

Ordinance: #1,625
Introduced: 2-16-2021
Adopted: 3-1-2021
Effective: 3-22-2021

**BOROUGH OF LINCOLN PARK
COUNTY OF MORRIS
ORDINANCE 3-21**

NOTICE OF INTRODUCTION AND STATEMENT OF PURPOSE

AN ORDINANCE TO REPEAL AND REPLACE CHAPTER 24 STORMWATER MANAGEMENT OF THE CODE OF THE BOROUGH OF LINCOLN PARK,

was submitted in writing at a regular meeting of the Borough Council of the Borough of Lincoln Park, County of Morris, State of New Jersey, held on **February 16, 2021**, and was introduced, read by title, and passed on first reading. The Governing Body of the Borough of Lincoln Park will further consider the Ordinance for second reading and final passage thereof at the regular meeting to be held on March 1, 2021, at 7:30 p.m. prevailing time at a Zoom Meeting at which time and place a public hearing thereon by the Governing Body and all parties in interest and citizens shall have an opportunity to be heard concerning said Ordinance. Directions for the Zoom meeting can be found at: www.lincolnpark.org several days before the meeting.

ORDINANCE 3-21

AN ORDINANCE TO REPEAL AND REPLACE CHAPTER 24 STORMWATER MANAGEMENT OF THE CODE OF THE BOROUGH OF LINCOLN PARK,

WHEREAS, the New Jersey Department of Environmental Protection (NJDEP) recently adopted amendments to the Stormwater Management rules contained in New Jersey Administrative Code (N.J.A.C. 7:8); and

WHEREAS, the Stormwater Management rules represent the minimum standard for municipal stormwater control ordinances; and

WHEREAS, the Borough of Lincoln Park (hereinafter "Borough") Stormwater Control Ordinance contained in Chapter 24 Stormwater Management of the Borough Code must be revised to be consistent with these newly adopted amendments; and

WHEREAS, the Borough desires to repeal and replace Chapter 24 Stormwater Management of the Borough Code to conform with the amendments to the Stormwater Management rules in N.J.A.C. 7:8; and

NOW, THEREFORE, BE IT ORDAINED by the Governing Body of the Borough of Lincoln Park, County of Morris, State of New Jersey, as follows:

SECTION ONE. Chapter 24 Stormwater Management of the Lincoln Park Borough Code is hereby repealed and the amended version of Chapter 24 Stormwater Management, attached hereto in **Exhibit A** and incorporated herein, is hereby adopted by the Borough.

SECTION TWO. All Ordinances of the Borough of Lincoln Park which are inconsistent with the provisions of this Ordinance are hereby repealed as to the extent of such inconsistency.

SECTION THREE. If any section, subsection, clause, or phrase of this Ordinance is for any reason held to be unconstitutional or invalid by any Court of competent jurisdiction, such decision shall not affect the remaining portion of this Ordinance.

SECTION FOUR. This Ordinance shall take effect immediately upon final passage, approval and publication as provided by law.

ATTEST:

Cynthia L. Sloane, RMC, Borough Clerk

Andrew Seise, Council President

Dr. David A. Runfeldt, Mayor

<u>INTRODUCED:</u>	FEBRUARY 16, 2021
<u>PUBLISHED:</u>	FEBRUARY 17, 2021
<u>PUBLIC HEARING AND ADOPTION:</u>	MARCH 1, 2021
<u>PUBLISHED IN:</u>	MARCH 2, 2021
<u>EFFECTIVE DATE:</u>	MARCH 22, 2021

Article I Stormwater Control

[Adopted 2-20-2007 by Ord. No. 4-07, effective 3-12-2007]

§ 24-1 Scope and purpose.

- A. Findings. It has been determined that the Passaic River, Pompton River, Beaver Dam Brook, East Ditch, West Ditch and their tributaries and artificially ponded segments, lakes and watercourses within the Borough of Lincoln Park are subject to recurrent flooding; that such flooding is also a danger to the natural resources of the Borough, county and state; that development tends to accentuate such flooding by increasing stormwater runoff, due to alteration of the hydrologic response of the watershed in changing from the undeveloped to the developed condition; that such increased flooding produced by the development of real property contributes increased quantities of water-borne pollutants and tends to increase erosion; that such increased flooding, increased erosion, and increased pollution constitute deterioration of the water resources of the Borough, county and state; and that such increased flooding, increased erosion and increased pollution can be controlled to a large extent by the regulation of stormwater runoff from such development. It is therefore determined that it is in the public interest to regulate the additional discharge of stormwater runoff from such developments as provided in this article.
- B. Policy statement. Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including green infrastructure Best Management Practices (GI BMPs) and nonstructural stormwater management strategies. GI BMPs and low impact development (LID) should be utilized to meet the goal of maintaining natural hydrology to reduce stormwater runoff volume, reduce erosion, encourage infiltration and groundwater recharge, and reduce pollution. GI BMPs and LID should be developed based upon physical site conditions and the origin, nature and the anticipated quantity, or amount, of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.
- C. Purposes.
- (1) It is the purpose of this article to establish minimum stormwater management requirements and controls for major developments as defined in § 24-2.
 - (2) It is the further purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:
 - (a) Protect human life and health.
 - (b) Prevent the installation of structures which increase flood heights.
 - (c) Prevent excessive property damage and protect public and private property, wildlife and fisheries.
 - (d) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
 - (e) Reduce or minimize public expenditures for emergency operations, evacuations and restorations.
 - (f) Minimize damage to or disruption of public facilities, transportation and utilities such as water and gas mains, electric, telephone and sewer lines, and streets and bridges.

- (g) Preserve, protect and enhance the natural environment of the floodplains.
 - (h) Minimize losses and damages due to inundation and siltation caused by flooding.
 - (i) Remove the impediment to community development created by recurrent flooding.
 - (j) Help maintain a stable tax base by providing for the sound use and development of flood hazard areas and floodplains in such a manner as to minimize future damages from floods.
 - (k) Regulate and restrict those land uses in floodways, flood hazard areas and floodplains which at times of flood cause increases in flood heights and/or velocities, in order to reduce or minimize future expenditures for protective measures.
 - (l) Protect individuals or corporations from buying lands which are unsuited for intended purposes because of flood hazards.
 - (m) Minimize prolonged business interruptions.
 - (n) Protect the public from dangers caused by materials being swept onto nearby or downstream lands.
 - (o) Ensure that potential property purchasers are notified that property is in a flood hazard area or floodplain.
 - (p) Ensure that those who occupy the flood hazard areas of floodplains assume responsibility for their actions.
- (3) This article is also enacted for the purpose of complying with the requirements of the National Flood Insurance Act of 1968 and the rules and regulations of the United States Federal Emergency Management Agency and the State of New Jersey Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq., and the State Department of Environmental Protection Stormwater Management Regulations of February 7, 1983, NJDEP Stormwater Management Rules, N.J.A.C. 7:8, United States Environmental Protection Agency (USEPA) Phase II Rules (Federal Clean Water Act) and Flood Hazard Area Regulations of May 21, 1984.
- D. Objective. The objective of this article is to accomplish its purposes as outlined in Subsection C herein. In order to achieve this, the following methods and provisions shall be used:
- (1) Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion hazards or which result in damaging increases in erosion or in flood heights or velocities;
 - (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
 - (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are necessary to accommodate or channel floodwaters;
 - (4) Control filling, grading, dredging and other development which may increase flood damage;
 - (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands;
 - (6) Consider the need for master detention basins on an area-wide basis to supplement or

replace individual detention basins or other facilities otherwise required at each site of development;

- (7) Maintain the adequacy of existing and proposed culverts and bridges, dams and other structures;
- (8) Prevent, to the greatest extent feasible, an increase in non-point source pollution;
- (9) Induce water recharge where natural storage and geologically favorable conditions exist when practical;
- (10) Maintain the integrity of stream channels for their biological functions, as well as for drainage and other purposes;
- (11) Reduce and minimize the increase in runoff pollution and erosion due to any development or construction project which otherwise would degrade the quality of water; and
- (12) Preserve and protect water facilities and resources by means of controlling increased flood discharges, stream erosion, and runoff pollution.

§ 24-2 Definitions.

Unless specifically defined below, words or phrases used in this article shall be interpreted so as to give them the meaning they have in common usage and to give this article its most reasonable application. The following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this Article clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

ACT

The Flood Hazard Control Act, N.J.S.A. 58:16A-50 et seq.

ALTERATION

Changes in banks, bed and vicinity of a stream which affect its environment.

APPEAL

A request for a review of the Borough Engineer's interpretation of any provision of this article or a request for a variance.

APPLICANT

The owner of the property on which the permit is applied for or his legal agent.

APPLICATION

The municipal agency application form.

BASE FLOOD

The flood having a one-percent chance of being equaled or exceeded in any given year.

BOROUGH

The Borough of Lincoln Park.

BRIDGE or CULVERT STRUCTURE

Any structure, other than a culvert pipe, erected over a depression or an obstruction, which requires an area equal to or larger than the area represented by a five-foot diameter pipe to

pass the runoff from the one-hundred-year storm.

BUREAU

The Bureau of Floodplain Management, State of New Jersey Department of Environmental Protection.

CAFRA CENTERS, CORES OR NODES

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

CAFRA PLANNING MAP

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

CHANNEL

A watercourse with a definite bed and banks which confine and conduct continuously or intermittently flowing water.

CHANNELIZATION

Any artificial reconstruction of the stream channel such as by straightening, lining or deepening.

COMMUNITY BASIN

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

COMPACTION

The increase in soil bulk density.

CONTRIBUTORY DRAINAGE AREA

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

CORE

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

COUNTY REVIEW AGENCY

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 be either:

- A. A county planning agency; or
- B. A county water resource 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.

