that public agency must be submitted to the review agency.

(b) Any approved variance shall be submitted by the municipal review agency to the county review agency and the Department, by way of a written report describing the variance, as well as the required mitigation, within 30 days of the approval.

SUBCHAPTER 5. DESIGN AND PERFORMANCE STANDARDS FOR STORMWATER MANAGEMENT MEASURES

7:8-5.1 Scope

(a) This subchapter establishes design and performance standards for stormwater management measures for major development intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies.

(b) The standards specified in this subchapter do not apply to major development if alternative design and performance standards that are at least as protective as would be achieved through this subchapter when considered on a regional stormwater management area basis are applicable under a regional stormwater management plan adopted in accordance with this chapter or a water quality management plan adopted in accordance with N.J.A.C. 7:15.

7:8-5.2 Stormwater management measures for major development

(a) Stormwater management measures for major development shall be designed to provide erosion control, groundwater recharge, stormwater runoff quantity control, and stormwater runoff quality treatment as follows:

1. 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 at N.J.A.C. 2:90 and 16:25A.
2. The minimum design and performance standards for groundwater recharge, stormwater runoff quality, and stormwater runoff quantity at N.J.A.C. 7:8-5.4, 5.5, and 5.6 shall be met by incorporating green infrastructure in accordance with N.J.A.C. 7:8-5.3.

(b) The development shall incorporate a maintenance plan under N.J.A.C. 7:8-5.8 for the stormwater management measures.

(c) Stormwater management measures shall avoid adverse impacts of concentrated flow on 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 muhlnebergi* (bog turtle).

(d) The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at N.J.A.C. 7:8-5.4 and 5.5:

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 made of permeable material.

(e) A waiver from strict compliance from the green infrastructure, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements at N.J.A.C. 7:8-5.3, 5.4, 5.5, and 5.6 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:

1. The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;
2. The applicant demonstrates through an alternatives analysis, that through the use of stormwater management measures, the option selected complies with the requirements of N.J.A.C. 7:8-5.3, 5.4, 5.5, and 5.6 to the maximum extent practicable;
3. The applicant demonstrates that, in order to meet the requirements at N.J.A.C. 7:8-5.3, 5.4, 5.5, and 5.6 existing structures currently in use, such as homes and buildings would need to be condemned; and
4. 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 (e)3 above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate for requirements of N.J.A.C. 7:8-5.3, 5.4, 5.5, and 5.6 that were not achievable onsite.

(f) The tables 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 this chapter. When designed in accordance with the New Jersey Stormwater Best Management Practices Manual and this chapter, the stormwater management measures listed in Tables 5-1, 5-2, and 5-3 shall be presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. Upon amendment 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 Register a notice of administrative change revising the applicable table.

Table 5-1

Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity

Best Management Practice	Stormwater Runoff Quality TSS removal rate (percent)	Stormwater Runoff Quantity	Groundwater 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[a] [b]	80	Yes	Yes	2
Vegetative Filter Strip	60-80	No	No	-

Table 5-2
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

Table 5-3
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 5-1, 5-2, and 5-3:

(a) subject to the applicable contributory drainage area limitation specified at N.J.A.C. 7:8-5.3(b);

(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 N.J.A.C. 7:8-1.2;

(h) manufactured treatment devices that do not meet the definition of green infrastructure at N.J.A.C. 7:8-1.2.

(g) 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 review agency. Where the Department is the review agency, documentation must be submitted in accordance with N.J.A.C. 7:8-1.3. Where the Department is not the review agency, 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 N.J.A.C. 7:8-1.3. Alternative stormwater management measures may be used to satisfy the requirements at N.J.A.C. 7:8-5.3 only if the measures meet the definition of green infrastructure at N.J.A.C. 7:8-1.2. Alternative stormwater management measures that function in a similar manner to a BMP listed at N.J.A.C. 7:8-5.3(b) are subject to the contributory drainage area limitation specified at N.J.A.C. 7:8-5.3(b) 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 N.J.A.C. 7:8-5.3(b) 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 N.J.A.C. 7:8-5.2(e) is granted from N.J.A.C. 7:8-5.3.

(h) Whenever the stormwater management design includes one or more BMPs that will infiltrate stormwater into subsoil, the design engineer shall assess the hydraulic impact on the groundwater table and design the site, so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high water table, so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems or other subsurface structures within the zone of influence of the groundwater mound, or interference with the proper functioning of the stormwater management measure itself.