CULVERT or CULVERT PIPE

Any structure not classified as a bridge or culvert structure which provides an opening to carry water under a roadway or embankment or is part of a closed conduit collection system allowing the free passage of stormwater and has an opening area less than that represented

by a five-foot-diameter pipe. All culvert or culvert pipes shall be designed on the basis of a twenty-five-year storm.

DAM

Any artificial dike, levee or other barrier, together with appurtenant works, which is constructed for the primary purpose of impounding water on a permanent or temporary basis that raises the water level five feet or more above its usual mean low water height to the emergency spillway crest or, in the absence of an emergency spillway, the top of dam.

DELINEATED FLOODWAY

Any floodway designated by the State of New Jersey Department of Environmental Protection under the provisions of the Act.

DELINEATED STREAM

A stream that has a delineated floodway that has been officially adopted by the New Jersey Department of Environmental Protection and published in the New Jersey Register.

DEPARTMENT

The New Jersey Department of Environmental Protection.

DESIGNATED CENTER

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

DESIGN ENGINEER

A person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

DETENTION BASIN

Temporarily stores stormwater runoff, releasing the water through an outlet structure at a design controlled rate, until the basin is completely empty.

DEVELOPER

The legal or beneficial owner or owners of a lot or of any land proposed to be included in the proposed development, including the holder of an option or contract to purchase, or other person having an enforceable proprietary interest in such land.

DEVELOPER'S AGREEMENT

A document executed by the Borough and the developer stipulating various conditions to which both parties have agreed.

DEVELOPMENT

The division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, by any person, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq. In the case of development of agricultural lands, "development" means any activity that requires a state permit, any activity reviewed by the County Agricultural Board (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right to Farm Act, N.J.S.A. 4:1C-1 et seq.

DEVELOPMENT PERMIT

A permit issued by the municipal agency pursuant to the provisions of this article and other applicable ordinances in force.

DIVERSION

A channel with or without a supporting ridge on the lower side constructed across or at the bottom of a slope.

DISTURBANCE

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

DRAINAGE

The removal of surface water or groundwater from land by drains, grading or other means and includes control of runoff to minimize erosion and sedimentation during and after construction or development and means necessary for water supply preservation or prevention or alleviation of flooding.

DRAINAGE AREA

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

DRAINAGE BASIN OR SUBBASIN

An area or subarea drained by a watercourse.

EMPOWERMENT NEIGHBORHOOD

A neighborhood 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.

ENCROACHMENT LINE

A line encompassing the channel of a natural stream and portion of the one-hundred-year floodplain adjoining the channel which are reasonably required to carry and discharge the floodwater or flood flow of any natural stream. It is approximately equal to the floodway line along delineated streams.

ENVIRONMENTALLY CONSTRAINED AREA

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

An area or feature which is of significant environmental value, including but not limited to stream corridors; natural heritage priority sites; habitat of endangered or threatened species; large areas of contiguous open space or upland forest; steep slopes; and wellhead 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 Non-game Species Program.

EROSION

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

EXCAVATION

Removal or recovery by any means whatsoever of minerals, mineral substances or organic substances, other than vegetation, from the water, land surface or beneath the land surface, whether exposed or submerged. Normal agricultural activities shall not be considered to be

excavation.

EXCEPTIONAL AND UNDUE HARDSHIP

Situations where literal enforcement of or strict compliance with this article would result in peculiar and substantial burdens upon the owner and where such enforcement or compliance would not be necessary to avoid substantial detriment to the public health, safety and general welfare.

FILL

Sand, gravel, earth or other materials of equal quality placed or deposited within the one-hundred-year floodplain or flood hazard area so as to form an embankment or raise the elevation of the land surface.

FLOOD BOUNDARY AND FLOODWAY MAP (FBFM)

The official map on which the Federal Emergency Management Agency, Federal Insurance Administration, has delineated the floodway and one-hundred-year floodplain boundary applicable to the municipality.

FLOOD-CARRYING CAPACITY

The ability of a channel or floodway to transport floodwaters, as determined by its shape, cross-sectional area, bed slope, coefficient of hydraulic friction, and upstream and downstream channel configurations as used in accepted engineering practices.

FLOOD DAMAGE POTENTIAL

The susceptibility at a particular site to damage by potential floods at that site, as well as increased off-site flooding or flood-related damages caused by such use.

FLOOD-FRINGE

That portion of the flood hazard area not designated as the floodway.

FLOOD HAZARD AREA

The floodway and the flood-fringe area of a delineated stream.

FLOOD HAZARD AREA DESIGN FLOOD

The one-hundred-year storm in nondelineated areas and the one-hundred-year storm plus 25% in the delineated areas.

FLOOD HAZARD DESIGN ELEVATION

The elevation of the flood hazard area design.

FLOOD INSURANCE RATE MAP (FIRM)

The official map on which the Federal Emergency Management Agency, Federal Insurance Administration, has delineated both the special flood hazard areas and the risk premium zones applicable to the municipality.

FLOOD INSURANCE STUDY

The official report in which the Federal Emergency Management Agency, Federal Insurance Administration, has provided flood profiles as well as the Flood Boundary and Floodway Map and the water surface elevation of the base flood.

FLOOD LEVEL

The elevation indicated on the flood map.

FLOOD or FLOODING

A general and temporary condition of partial or complete inundation of a normally dry area

from:

- A. The overflow of inland or tidal waters; and/or
- B. The unusual and rapid accumulation or runoff of surface waters from any source.

FLOODPLAIN

The relatively flat area adjoining the channel of a natural stream which has been or may be hereafter covered by floodwater.

FLOODPLAIN/FLOODWAY/WETLANDS MAPS

The official maps on which the Borough of Lincoln Park has provided the flood hazard area design flood boundary, the one-hundred-year floodplain boundary, the floodway limits and the wetlands conservation areas for the natural streams, watercourses, water bodies, and areas where the water table is usually at or near the surface as well as land covered by shallow water within the corporate limits of the Borough.

FLOODPROOFING

Any combination of structural and nonstructural design features, additions, changes or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

FLOODWAY

Land, and the space above that land, which lies within the inner portion of the flood hazard area and which is mathematically determined to be required to carry and discharge floodwaters resulting from the one-hundred-year flood under certain conditions. The floodway always includes the channel and often includes land adjacent to the channel. The floodway is normally characterized by faster and deeper flows than the flood-fringe, which is the portion of the flood hazard area outside the floodway. The floodway limits for any watercourse shall be as determined by FEMA as published by a FEMA flood insurance study or as determined by a New Jersey Department of Environmental Protection approved delineation.

GREEN INFRASTRUCTURE

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

- A. Treating stormwater runoff through infiltration into subsoil;
- B. Treating stormwater runoff through filtration by vegetation or soil; or
- C. Storing stormwater runoff for reuse.

HAZARDOUS MATERIALS

Any waste or combination of wastes which poses a present or potential threat to human health, living organisms or the environment. It shall include waste material that is toxic, carcinogenic, genetically harmful, corrosive, irritating or sensitizing, radioactive, biologically infectious, explosive, or flammable. It includes, but need not be limited to, those materials and concentrations of materials that are determined to be toxic by the Federal Secretary of Health and Human Services pursuant to Section 20(6) of the Occupational Safety and Health Act of 1970 (Public Law 91-596, OSHA) and those materials listed in the current Part 172, Title 40, of the Code of Federal Regulations issued by the Federal Department of Transportation.

HISTORIC SITE

Any building, structure, area or property that is significant in the history, architecture, archaeology or culture of this municipality and has been so designated.

HUC 14 or HYDROLOGIC UNIT CODE 14

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

Any natural or man-made surface that is/has been covered with a layer of material so that it is highly resistant to infiltration by water and causes surface runoff, including but not limited to sidewalks, street pavement, driveways, patios and buildings, expressed as a percentage arrived at by dividing the area of impervious surface by the gross site area.

INFILTRATION

The process by which water seeps into the soil from precipitation.

INFILTRATION BASIN

Collects and stores stormwater, which percolates completely into the ground, and performs the function of replenishing groundwater supply. This type of facility has no outlet structure.

LEAD PLANNING AGENCY

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

LOWEST FLOOR

The lowest level (including basement, crawl space, and garage) of the lowest enclosed area.

MAJOR DEVELOPMENT

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

- A. The disturbance of one or more acres of land since February 2, 2004;
- B. The creation of one-quarter acre or more of “regulated impervious surface” since February 2, 2004;
- C. The creation of one-quarter acre or more of “regulated motor vehicle surface” since March 2, 2021 or the effective date of this ordinance, whichever is earlier; or
- D. A combination of B and C 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 A, B, C, or D 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.”

MANUAL

The Technical Manual for Stream Encroachment published in August 1984 by the Bureau.

MLUL

The Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

MOBILE HOME

A structure that is transportable in one or more sections, built on a permanent chassis, and designed to be used with or without a permanent foundation when connected to the required utilities. It does not include recreational vehicles or travel trailers.

MOTOR VEHICLE

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

MOTOR VEHICLE SURFACE

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

MUNICIPAL AGENCY

The Municipal Planning Board, Board of Adjustment or governing body of the Borough when acting pursuant to this article.

MUNICIPALITY

The Borough of Lincoln Park, Morris County, New Jersey.

NET FILL

Additional earth or other fill beyond the total quantity already present above the low water level of the stream or groundwater level (whichever is higher) in that portion of the project site which is in the flood hazard area or one-hundred-year floodplain.

NEW CONSTRUCTION

Structures for which the start of construction commenced on or after the effective date of this article.

“NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES (BMP) MANUAL” or “BMP MANUAL”

The manual maintained by the Department providing, in part, design specifications, removal rates, calculation methods, and soil testing procedures approved by the Department as being capable of contributing to the achievement of the stormwater management standards specified in this chapter. The BMP Manual is periodically amended by the Department as necessary to provide design specifications on additional best management practices and new information on already included practices reflecting the best available current information regarding the particular practice and the Department’s determination as to the ability of that best management practice to contribute to compliance with the standards contained in this chapter. Alternative stormwater management measures, removal rates, or calculation methods may be utilized, subject to any limitations specified in this chapter, provided the design engineer demonstrates to the municipality, in accordance with §24-4F of this ordinance and N.J.A.C. 7:8-5.2(g), that the proposed measure and its design will contribute to achievement of the design and performance standards established by this chapter.

NJDEP

The New Jersey Department of Environmental Protection.

NODE

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

NON-POINT SOURCE POLLUTION

Pollution from any source other than from any discernible, confined and discreet conveyance, and shall include but not be limited to pollutants from agricultural, mining, construction, surface disposal and urban runoff sources.

NUTRIENT

A chemical element or compound, such as nitrogen or phosphorus, which is essential to and

promotes the development of organisms.

OBSTRUCTION

Includes but is not limited to any structure, excavation, fill or other materials placed in, along, across or projecting into any channel, watercourse or floodway which may impede, retard or change the direction of the flow of water, whether by itself or by catching or collecting debris carried by such water, or that is placed where the flow of water might carry the same downstream to the damage of life or property.

OFF-SITE

Located outside the lot lines of the lot in question but within the property (of which the lot is a part) which is the subject of a development application or contiguous portion of a street or right-of-way.

OFF-TRACT

Not located on the property which is the subject of a development application or on a contiguous portion of a street or right-of-way.

ONE-HUNDRED-YEAR FLOODPLAIN

The area inundated by a one-hundred-year flood. A one-hundred-year flood is estimated to have a one-percent chance, or one chance in 100, of being equaled or exceeded in any one year.

ON-SITE

Located on the lot in question.

ON-TRACT

Located on the property which is the subject of a development application or on a contiguous portion of a street or right-of-way.

OPEN SPACE

Any parcel or area of land or water essentially unimproved and set aside, dedicated, designated or reserved for private use or enjoyment of owners and occupants of land adjoining or neighboring such open space, provided that such areas may be improved with only those buildings, structures, streets and off-street parking and other improvements that are designed to be incidental to the natural openness of the land.

OWNER

Any individual, family, group, firm, association, syndicate, copartnership or corporation having sufficient proprietary interest in land.

PERMITTED USE

Any use which shall be allowed upon approval by the municipal agency pursuant to this article.

PERSON

Any individual, corporation, company, partnership, firm, association, the Borough of Lincoln Park, or political subdivision of this state subject to municipal jurisdiction pursuant to the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

PLANNING BOARD

The Borough Planning Board.

POLLUTANT

Any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage,

refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance [except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2011 et seq.)], thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff, or other residue discharged directly or indirectly to the land, groundwaters or surface waters of the state or to a domestic treatment works. "Pollutant" includes both hazardous and nonhazardous pollutants.

PROHIBITED USE

A use which shall not be allowed under any circumstances.

PUBLIC DRAINAGEWAY

The land reserved or dedicated for the installation of stormwater sewers or drainage ditches or required along a natural stream or watercourse for preserving the channel and providing for the flow of water to safeguard the public against flood damage, sedimentation and erosion.

RECHARGE

The amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

REGULATED IMPERVIOUS SURFACE

Any of the following, alone or in combination:

- A. A net increase of impervious surface;
- B. 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);
- C. The total area of impervious surface proposed to be newly collected by an existing stormwater conveyance system; and/or
- D. The total area of impervious surface collected by an existing stormwater conveyance system where the capacity of that conveyance system is increased.

REGULATED MOTOR VEHICLE SURFACE

Any of the following, alone or in combination:

- A. The total area of motor vehicle surface that is currently receiving water; and/or
- B. 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.

RESTRICTED USE

Any flood-fringe use which requires a restricted use permit from the Borough.

RUNOFF RATE

The volume rate of movement of a quantity of stormwater flowing past a given point with respect to time, expressed in cubic feet per second or gallons per minute.

SEDIMENT

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

SEDIMENT BASIN

A natural or man-made hollow to retain rock, sand, gravel, silt or other material.

SITE

Any plot or parcel of land or combination of contiguous lots or parcels of land where clearing or grading is performed or permitted.

SOIL

All unconsolidated mineral and organic material of any origin.

SOIL CONSERVATION DISTRICT

A political subdivision of the State of New Jersey authorized under N.J.S.A. 4:24-2 et seq.

SOLID WASTE

Garbage, sludge, refuse, trash, rubbish, debris or other discarded solid materials.

SPECIAL FLOOD HAZARD AREA

The land in the floodplain within the community subject to a one-percent or greater chance of flooding in any one year.

START OF CONSTRUCTION

The first placement of permanent construction of a structure (other than a mobile home) on a site, such as the pouring of slabs or footings or any work beyond the stage of excavation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as part of the main structure. For a structure (other than a mobile home) without a basement or poured footings, the start of construction includes the first permanent framing or assembly of the structure or any part thereof on its piling or foundation.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN METROPOLITAN PLANNING AREA (PA-1)

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

STATE PLAN POLICY MAP

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

STORMWATER

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

STORMWATER MANAGEMENT AREA

The entire corporate area of the Borough of Lincoln Park consisting of nine drainage subareas drained by the Passaic River, Pompton River, Beaver Dam Brook, East Ditch, West Ditch, and their tributaries and delineated on the Stormwater Management Area Map of the Borough of Lincoln Park.

STORMWATER MANAGEMENT AREA MAP

The official map on which the Borough of Lincoln Park has delineated the Stormwater Management Area, consisting of nine drainage subareas, and showing the planned stormwater facilities improvements for the Borough of Lincoln Park.

STORMWATER MANAGEMENT BMP

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

STORMWATER MANAGEMENT MEASURE

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

STORMWATER MANAGEMENT PLANNING AGENCY

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.

STORMWATER RUNOFF or RUNOFF

Flow on the surface of the ground or in storm sewers resulting from precipitation.

STREAM ENCROACHMENT

Any structure, alteration, filling, construction or other development within the area which would be inundated by the one-hundred-year flood of any nondelineated stream or within the flood hazard area of a delineated stream.

STREAM ENCROACHMENT PERMIT

A permit issued by the Department, Borough or delegated agency under the provisions of N.J.S.A. 58:16A-50 et seq. and N.J.A.C. 7:13.

STRUCTURE

Any assembly of materials above or below the surface of land or water, including but not limited to buildings, fences, pipelines, landings, dams, fills, levees, bulkheads, dikes, jetties, embankments, causeways, culverts, roads, railroads, bridges and the facilities of any utility or governmental agency. Trees or other vegetation shall not be considered to be structures.

SUBSTANTIAL DAMAGE

Damage of any origin sustained by a structure whereby the cost of restoring the structure to its condition before damage would equal or exceed 50% of the market value of the structure before the damage occurred. Restoration of a substantially damaged structure shall constitute a substantial improvement as defined in this section.

SUBSTANTIAL IMPROVEMENT

Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure as determined before the start of construction of the improvement. This term includes structures that have sustained substantial damage regardless of the actual repair work performed. "Substantial improvement" does not include:

- A. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement officer and which are the minimum necessary to assure safe living conditions; or

- B. Any alteration of a building designated by the state as an historic structure, provided that the alteration will not preclude the structure's continued designation as an historic structure.

URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD

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

URBAN ENTERPRISE ZONE

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

URBAN REDEVELOPMENT AREA

Previously developed portions of areas:

- A. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA-1), designated centers, cores or nodes;
- B. Designated as CAFRA centers, cores or nodes;
- C. Designated as urban enterprise zones; and
- D. Designated as Urban Coordinating Council empowerment neighborhoods.

VARIANCE

A grant of relief from the requirements of this article which permits construction in a manner that would otherwise be prohibited by this article.

WATER CONTROL STRUCTURE

A structure within, or adjacent to, a water, which intentionally or coincidentally alters the hydraulic capacity, the flood elevation resulting from the two-, 10-, or 100-year storm, flood hazard area limit, and/or floodway limit of the water. Examples of a water control structure may include a bridge, culvert, dam, embankment, ford (if above grade), retaining wall, and weir.

WATERS OF THE STATE

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

WETLANDS or WETLAND

An area that is inundated or saturated by surface water or 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."

§ 24-3 General provisions and applicability.

- A. This article shall apply to all areas within the corporate limits of the Borough of Lincoln Park and shall be applicable but not limited to each of the types of development named below:
 - (1) Residential construction or redevelopment of dwelling units and substantial improvements of a structure [except as provided in Subsection A(4) below].
 - (2) All governmental, commercial or industrial developments which cover land with additional impervious surface [except as provided in Subsection A(4) below].

- (3) Any construction of one or more of the following uses:
 - (a) Confined feeding and holding areas that provide for more than 150 head of cattle or 1,000 head of poultry;
 - (b) Pipelines, storage or distribution systems for petroleum products or chemicals;
 - (c) Storage, distribution or treatment facilities (excluding home septic systems) for liquid waste;
 - (d) Solid waste storage, disposition, incineration or landfill;
 - (e) Quarries, mines or borrow pits;
 - (f) Land application of sludge or effluents; and
 - (g) Storage, distribution or treatment facilities for radioactive wastes.
- (4) Control of stormwater runoff is mandated in all areas for residential construction or nonresidential construction which adds impervious surface. If the planning area is classified as a rural area under the provisions of N.J.A.C. 7:8, residential construction of more than 25 units shall be considered the threshold of applicability.
- (5) In the case of projects for which state and county as well as municipal approval of proposed drainage facilities is required, the applicant shall be required to comply with all provisions of this article. In such a case, the only provisions of this article which shall govern are those requirements which are stricter than those of the state or county.