(i) Design standards for stormwater management measures are as follows:

1. Stormwater management measures shall be designed to take into account the

existing site conditions, including, but not limited to, 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 the presence of solution-prone carbonate rocks (limestone);

2. 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 one-third the width of the diameter of the orifice or one-third 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 N.J.A.C. 7:8-6.2(a);
3. 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;
4. Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at N.J.A.C. 7:8-6; and
5. The size of the orifice at the intake to the outlet from the stormwater management basin shall be a minimum of two and one-half inches in diameter.

(j) Manufactured treatment devices may be used to meet the requirements of this subchapter, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department. Manufactured treatment devices that do not meet the definition of green infrastructure at N.J.A.C. 7:8-1.2 may be used only under the circumstances described at N.J.A.C. 7:8-5.3(d).

(k) Any application for a new agricultural development that meets the definition of major development at N.J.A.C. 7:8-1.2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at N.J.A.C. 7:8-5.4 and 5.6 and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this section, "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.

(l) If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at N.J.A.C. 7:8-5.4, 5.5, and 5.6 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.

(m) Any stormwater management measure authorized under this chapter or under a municipal stormwater management plan or ordinance shall be reflected in a deed notice recorded in the Office of the County Clerk or the registrar of deeds and mortgages of the

county in which the development, project, project site, or mitigation area containing the stormwater management measure is located. A form of deed notice shall be submitted to the reviewing agency 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 N.J.A.C. 7:8-5.3, 5.4, 5.5, and 5.6 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 N.J.A.C. 7:8-5.8(d). Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the review agency. 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 review agency is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the review agency within 180 calendar days of the authorization granted by the review agency.

(n) A stormwater management measure approved under this chapter or a municipal stormwater management plan or ordinance may be altered or replaced with the approval of the applicable review agency, if the review agency determines that the proposed alteration or replacement meets the design and performance standards pursuant to N.J.A.C. 7:8-5 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 reviewing agency for approval and subsequently recorded with the appropriate Office of the County Clerk or the registrar of deeds and mortgages 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 the review agency in accordance with (m) above.

7:8-5.3 Green infrastructure standards

(a) This section specifies the types of green infrastructure BMPs that may be used to satisfy the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.

(b) To satisfy the groundwater recharge and stormwater runoff quality standards at N.J.A.C. 7:8-5.4 and 5.5, the design engineer shall utilize green infrastructure BMPs identified in Table 5-1 at N.J.A.C. 7:8-5.2(f) and/or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g). The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

Best Management Practice	Maximum Contributory Drainage Area
1. Dry Well	1 acre
2. Manufactured Treatment Device	2.5 acres
3. Pervious Paving Systems	Area of additional inflow cannot exceed three times

	the area occupied by the BMP
4. Small-scale Bioretention Systems	2.5 acres
5. Small-scale Infiltration Basin	2.5 acres
6. Small-scale Sand Filter	2.5 acres

(c) To satisfy the stormwater runoff quantity standards at N.J.A.C. 7:8-5.6, the design engineer shall utilize BMPs from Table 5-1 or from Table 5-2 and/or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g).

(d) If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with N.J.A.C. 7:8-5.2(e) is granted from the requirements of this section, then BMPs from Table 5-1, 5-2, or 5-3, and/or an alternative stormwater management measure approved in accordance with N.J.A.C. 7:8-5.2(g) may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at N.J.A.C. 7:8-5.4, 5.5, and 5.6.

(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 section 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 section. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this section, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at N.J.A.C. 7:8-5.4, 5.5, and 5.6, unless the project is granted a waiver from strict compliance in accordance with N.J.A.C. 7:8-5.2(e).

7:8-5.4 Groundwater recharge standards

(a) This section contains minimum design and performance standards for groundwater recharge.

(b) The minimum design and performance standards for groundwater recharge, are as follows:

1. The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at N.J.A.C. 7:8-5.7, either:

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

   ii. 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 N.J.A.C. 7:8-5.7(d), is infiltrated.

2. This groundwater recharge requirement does not apply to projects within the "urban redevelopment area," or to projects subject to (b)3 below.

3. The following types of stormwater shall not be recharged:

   i. 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 a remedial action work plan approved pursuant to the Administrative Requirements for the Remediation of Contaminated Sites rules, N.J.A.C. 7:26C, or a Department approved landfill closure plan; and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

   ii. 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.

7:8-5.5 Stormwater runoff quality standards

(a) This section 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 one-quarter acre or more of regulated motor vehicle surface.

(b) 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:

   1. 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.

   2. 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.

(c) 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 (b) 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.

(d) The water quality design storm is 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 5-4 below. The calculation of the volume of runoff may take into account the implementation of stormwater management measures.