B. Applicability.

- (1) This article shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:
 - (a) Nonresidential major developments; and
 - (b) Aspects of residential major developments that are not preempted by the Residential Site Improvement Standards at N.J.A.C. 5:21.
- (2) This article shall also be applicable to all major developments undertaken by the Borough of Lincoln Park.

C. Administration. The administration and enforcement of the provisions of this article relating to the construction, erection, maintenance and continued operation of stormwater and drainage facilities and other facilities, structures, devices and techniques required to carry out the objectives of this article shall be the responsibility of the municipal agency.

D. Basis for establishing special flood hazard areas and flood hazard areas.

- (1) The special flood hazard areas are identified by the Federal Emergency Management Agency, Federal Insurance Administration, through a scientific and engineering report titled "Flood Insurance Study, Borough of Lincoln Park, Morris County, New Jersey," dated August 19, 1986, which report, with accompanying Flood Insurance Rate Maps and Flood Boundary and Floodway Maps and any revisions thereto are hereby adopted by reference and declared a part of this article. The Flood Insurance Study is on file in the Borough's Municipal Building, 34 Chapel Hill Road, Lincoln Park, New Jersey 07035.

- (2) The flood hazard areas are delineated by Thonet Associates for the Borough of Lincoln Park on the maps titled "Floodplain/Floodway/Wetlands, Lincoln Park, New Jersey," dated April 1985, which maps, along with the delineated wetland area limits and any revisions thereto are hereby adopted by reference and declared a part of this article.
- E. Submission. The applicant shall submit materials, as required by § 24-16 hereof, to the Planning Board prior to or at least at the same time he submits his application for municipal approval.
- F. Review. The applicant's project shall be reviewed by the Planning Board. The Planning Board shall consult with the Borough Engineer to determine if the project meets the standards set forth in this article.
- G. Compatibility with other permit and ordinance requirements. Development approvals issued for subdivisions and site plans pursuant to this article are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this article shall be held to be the minimum requirements for the promotion of the public health, safety and general welfare. This article is not intended to interfere with, abrogate, or annul any other ordinance, rule or regulation, the statute, or other provision of law, except that, where any provision of this article imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.
- H. Variances. For good reason, the municipal agency may grant a waiver of the provisions of this article. In each such case, the Planning Board shall make a report within 30 days to the County Planning Board, giving a full explanation of the nature of the variance and the reason why it was granted.
- I. Penalties for noncompliance.
- (1) No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this article and other applicable regulations. Violation of the provisions of this article by failure to comply with any of the requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor.
- (2) Any person who violates this article or fails to comply with any of its requirements shall, upon conviction thereof, be subject to penalties as described in § 24-18, Violations and penalties, as herein provided. Nothing herein contained shall prevent the Borough of Lincoln Park from taking such other lawful action as is necessary to prevent or remedy any violation.
- J. Abrogation and greater restrictions. This article is not intended to repeal or impair any existing easements, covenants, or deed restrictions. However, where this article and/or other ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- K. Interpretation. In the interpretation and application of this article, all provisions shall be:
- (1) Considered as minimum requirements; and
- (2) Liberally construed in favor of the governing body.

- L. Warning and disclaimer of liability. The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. This article does not imply that land outside the areas of special flood hazard and flood hazard areas or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the Borough of Lincoln Park, any officer or employee thereof or the Federal Insurance Administration for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.
- M. Any application for development shall include a stormwater control plan containing sufficient information to effectuate the intent and purpose of this article. Applications for the following shall be exempt from the requirements of this subsection:
- (1) Additions or alterations to a one- or two-family residence.
 - (2) A one- or two-family residence to be constructed on a lot which is not contiguous to any other vacant buildable lot.
 - (3) The use or reoccupancy of any other land, building or structure without a change of use or substantial alteration or reconstruction thereof following an affirmative finding by the municipal agency of compliance with the standards herein.
- N. General standards.
- (1) Whenever an applicant seeks approval from the municipal agency for a development to which this article is applicable, the applicant shall be required to demonstrate that the stormwater control plan and design of stormwater control facilities are based on sound planning, engineering and architectural techniques and adhere to the standards set forth in this article.
 - (2) Design and performance standards for stormwater management measures.
 - (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 standards for erosion control are those established under the Soil and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules at N.J.A.C. 2:90.
 - [2] The minimum standards for groundwater recharge, stormwater quality, and stormwater runoff quantity shall be met by incorporating green infrastructure.
 - (b) The standards in this article apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or water quality management plan adopted in accordance with Department rules. (Note: Alternative standards shall provide at least as much protection from stormwater-related loss of groundwater recharge, stormwater quantity and water quality impacts of major development projects as would be provided under the standards in N.J.A.C. 7:8-5.)
 - (3) All detention facilities that limit the rate of discharge must be designated to provide for one foot of freeboard above the design high water of the pond.
 - (4) Detention areas may be depressions in parking areas, excavated basins, basins elevated through use of curbs, stabilized earth berms or dikes, or any other form of grading which

serves to temporarily impound and store water.

- (5) Innovative surface water runoff control and recharge devices may be proposed, such as rooftop storage, dry wells, roof drains, infiltration trench, underground tank storage, gravel layers underneath paving, swale storage, front and back yard ponding, oversized sewers, detention within pedestrian plazas and malls, and parking lot detention, including pre-cast concrete turf grids, etc., provided that they are accompanied by detailed engineering plans and performance capabilities.

O. Specific standards.

- (1) For engineering review by the municipal agency, each proposed project not exempted from the operation of this article shall provide a stormwater control plan that establishes runoff volumes and peak rates of discharge by current techniques. The methods of computation shall meet, as a minimum, the following specific design standards:

Facility	Design Frequency
Bridges/culvert structures	100-year
Channels/ditches for drainage external to the development	100-year
Culverts, cross drains, storm sewers and collection system	25-year
Roadside swales for drainage internal to the development	25-year
Detention/retention basins or storage systems	100-year

- (2) Storm sewer requirements.
 - (a) Storm sewer line design shall be performed using technical procedures as outlined in the American Society of Civil Engineers (ASCE) Manual and Report on Engineering Practice No. 37. For storm sewer lines under traffic areas, reinforced concrete culvert pipe (RCCP) of appropriate class shall be used. Corrugated metal pipe (CMP) may be used elsewhere.
 - (b) The minimum inside diameter of pipe shall be 15 inches and a minimum cover of two feet on top of all lines shall be required.
 - (c) The maximum design velocity for conduits shall be 15 feet per second, and the minimum design velocity shall be three feet per second. Where discharge is made into a streambed, adequate protection shall be provided and the allowable velocities shall be as shown in the Standards and Specifications for Soil Erosion and Sediment Control in New Jersey, Design of Roadside Channels, Hydraulic Design Series No. 4, Department of Transportation, Federal Highway Administration, or in Design Charts for Open Channel Flow, United States Department of Commerce, Bureau of Public Records.
 - (d) Ends of pipes starting or terminating in an open channel shall have reinforced concrete headwalls or flared end sections.
 - (e) Storm sewer structures shall be placed where lines change alignment, grade or size or are joined by other lines. In addition, storm sewer structures shall be placed not more than 300 feet apart. Inlets shall be located to prevent gutter flow from crossing street pavement and to prevent runoff accumulations above curbing at all intersections and low points along the roadway. Maximum inlet flow rate shall be based on the capacity of the type of inlet and shall not exceed 6.0 cubic feet per second. All hydraulic structures shall have sufficient depth to prevent overflow due to energy losses or changes in flow regimes.

(3) Bridges and culverts.

- (a) All bridges and culverts shall be designated in accordance with the following publications:
- [1] New Jersey Department of Transportation Design Manual — Bridges and Structures.
 - [2] United States Department of Transportation.
- (b) All bridges and culverts shall meet the requirements and procedures set forth in the Manual.
- (4) Responsibility for operation, maintenance and repair of detention facilities installed, including periodic removal and disposal of accumulated particulates and debris, mowing of grass, and mosquito control, shall remain with the owner or owners of the property; permanent arrangements satisfactory to the Borough Engineer and the Borough Attorney shall be made to pass the responsibility to successors in title. These arrangements shall designate for each project the property owner, governmental agency, or other legally established entity to be permanently responsible for operation, maintenance and repair, hereinafter in this section referred to as the "responsible person."
- (5) Prior to granting approval to any project subject to review under this article, the applicant shall enter into an agreement with the municipal agency to ensure the continued operation and maintenance of the detention facility. This agreement shall be in a form satisfactory to the Municipal Attorney and may include, but may not necessarily be limited to, personal guarantees, deed restrictions, covenants, and bonds. In cases where property is subdivided and sold separately, a homeowners' association or similar permanent entity should be established as the responsible entity, absent an agreement by a governmental agency to assume responsibility.
- (6) A schedule of maintenance inspections shall be developed and followed by the owner subject to the approval of the Borough Engineer. In the event that the detention facility becomes a danger to public safety or public health, or if it is in need of maintenance, the municipal agency shall so notify in writing the responsible person. From that notice, the responsible person shall have 14 days to effect such maintenance and repair of the facility in a manner that is approved by the Borough Engineer or his designee. If the responsible person fails or refuses to perform such maintenance and repair, the municipality may immediately proceed to do so and shall bill the cost thereof to the responsible person in accordance with the provisions of the developer's agreement.
- (7) In instances where the provision of separate detention facilities for a number of single sites is technically and economically prohibitive and more difficult to maintain than provision of joint facilities for a number of sites, the municipal agency will be willing to consider provision of joint and/or master detention facilities which will fulfill the requirements of this article. Where these detention facilities may have to be located outside the property limits of the site, they will be considered as off-site drainage detention facilities and shall comply with criteria outlined in § 24-11 of this article. In such cases, a properly planned staged program for the facilities may be approved by the municipal agency in which compliance with some requirements may be postponed at early stages while preliminary phases are being undertaken and construction fund accumulated.
- (8) Detention facilities in special flood hazard areas and flood hazard areas as established in § 24-3 or flood hazard areas as determined by the State of New Jersey Department of Environmental Protection under provisions of the Act shall comply with the following:
- (a) Whenever practical, developments and their stormwater detention facilities should be beyond the extent of the flood hazard area of a stream. When that is not feasible and detention facilities are proposed to be located partially or wholly within the flood hazard area, or other areas which are frequently flooded, some storm conditions will make the

facility ineffective at providing retention of site runoff. This will happen if the stream is already overflowing its banks and the detention basin, causing the basin to be filled prior to the time it is needed. In such cases the standards established in these regulations will be modified in order to give only partial credit to detention capacities located within a flood hazard area. The credit will vary in a ratio intended to reflect the probability that storage in a detention basin will be available at the time a storm occurs at the site.