Table 5-4: 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

(e) If more than one BMP in series is necessary to achieve the required 80 percent 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 from application of both BMPs, and
A = the TSS percent removal rate applicable to the first BMP

B = the TSS percent removal rate applicable to the second BMP

(f) Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include green infrastructure BMPs that optimize nutrient removal while still achieving the performance standards in N.J.A.C. 7:8-5.4 and 5.6 and this section.

(g) In accordance with the definition of FW1 at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.

(h) 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 waters, as designated in the Surface Water Quality Standards at N.J.A.C. 7:9B, and certain upstream tributaries to Category One waters. A person 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.

(i) Pursuant to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.2(j)4, runoff from the water quality design storm that is discharged within a 300-foot riparian zone shall be treated in accordance with this section to reduce the post-construction load of total suspended solids by 95 percent of the anticipated load from the developed site, expressed as an annual average.

(j) This section does not apply to the construction of one individual single-family dwelling, provided that is not part of a larger development or subdivision that has received preliminary or final site plan approval prior to December 3, 2018, and that the motor vehicle surfaces are made of permeable material(s) such as gravel, dirt, and/or shells.

7:8-5.6 Stormwater runoff quantity standards

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

(b) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at N.J.A.C. 7:8-5.7, complete one of the following:

1. Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the current and projected two-, 10-, and 100-year storm events, as defined and determined pursuant to N.J.A.C. 7:8-5.7(c) and

(d), respectively, do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

2. 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 two-, 10-, and 100-year storm events, as defined and determined pursuant to N.J.A.C. 7:8-5.7(c) and (d), respectively, 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;
3. Design stormwater management measures so that the post-construction peak runoff rates for the current and projected two-, 10-, and 100-year storm events, as defined and determined pursuant to N.J.A.C. 7:8-5.7(c) and (d), respectively, are 50, 75, and 80 percent, 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; or
4. In tidal flood hazard areas, stormwater runoff quantity analysis, in accordance with (b)1, 2, and 3 above, is required unless the design engineer demonstrates through hydrologic and hydraulic analysis that the increased volume, change in timing, or increased rate of the stormwater runoff, or any combination of the three will not result in additional flood damage below the point of discharge of the major development. No analysis is required if the stormwater is discharged directly into any ocean, bay, inlet, or the reach of any watercourse between its confluence with an ocean, bay, or inlet and downstream of the first water control structure.

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

7:8-5.7 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 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 or at United States Department of Agriculture Natural Resources Conservation Service, 220 Davison Avenue, Somerset, New Jersey 08873.
2. For the purpose of calculating 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 "curve number" applies to the

NRCS methodology at N.J.A.C. 7:8-5.6(a)1i. A 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 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, 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:

1. 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 and Water Survey website at https://www.nj.gov/dep/njgs/ or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, NJ 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 (c)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 5-5 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 Table 5-5 below.

Table 5-5: Current Precipitation Adjustment Factors

County	Current Precipitation Adjustment Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.01	1.02	1.03
Bergen	1.01	1.03	1.06
Burlington	0.99	1.01	1.04
Camden	1.03	1.04	1.05
Cape May	1.03	1.03	1.04
Cumberland	1.03	1.03	1.01
Essex	1.01	1.03	1.06
Gloucester	1.05	1.06	1.06
Hudson	1.03	1.05	1.09
Hunterdon	1.02	1.05	1.13
Mercer	1.01	1.02	1.04
Middlesex	1.00	1.01	1.03
Monmouth	1.00	1.01	1.02
Morris	1.01	1.03	1.06
Ocean	1.00	1.01	1.03
Passaic	1.00	1.02	1.05
Salem	1.02	1.03	1.03
Somerset	1.00	1.03	1.09
Sussex	1.03	1.04	1.07
Union	1.01	1.03	1.06
Warren	1.02	1.07	1.15

(d) Table 5-6 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 Table 5-6 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 5-6: Future Precipitation Change Factors

County	Future Precipitation Change Factors		
	2-year Design Storm	10-year Design Storm	100-year Design Storm
Atlantic	1.22	1.24	1.39
Bergen	1.20	1.23	1.37
Burlington	1.17	1.18	1.32
Camden	1.18	1.22	1.39
Cape May	1.21	1.24	1.32
Cumberland	1.20	1.21	1.39
Essex	1.19	1.22	1.33
Gloucester	1.19	1.23	1.41
Hudson	1.19	1.19	1.23
Hunterdon	1.19	1.23	1.42
Mercer	1.16	1.17	1.36
Middlesex	1.19	1.21	1.33
Monmouth	1.19	1.19	1.26
Morris	1.23	1.28	1.46
Ocean	1.18	1.19	1.24
Passaic	1.21	1.27	1.50
Salem	1.20	1.23	1.32
Somerset	1.19	1.24	1.48
Sussex	1.24	1.29	1.50
Union	1.20	1.23	1.35
Warren	1.20	1.25	1.37

7:8-5.8 Maintenance requirements

(a) The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

(b) The maintenance plan shall contain specific preventative 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 preventative and corrective maintenance (including replacement). Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person'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.