- (b) Detention storage provided below the elevation of the edge of the flood hazard area will be credited as effective storage at a reduced proportion as indicated in the table below:

Size of Drainage Area*

Elevation	Reduced Net Credit/Value		
	Less than 5 Miles	5 to 100 Miles	Square Greater than 100 Square Miles
Less than 2 feet below	40%	65%	90%
Between 2 feet and 4 feet below	25%	50%	75%
Over 4 feet below	10%	25%	50%

* Area contributing floodwaters to the flood hazard area at the site in question.

- (c) This effective detention will be required to provide for drainage of the developed land in accordance with the criteria already established in these regulations.
- (d) However, the gross storage considered for crediting will not exceed that which would be filled by runoff of a one-hundred-year storm from the site.

§ 24-4 Stormwater management requirements for major development.

A. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with § 24-10.

B. 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 13:1B-15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlenbergi* (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Subsections **P, Q** and **R**:

- (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.

D. A waiver from strict compliance from the green infrastructure, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of Subsections **O, P, Q** and **R** 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 alternative analysis, that through the use of nonstructural and structural stormwater management strategies and measures, the option selected complies with the requirements of Subsections **O**, **P**, **Q**, and **R** to the maximum extent practicable;
 - (3) The applicant demonstrates that, in order to meet the requirements of Subsections **O**, **P**, **Q**, and **R**, 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 Subsection **D(3)** above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Subsections **O**, **P**, **Q**, and **R** that were not achievable on site.
- E. Tables 1 through 3 below summarize the ability of stormwater best management practices identified and described in the New Jersey Stormwater Best Management Practices Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified in Subsections **O**, **P**, **Q** and **R**. When designed in accordance with the most current version of the New Jersey Stormwater Best Management Practices Manual, the stormwater management measures found at N.J.A.C. 7:8-5.2 (f) Tables 5-1, 5-2 and 5-3 and listed below in Tables 1, 2 and 3 are presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. Upon amendments of the New Jersey Stormwater Best Management Practices to reflect additions or deletions of BMPs meeting these standards, or changes in the presumed performance of BMPs designed in accordance with the New Jersey Stormwater BMP Manual, the Department shall publish in the New Jersey Registers a notice of administrative change revising the applicable table. The most current version of the BMP Manual can be found on the Department’s website at: https://njstormwater.org/bmp_manual2.htm.
- F. Where the BMP tables in the NJ Stormwater Management Rule are different due to updates or amendments with the tables in this ordinance the BMP Tables in the Stormwater Management rule at N.J.A.C. 7:8-5.2(f) shall take precedence.

Table 1 Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity				
Best 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	80	Yes	Yes	2
Vegetative Filter Strip	60-80	No	No	--

(Notes corresponding to annotations ^(a) through ^(g) are found below Table 3)

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

(Notes corresponding to annotations ^(b) through ^(d) are found below Table 3)

Table 3 BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity only with a Waiver or Variance from N.J.A.C. 7:8-5.3				
Best Management Practice	Stormwater Runoff Quality (SS Removal Rate (percent))	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High Water Table (feet)
Blue Roof	0	Yes	No	N/A
Extended Detention Basin	40-60	Yes	No	1
Manufactured Treatment Device ^(h)	50 or 80	No	No	Dependent upon the device
Sand Filter ^(c)	80	Yes	No	1
Subsurface Gravel Wetland	90	No	No	1
Wet Pond	50-90	Yes	No	N/A

Notes to Tables 1, 2, and 3:

- (a) subject to the applicable contributory drainage area limitation specified at Subsection **O(2)**;
- (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 **§24-2**;
- (h) manufactured treatment devices that do not meet the definition of green infrastructure at **§24-2**.

- 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 municipality. A copy of any approved alternative stormwater management measure, alternative removal rate, and/or alternative method to

calculate the removal rate shall be provided to the Department in accordance with §24-7B. Alternative stormwater management measures may be used to satisfy the requirements at §24-4O only if the measures meet the definition of green infrastructure at §24-2. Alternative stormwater management measures that function in a similar manner to a BMP listed at §24-4O(2) are subject to the contributory drainage area limitation specified at §24-4O(2) 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 §24-4O(2) 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 §24-4D is granted from §24-4O.

- 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 §24-8B;
 - (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 BMPs shall be designed to meet the minimum safety standards for stormwater management BMPs at §24-8; and
 - (5) The size of the orifice at the intake to the outlet from the stormwater management BMP 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 §24-2 may be used only under the circumstances described at §24-40(4)

- K. Any application for a new agricultural development that meets the definition of major development at §24-2 shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at §24-40, P, Q and R and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this subsection, "agricultural development" means land uses normally associated with the production of food, fiber, and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.
- L. If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at §24-40, P, Q and R 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 the municipal stormwater management plan or ordinance shall be reflected in a deed notice recorded in the Morris County Clerk's Office. A form of deed notice shall be submitted to the municipality for approval prior to filing. The deed notice shall contain a description of the stormwater management measure(s) used to meet the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at §24-40, P, Q and R and shall identify the location of the stormwater management measure(s) in NAD 1983 State Plane New Jersey FIPS 2900 US Feet or Latitude and Longitude in decimal degrees. The deed notice shall also reference the maintenance plan required to be recorded upon the deed pursuant to §24-10B(4). Prior to the commencement of construction, proof that the above required deed notice has been filed shall be submitted to the municipality. Proof that the required information has been recorded on the deed shall be in the form of either a copy of the complete recorded document or a receipt from the clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the municipality is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the municipality within 180 calendar days of the authorization granted by the municipality.
- N. A stormwater management measure approved under the municipal stormwater management plan or ordinance may be altered or replaced with the approval of the municipality, if the municipality determines that the proposed alteration or replacement meets the design and performance standards pursuant to §24-4 of this ordinance and provides the same level of stormwater management as the previously approved stormwater management measure that is being altered or replaced. If an alteration or replacement is approved, a revised deed notice shall be submitted to the municipality for approval and subsequently recorded with the Morris County Clerk's Office 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 municipality in accordance with M above.
- O. Green Infrastructure Standards
 - (1) This subsection specifies the types of green infrastructure BMPs that may be used to satisfy

the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.

- (2) To satisfy the groundwater recharge and stormwater runoff quality standards at **§24-4P and Q**, the design engineer shall utilize green infrastructure BMPs identified in Table 1 **§24-4F** and/or an alternative stormwater management measure approved in accordance with **§24-4G**. The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

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

- (3) To satisfy the stormwater runoff quantity standards at **§24-4R**, the design engineer shall utilize BMPs from Table 1 or from Table 2 and/or an alternative stormwater management measure approved in accordance with **§24-4G**.
- (4) If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with **§24-4D** is granted from the requirements of this subsection, then BMPs from Table 1, 2, or 3, and/or an alternative stormwater management measure approved in accordance with **§24-4G** may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at **§24-4P, Q and R**.
- (5) For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this subsection shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right-of-way or easement held or controlled by the government agency or utility; the entity shall not be required to obtain additional property or property rights to fully satisfy the requirements of this subsection. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this subsection, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at **§24-4P, Q and R**, unless the project is granted a waiver from strict compliance in accordance with **§24-4D**.

P. Groundwater Recharge Standards

- (1) This subsection contains the minimum design and performance standards for groundwater recharge as follows:
- (2) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at **§24-5**, either:
- (a) 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

- (b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.
- (3) This groundwater recharge requirement does not apply to projects within the “urban redevelopment area,” or to projects subject to (4) below.
- (4) The following types of stormwater shall not be recharged:
 - (a) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than “reportable quantities” as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and
 - (b) Industrial stormwater exposed to “source material.” “Source material” means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

Q. Stormwater Runoff Quality Standards

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

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

Table 4 - Water Quality Design Storm Distribution

Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)
1	0.00166	41	0.1728	81	1.0906
2	0.00332	42	0.1796	82	1.0972
3	0.00498	43	0.1864	83	1.1038
4	0.00664	44	0.1932	84	1.1104
5	0.00830	45	0.2000	85	1.1170
6	0.00996	46	0.2117	86	1.1236
7	0.01162	47	0.2233	87	1.1302
8	0.01328	48	0.2350	88	1.1368
9	0.01494	49	0.2466	89	1.1434
10	0.01660	50	0.2583	90	1.1500
11	0.01828	51	0.2783	91	1.1550
12	0.01996	52	0.2983	92	1.1600
13	0.02164	53	0.3183	93	1.1650
14	0.02332	54	0.3383	94	1.1700
15	0.02500	55	0.3583	95	1.1750
16	0.03000	56	0.4116	96	1.1800
17	0.03500	57	0.4650	97	1.1850

18	0.04000	58	0.5183	98	1.1900
19	0.04500	59	0.5717	99	1.1950
20	0.05000	60	0.6250	100	1.2000
21	0.05500	61	0.6783	101	1.2050
22	0.06000	62	0.7317	102	1.2100
23	0.06500	63	0.7850	103	1.2150
24	0.07000	64	0.8384	104	1.2200
25	0.07500	65	0.8917	105	1.2250
26	0.08000	66	0.9117	106	1.2267
27	0.08500	67	0.9317	107	1.2284
28	0.09000	68	0.9517	108	1.2300
29	0.09500	69	0.9717	109	1.2317
30	0.10000	70	0.9917	110	1.2334
31	0.10660	71	1.0034	111	1.2351
32	0.11320	72	1.0150	112	1.2367
33	0.11980	73	1.0267	113	1.2384
34	0.12640	74	1.0383	114	1.2400
35	0.13300	75	1.0500	115	1.2417
36	0.13960	76	1.0568	116	1.2434
37	0.14620	77	1.0636	117	1.2450
38	0.15280	78	1.0704	118	1.2467
39	0.15940	79	1.0772	119	1.2483
40	0.16600	80	1.0840	120	1.2500

(5) 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:

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

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.