(c) 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.

(d) If the person responsible for maintenance identified under (b) above is not a public agency, the maintenance plan and any future revisions based on (g) below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

(e) Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including repairs or replacement to the structure; 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.

(f) The person responsible for maintenance identified under (b) above shall maintain a detailed log of all preventative 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.

(g) The person responsible for maintenance identified under (b) above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

(h) The person responsible for maintenance identified under (b) above shall retain 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 (f) and (g) above.

(i) Nothing in this section 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.

7:8-5.9 Sources for technical guidance

(a) Technical guidance for stormwater management measures can be found in the documents listed at (a)1 and 2 below, which are available 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 Table 5-1, Table 5-2, and Table 5-3.
2. Additional maintenance guidance is available on the Department's website at http://www.nj.gov/dep/stormwater/maintenance_guidance.htm.

SUBCHAPTER 6. SAFETY STANDARDS FOR STORMWATER MANAGEMENT BASINS

7:8-6.1 Scope

(a) This subchapter sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This subchapter applies to any new stormwater management basin.

(b) The provisions of this subchapter are not intended to preempt more stringent municipal or county safety requirements for new or existing stormwater management basins. Municipal and county stormwater management plans and ordinances may, pursuant to their authority, require existing stormwater management basins to be retrofitted to meet one or more of the safety standards in N.J.A.C. 7:8-6.2(a)2, (b) and (c)1 for trash racks, overflow grates, and escape provisions at outlet structures.

7:8-6.2 Requirements for trash racks, overflow grates and escape provisions

(a) A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management basin to ensure proper functioning of the basin outlets in accordance with the following:

1. The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars;
2. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure;
3. The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack; and
4. The trash rack shall be constructed of rigid, durable, and corrosion resistant material and designed to withstand a perpendicular live loading of 300 lbs./ft sq.

(b) An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, the grate shall comply with the following requirements:

1. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance;
2. The overflow grate spacing shall be no greater than two inches across the smallest dimension; and
3. The overflow grate shall be constructed of rigid, durable, and corrosion resistant material and designed to withstand a perpendicular live loading of 300 lbs./ft sq.

(c) Stormwater management basins shall include escape provisions as follows:

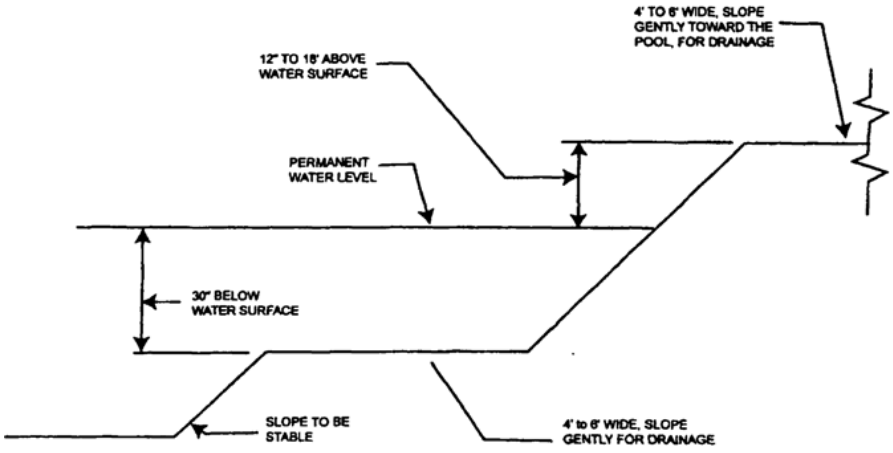
1. If a stormwater management basin has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions include the installation of permanent ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. With the prior approval of the reviewing agency pursuant to N.J.A.C. 7:8-6.3, a free-standing outlet structure may be exempted from this requirement;
2. Safety ledges shall be constructed on the slopes of all new stormwater management basins having a permanent pool of water deeper than two and one-half feet. Safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See N.J.A.C. 7:8-6 Appendix A for an illustration of safety ledges in a stormwater management basin; and
3. In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontals to one vertical.

7:8-6.3 Variance or exemption from safety standards

A variance or exemption from the safety standards for stormwater management basins 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.

APPENDIX A

Appendix A: Illustration of safety ledges in a new detention basin. Depicted is an elevational view.



NOTE: NOT DRAWN TO SCALE

NOTE: FOR BASINS WITH PERMANENT POOL OF WATER ONLY