- (6) 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 **§24-4P, Q and R**.
- (7) 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.
- (8) 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.
- (9) Pursuant to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.2(j)3.i, runoff from the water quality design storm that is discharged within a 300-foot riparian zone shall be treated in accordance with this subsection 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.
- (10) This stormwater runoff quality standards do not apply to the construction of one individual single-family dwelling, provided that it 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.

R. Stormwater Runoff Quantity Standards

- (1) This subsection contains the minimum design and performance standards to control stormwater runoff quantity impacts of major development.
- (2) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at **§24-5**, complete one of the following:
 - (a) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the 2-, 10-, and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;
 - (b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the 2-, 10- and 100-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area; or
 - (c) Design stormwater management measures so that the post-construction peak runoff rates for the 2-, 10- and 100-year storm events 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;

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

§ 24-5 **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 one of the following methods:

- (a) 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; or

- (b) The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)3. The location, address, and telephone number for each Soil Conservation District is available from the State Soil Conservation Committee, PO Box 330, Trenton, New Jersey 08625. The document is also available at:

<http://www.nj.gov/agriculture/divisions/anr/pdf/2014NJSoilErosionControlStandardsComplete.pdf>

- (2) For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the pre-construction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology at Subsection **A(1)(a)** and the Rational and Modified Rational Methods at Subsection **A(1)(b)**. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. 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, and other methods may be employed.

- (5) If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

- B. Groundwater recharge may be calculated in accordance with the following: the New Jersey Geological Survey Report GSR-32, A Method for Evaluating Groundwater Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices Manual; at the New Jersey Geological Survey website at:

<https://www.nj.gov/dep/njgs/pricelst/greport/gsr32.pdf>

or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

§ 24-6 Solids and Floatable Material Standards

- A. Site design features identified under **§24-4F** above, or alternative designs in accordance with **§24-4G** above, to prevent discharge of trash and debris from drainage systems shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, “solid and floatable materials” means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see **§24-6A(2)** below.

- (1) Design engineers shall use one of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:

- (a) The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines; or

- (b) A different grate, if each individual clear space in that grate has an area of no more than seven (7.0) square inches, or is no greater than 0.5 inches across the smallest dimension. Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater system floors used to collect stormwater from the surface into a storm drain or surface water body.

- (c) For curb-opening inlets, including curb-opening inlets in combination inlets, the clear space in that curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven (7.0) square inches, or be no greater than two (2.0) inches across the smallest dimension.

- (2) The standard in **A(1)** above does not apply:

- (a) Where each individual clear space in the curb opening in existing curb-opening inlet does not have an area of more than nine (9.0) square inches;

- (b) Where the municipality agrees that the standards would cause inadequate hydraulic

performance that could not practicably be overcome by using additional or larger storm drain inlets;

- (c) Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end of pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

- [1] A rectangular space four and five-eighths (4.625) inches long and one and one-half (1.5) inches wide (this option does not apply for outfall netting facilities); or
- [2] A bar screen having a bar spacing of 0.5 inches.

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

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

§ 24-7 Sources for technical guidance.

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

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

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

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

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

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

§ 24-8 Safety standards for stormwater management basins.

- A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management BMPs. This section applies to any new stormwater management BMP. [Note: The provisions of this section are not intended to preempt more stringent municipal or county safety requirements for new or existing stormwater management BMPs. 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 Subsection **B(1)**, **(2)** and **(3)** for trash racks, overflow grates, and escape provisions at outlet structures.]
- B. Requirements for trash racks, overflow grates and escape provisions.

- (1) 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 BMP to ensure proper functioning of the basin outlets in accordance with the following:
 - (a) The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars.
 - (b) The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.
 - (c) 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.
 - (d) The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.
- (2) An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:
 - (a) The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.
 - (b) The overflow grate spacing shall be no less than two inches across the smallest dimension.
 - (c) The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.
- (3) For purposes of this Subsection **B(3)**, "escape provisions" means the permanent installation of ladders, steps, rungs or other features that provide easily accessible means of egress from stormwater management BMPs. Stormwater management BMPs shall include escape provisions as follows:
 - (a) If a stormwater management BMP has an outlet structure, escape provisions shall be incorporated in or on the structure. With the prior approval of the reviewing agency identified in Subsection **C**, a freestanding outlet structure may be exempted from this requirement.
 - (b) Safety ledges shall be constructed on the slopes of all new stormwater management BMPs having a permanent pool of water deeper than 2 1/2 feet. Such safety ledges shall be comprised of two steps. Each step shall be four feet to six feet in width. One step shall be located approximately 2 1/2 feet below the permanent water surface, and the second step shall be located one to 1 1/2 feet above the permanent water surface. See Subsection **D** for an illustration of safety ledges in a stormwater management basin.
 - (c) In new stormwater management BMPs, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontal to one vertical.
- C. Variance or exemption from safety standards. A variance or exemption from the safety standards for stormwater management BMPs may be granted only upon a written finding by the appropriate reviewing agency (municipality, county or Department) that the variance or exemption will not constitute a threat to public safety.

D. Illustration of safety ledges in a new stormwater management BMP.

[Image]

§ 24-9 Requirements for site development stormwater plan.

A. Submission of site development stormwater plan.

- (1) Whenever an applicant seeks municipal approval of a development subject to this article, the applicant shall submit all of the required components of the checklist for the site development stormwater plan at Subsection C below as part of the submission applicant's application for subdivision or site plan approval.
- (2) The applicant shall demonstrate that the project meets the standards set forth in this article.
- (3) The applicant shall submit 15 copies of the materials listed in the checklist for site development stormwater plans in accordance with Subsection C of this section.

B. Site development stormwater plan approval. The applicant's site development project shall be reviewed as a part of the subdivision or site plan review process by the municipal board or official from whom municipal approval is sought. That municipal agency or official shall consult the engineer retained by the planning and/or zoning board (as appropriate) to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this article.

C. Checklist requirements. The following information shall be required:

- (1) Topographic base map. The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale of one inch equals 200 feet or greater, showing two-foot contour intervals. The map as appropriate may indicate the following: existing surface water drainage, shorelines, steep slopes, soils, erodible soils, perennial or intermittent streams that drain into or upstream of the Category One waters, wetlands and floodplains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing man-made structures, roads, bearing and distances of property lines, and significant natural and man-made features not otherwise shown.
- (2) Environmental site analysis. A written and graphic description of the natural and man-made features of the site and its environs. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.
- (3) Project description and site plan(s). A map (or maps) at the scale of the topographical base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations occur in the natural terrain and cover, including lawns and other landscaping, and seasonable high groundwater elevations. A written description of the site plan and justification of proposed changes in natural conditions may also be provided.
- (4) Land use planning and source control plan. This plan shall provide a demonstration of how the goals and standards of §§ 24-3 through 24-6 are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source

by land management and source controls whenever possible.

- (5) Stormwater management facilities map. The following information, illustrated on a map of the same scale as the topographic base map, shall be included:
 - (a) Total area to be paved or built upon, proposed surface contours, land areas to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.
 - (b) Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway.
- (6) Calculations.
 - (a) Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in § 24-4 of this article.
 - (b) When the proposed stormwater management control measures depend on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.
- (7) Maintenance and repair plan. The design and planning of the stormwater management facility shall meet the maintenance requirements of § 24-10.
- D. Waiver from submission requirements. The municipal official or board reviewing an application under this article may, in conjunction with the Municipal Engineer, waive submission of any of the requirements in Subsection C(1) through (6) of this section when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

§ 24-10 Maintenance and repair.

- A. Applicability. Projects subject to review as in § 24-3B of this article shall comply with the requirements of Subsections B and C of this section.
- B. General maintenance. **[Amended 2-18-2020 by Ord. No. 2-20, effective 3-9-2020]**
 - (1) The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.
 - (2) Maintenance plans.
 - (a) 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.

- (b) Stormwater facilities shall be constantly maintained by the owner or association to assure continual functioning of the system at design capacity and to prevent the health hazards associated with debris buildup and stagnant water. Maintenance responsibilities, inspection schedules and tasks will be clearly shown in the proposed plan. In no case shall water be allowed to remain in any facility long enough to trigger a mosquito breeding disease or cause any other type of health problem. The maintenance plan must include inspection routines to reduce the potential for extensive, difficult, and costly remedial or emergency maintenance efforts, including inspection checklists. Inspection checklists may address, but not be limited to such items as:
- [1] Obstruction of inlet or outlet devices by trash and debris, trash rack inspection;
 - [2] Evidence of erosion, loss of vegetation, sedimentation or instability;
 - [3] Malfunctioning of valves, gates, locks, access hatches or equipment;
 - [4] Deteriorated conduit outlet protection (riprap) or seepage around outlet;
 - [5] Cracks or other deterioration of inlets, outlets, pipes, and conduits;
 - [6] Inadequate basin draining, clearing or clogging of control devices;
 - [7] Trimming, cutting or mowing of vegetation as required;
 - [8] Erosion and debris in emergency spillways and/or filter strips;
 - [9] Deterioration of downstream channels/conduits;
 - [10] Invasive or noxious weeds out of character with those specified;
 - [11] Saturated conditions or standing water;
 - [12] Animal burrowing;
 - [13] Vandalism or other nonspecified occurrences; and
 - [14] Accumulation of sediment inspection and removal schedule.
- (3) Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project.
- (4) If the person responsible for maintenance identified under Subsection **B(2)** above is not a public agency, the maintenance plan and any future revisions based on Subsection **B(7)** below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.
- (5) 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.
- (6) The person responsible for maintenance identified under Subsection **B(2)** 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.

- (7) The person responsible for maintenance identified under Subsection **B(2)** above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.
 - (8) The person responsible for maintenance identified under Subsection **B(2)** 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 Subsection **B(6)** and **(7)** above. Beginning on January 31, 2019, persons responsible for maintenance under Subsection **B(2)** above shall make annual submissions to the municipality, by January 31, containing excerpts of the detailed log of all preventative and corrective maintenance that was performed for the calendar year that just ended for all structural stormwater measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.
 - (9) The requirements of Subsection **B(3)** and **(4)** do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency. Where this chapter requires the facility to be dedicated to the municipality, certain aspects of the maintenance and repair plan may be deleted, but otherwise should require the posting of a two-year maintenance guarantee in accordance with N.J.S.A. 40:55D-53. Guidelines for developing a maintenance and inspection program are provided in the New Jersey Stormwater Best Management Practices Manual and the NJDEP Ocean County Demonstration Study, Stormwater Management Facilities Maintenance Manual, dated June 1989, available from the NJDEP, Watershed Management Program.
 - (10) In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have 14 days to effect maintenance and repair of the facility in a manner that is approved by the Municipal Engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or county may immediately proceed to do so and shall bill the cost thereof to the responsible person.
- C. 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.

§ 24-11 Off-site and off-track drainage facilities.

For purposes of this section, the definition of "off-site" shall also include "off-track."

A. Off-site drainage facilities requisites.

- (1) As a condition for final approval of any development proposal or proposal prior to the issuance of any development permit for any land use, including any residence or other use of property, the developer or applicant shall be required to:
 - (a) Pay a base amount to an off-site drainage improvement fund or a stormwater management trust account to compensate for the increased runoff volume of water for the one-hundred-year storm that will flow directly from the site as a result of changing from undeveloped to developed condition. This base amount will be determined by criteria established herein and will be mandatory.
 - (b) Pay in addition to the base amount in Subsection **A(1)(a)** his pro rata share of cost of

providing any reasonable and necessary drainage facilities, and easements therefor, located outside the property limits of the development but necessitated or required by construction or improvements within such development. The pro rata share of such improvements and facilities that shall be borne by each developer within a related or common drainage basin area shall be based on criteria established herein.

- (2) In certain situations, on-site detention may be ineffective either due to the configuration of the site or the location of the site with respect to a regional detention facility. In lieu of providing on-site detention, the developer may, at the directive of the Planning Board and upon the recommendation of the Borough Engineer, contribute additional moneys toward the regional facility in addition to the base amount. The developer would then be compensating the Borough for the increase in runoff volume as well as for the increase in the rate of runoff from the site. The amount of this additional contribution shall be based on criteria established herein.
 - (3) In many cases, developers will not be able to design on-site detention facilities for sites located in flood-fringe areas that will meet the requirements of this article. In these cases, the developers should use the site and/or other approved areas to satisfy the zero net fill requirements and contribute toward the Borough's regional facilities for both the increase in rate of runoff and for the increase to the volume of runoff. It should be noted that the pre- and post-development peak flows should be computed without regard to the flooding that takes place.
 - (4) In addition, the developer gains the use of the land that would otherwise have been dedicated to an on-site detention facility. To compensate for this gain, the developer will make an in lieu payment to the Borough to be applied to the regional drainage facilities. The amount to be paid will be calculated as follows:
 - (a) The applicant will approximate the size of the basin that would have been required were on-site detention to be utilized. This will be reviewed by the Borough Engineer.
 - (b) Based upon the above computations, the applicant will estimate the cost of constructing the basin. The applicant will further determine the acreage that would have been required for the basin and determine the associated value of the land as assessed in a developed condition. This will be reviewed by the Borough Engineer.
 - (5) Total in lieu payment.
 - (a) The total in lieu payment will then be the total of the following:
 - [1] The payment for the increased volume of runoff from the site as calculated in Subsection **A(1)(a)**; plus
 - [2] The cost for constructing an equivalent on-site and/or off-site facility that would have controlled peak flow [Subsection **A(1)(b)** and **(4)**]; plus
 - [3] The value of the land that would have been dedicated to the detention basin that the developer may now utilize for the project.
 - (b) The total in lieu payment as calculated above {sum of Subsection **A(5)(a)[1]**, **[2]** and **[3]**} may not exceed the applicant's fair share contribution toward the total improvement cost of the regional detention basin, including site acquisition, design, construction and maintenance.
- B. Determination of off-site drainage facilities requirements.

- (1) The decision regarding what, if any, off-site drainage improvements are to be required of a developer shall be made by the municipal agency.
- (2) This decision will be made upon analysis and review of the stormwater control plan proposal submitted by the developer's engineer. The municipal agency will also, prior to the imposition of any conditions on an applicant for development, determine whether the off-site drainage improvements are to be constructed by the Borough or the developer. Once the foregoing determination has been made, the municipal agency shall estimate, with the aid of the Borough Engineer and other such persons having pertinent information or expertise:
 - (a) The cost of the improvement; and
 - (b) The amount by which all properties within a related or common drainage area will be specifically benefited therefrom.
- (3) The developer's pro rata share of the cost of off-site drainage improvements shall be based on the impact of the proposed development on existing drainage facilities and computed based on unit costs at the time of such granting of final approval of the development proposal. The amounts of money required pursuant to this section shall be estimated sums and such amounts shall be redetermined by the Borough following the completion of the improvement to ensure that the developer shall pay only his appropriate share of the cost thereof.

C. Off-site drainage facilities criteria.

- (1) The capacity and design of the drainage system required to control and convey stormwater runoff from the proposed development to a point of positive discharge shall be based on methods and standards consistent with other sections of this article. Calculations, plans and cost estimates shall be provided by the applicant's engineer and approved by the Borough Engineer.
- (2) The applicant shall be required to pay a mandatory base amount on a per cubic foot of volume basis for any site which does not provide an adequate storage system to permanently handle the increased one-hundred-year storm runoff volume. This is necessary because of the following findings:
 - (a) The majority of the land area within the corporate limits of the Borough of Lincoln Park lies within the special flood hazard area and floodplain as defined in flood insurance studies for the Borough and is subject to recurrent flooding from its rivers and streams.
 - (b) The natural watercourse, depression storage areas and existing drainage facilities within the drainage basins of the Borough of Lincoln Park are inadequate and do not possess sufficient flood storage or flood-carrying capacity to safely pass floodwaters without endangering life and causing damage to public and private property.
 - (c) All development of land which adds impervious surface area will contribute additional runoff volume from a site than it did prior to development.
 - (d) Additional storage volume can be provided by constructing master detention basins and other storage system improvements where practical to handle the additional volumes that will run off sites which change from undeveloped to developed conditions.
 - (e) It is in the public interest that these master detention basin facilities be part of the Borough's stormwater management plan, installed and maintained by the Borough, and assessed by the municipality as local improvements to be paid for by all properties contributing additional

runoff volume.

- (3) The applicant shall be required to pay a pro rata share of the off-site drainage improvements, including the installation, relocation or replacement of storm drains, culverts, catch basins, manholes, riprap or improved drainage ditches, detention or retention basins and appurtenances thereto and installation, relocation and replacement of other storm facilities or appurtenances associated therewith. The pro rata share shall be determined with consideration given to the following:
 - (a) The relationship between the acreage of the developer's property and the acreage in the total drainage basin.
 - (b) The specific nature of the proposed development, the amount of areas to be covered by impervious surfaces and the amount of stormwater runoff to be controlled and conveyed from the development.
 - (c) The existing and projected use based on zoning as defined in the Borough Master Plan of the remaining area in the drainage basin.
- D. Developer's share of cost for off-site drainage facilities.
- (1) If it is determined that the developer will contribute additional runoff volume from the site, then the developer will be required to pay a base amount pursuant to Subsection **A(1)(a)** herein.
 - (2) If it is determined that the developer shall be required to construct and/or be responsible for the construction of the entire off-site drainage facility, then the developer's share is an amount equal to the estimated cost of the drainage improvement.
 - (3) In the event that the developer shall not be required to construct and/or not be responsible for the construction of the entire off-site improvement, but it is determined that such improvements are necessary, then there shall be paid to the Borough Treasurer the amount of the developer's share, pursuant to Subsection **E** herein, of the finally determined cost of the off-site improvements.
 - (4) If an off-site drainage improvement or improvements are necessitated or required by a proposed development application and it is determined that properties outside of the development will also be benefited by the improvement and the developer shall construct at his own cost and expense the necessary improvement(s), pursuant to the resolution of the municipal agency granting development approval, then the cost of such improvement shall be credited against the developer's pro rata share of the cost of off-site drainage improvements as otherwise determined in accordance with Subsection **E** herein. The amount of such credit shall be determined by the Borough Engineer after review of information submitted by the developer's engineer setting forth the cost of such construction.
 - (5) In instances where separate detention facilities for a single site or for a number of single sites are technically and/or economically prohibitive and the runoff requirements from the site cannot be fulfilled, the municipal agency will be willing to consider accommodation of the additional runoff from the site within joint or master detention facilities outside the property limits of the site. The developer's share or contribution to these master detention basins shall be as in Subsection **D(1), (2), (3)** and **(4)** above. However, adequate technical justification shall be provided and shall meet the provisions set forth in § **24-4** of this article.

E. Off-site drainage facilities formula.

(1) The developer's base amount for any storage system improvement to compensate for increased runoff volume due to the addition of impervious surface shall be determined by the following formula: developer's base cost minus current cost per cubic foot of regional facility storage volume times the increase in the one-hundred-year runoff volume.

(2) The developer's pro rata share for any proposed off-site drainage facilities improvements shall be determined by formula as follows:

(a) Bridges and culvert structures.

$$\text{Developer's share of cost} = \frac{\text{(development's CFS)}}{\text{(total structure CFS**)}} \times \text{(total improvement cost*)}$$

(b) Culverts, pipes and other drainage conduit.

$$\text{Developer's share of cost} = \frac{\text{(development's CFS)}}{\text{(total conduit CFS**)}} \times \text{(total improvement cost*)}$$

(c) Detention facilities.

$$\text{Developer's share of cost} = \frac{\text{(developer's required storage volume)}}{\text{(total facilities storage volume)}} \times \text{(total improvement cost*)}$$

(d) Channel and ditches.

$$\text{Developer's share of cost} = \frac{\text{(development's area)}}{\text{(total subbasin drainage area)}} \times \text{(total improvement cost*)}$$

* Improvement cost to consist of design, construction and maintenance costs. Maintenance cost to be estimated as the present worth of an annual series cost at the prevailing interest rate over the useful life of the improvements, which for the purposes of applying this formula will be 20 years.

** From stormwater master plan based on the ultimate future development plans.

F. Method of payment and off-site drainage facilities account.

(1) The developer's pro rata share of the cost of an off-tract improvement or improvements shall, as a condition of final development plan approval, and as set forth in that approval, be deposited and paid in the following manner:

(a) Fifty percent of the applicant's share of the aforesaid cost shall be paid at the time of issuance of the final development permit and the remaining 50% of the applicant's share shall be paid at the time of issuance of the certificate of occupancy for the development.

(b) If the development approval provides for construction in stages and separate application for final approval for each stage, the applicant may elect to have the provisions of Subsection **F(1)(a)** hereof apply separately to each stage of the development. In such event, the total cost of improvements shall be allocated among such stages based on the estimated cost of each such stage as it bears to the total estimated cost of development.

(c) The developer shall, at the time of the issuance of the development permit, post adequate security in an amount equal to the difference between the initial payment of the applicant

hereunder and the total amount of the applicant's share of the aforesaid cost.

- (2) Any moneys paid to the Borough Treasurer, pursuant to this section, shall be aggregated into an off-tract drainage improvement fund, or in a separate stormwater management trust account, which shall be dedicated and used for the improvements for which they are deposited, or stormwater management facilities improvements, as planned by the Borough of Lincoln Park, within the stormwater management area.
- (3) The applicant and the Borough shall enter into a developer's agreement. Said agreement shall stipulate the amount and method of payment of the applicant's share of costs for off-tract improvements, which costs shall be determined pursuant to the provisions of this section. If the Borough fails to initiate the improvements for a period of 15 years from the date the developer's agreement is signed, or other mutually agreeable period of time, all deposited funds shall be returned to the developer, together with accumulated interest.

§ 24-12 Development within special flood hazard areas or flood hazard area.

All development in special flood hazard areas and the floodplain must be in compliance with applicable regulations under the Flood Hazard Area Control Act, N.J.S.A. 58:16A-50 et seq.

A. Development permit. Any development permit shall be obtained before construction or development of any property begins within any special flood hazard area or flood hazard area established in § 24-3D. Application for a development permit shall be made on forms furnished by the municipal agency and may include, but not be limited to, plans in duplicate drawn to scale showing the nature, location, dimensions and elevations of the area in question, existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) Elevation in relation to mean sea level (National Geodetic Vertical Datum) of the lowest floor within any proposed structure (including basement) after its completion.
- (2) Elevation in relation to mean sea level to which any structure has been floodproofed.
- (3) Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in § 24-13.
- (4) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
- (5) The base flood elevation.
- (6) Proof of stream encroachment line approved by the New Jersey Department of Environmental Protection, where applicable.
- (7) The extent of filling of land for all new residential construction and/or substantial improvement of any residential structure, if any, and proof that the net fill volume is equal to or less than 10% pursuant to fill requirements outlined in § 24-13 of this article.
- (8) The extent of filling of land for all new nonresidential construction and/or substantial improvement of any nonresidential structure, if any, and proof that the net fill volume is equal to or less than 10% pursuant to fill requirements outlined in § 24-13 of this article.
- (9) The applicant shall submit proof that:
 - (a) Proposed structures are designed and adequately anchored to prevent flotation, collapse or lateral movement.

- (b) Materials and utility equipment used are resistant to flood damage.
 - (c) Construction utilizes methods and practices that minimize flood damage.
 - (d) Subdivision proposals are consistent with the need to minimize flood damage in flood-prone areas.
 - (e) All public utilities and facilities, such as sewer, gas, electrical and water systems, are designed, constructed, and located to prevent, minimize or eliminate flood damage or infiltration.
 - (f) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
 - (g) The fill to be placed on any project site is counterbalanced by corresponding excavation within the flood-fringe area of Lincoln Park Borough pursuant to § **24-13** of this article.
- (10) The developer shall furnish information relating to subsurface conditions based on percolation tests and soil borings. Test borings and percolation tests shall be in accordance with acceptable engineering standards and practices. A detailed report of the test shall be submitted to the Planning Board and the Borough Engineer for review.
- B. Other permits. No person or persons shall engage in a permitted use within a designated floodplain or flood hazard area until all necessary permits have been obtained from those governmental agencies from which approval is required.
- C. Conditions.
- (1) The Planning Board may impose such conditions on permitted uses as it deems appropriate to promote the public safety, health, and welfare, to protect public and private property, wildlife and fisheries, and to preserve, protect and enhance the natural environment of the floodplain. No certificate of occupancy shall be issued unless all conditions of approval have been complied with.
 - (2) It is understood to be a condition of any approval which is or has been granted for a development application for property which is subject to the stormwater control provisions of this article that it shall be the responsibility of the owner of such property, and the heirs, successors and assigns of said owner, to maintain, renew and/or reconstruct any required stormwater control facilities in such a manner that said facility shall continue to effectively perform as originally designed. Such maintenance by the owner shall ensure the continual functioning of the systems at design capacity and prevent the hazards associated with debris buildup and stagnant water. In no case shall water be allowed to remain in any facility long enough to constitute a mosquito breeding, disease, or any other type of problem. If the land or stormwater detention facility or facilities are proposed to be dedicated to the Borough and said dedication is accepted by the municipal agency, the procedures for the construction, dedication and acceptance shall be stipulated in the developer's agreement.
 - (3) The designated agent of the Borough shall have the right to take whatever steps may be reasonably necessary, including entry upon private property upon actual notice to the occupant, to ascertain that stormwater control facilities are effectively performing as originally designed, and if a stormwater control facility is found to be not effectively performing as originally designed, the Borough may, at its option after compliance by the Borough Engineer with the provisions of § **24-13** of this article, take steps to maintain, renew and/or reconstruct said facility and may assess the costs thereof against the property owner if said owner is found by the governing body not to have met the responsibilities

under Subsection C(2).

- (4) Surveys of property which has been developed subject to the stormwater control provisions of this article shall show the location and type of stormwater facilities located on said property.

§ 24-13 Specific floodplain requirements.

A. Preservation of natural land.

- (1) It has been found that natural floodplains display complex intimate relationships among streams, periodic flooding, soils, vegetation, fish and wildlife and that periodic flooding of lowland areas, marshes and swamps adjacent to stream channels produces a rich physical-chemical environment for many living organisms. It is further found that floodplains contain biological communities which are among the most productive of natural systems and perform the following functions essential to the natural environment:

- (a) Passage and storage of storm floodwaters.
- (b) Removal of sediment loads from streams through deposition.
- (c) Replenishment of groundwater supplies through soil infiltration.
- (d) Dissipation of energy of flood flows, thereby reducing downstream destruction.
- (e) Provide areas of recreational and aesthetic pleasure.

- (2) Because of the importance of the natural floodplain as cited above, all natural land within any delineated floodplain, except for land to be developed in accordance with this article, shall be preserved in its natural state and, where possible, developed land within the floodplain shall be restored to its natural state so as to duplicate the natural or undeveloped drainage characteristics in terms of runoff and velocity.

- (3) The Borough of Lincoln Park has determined that only steadfast restrictions on the amount of gross fill allowed in flood areas will result in effective flood hazard protection to accomplish the purposes of this article. This means that areas which may be flooded at some time in the future can only be filled in up to the amount of fill (gross fill) allowed by this article.

- (4) Whenever the alteration or relocation of a watercourse is required, the applicant shall notify the Federal Insurance Administrator, New Jersey Department of Environmental Protection, County of Morris and adjacent communities. The applicant shall assure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.

B. Performance standards. In reviewing any proposed construction or development, the Planning Board shall be reasonably assured upon evidence submitted by the applicant that any structure, when built or altered, can be occupied without peril to the health or safety of the occupant and that the proposed land use:

- (1) Has an inherent low flood damage potential.
- (2) Either acting alone or in combination with existing or future uses, does not obstruct flood flows.
- (3) Does not affect adversely the water-carrying or storage capacity of any channel, floodway, or flood-fringe area.

- (4) Does not increase erosion or the rate of local runoff.
- (5) Does not unduly stress or degrade the natural environment of the floodplain or degrade the quality of surface water or the quality and quantity of groundwater.
- (6) Does not require channel modifications or relocation.
- (7) Utilizes proper planning in the grading and filling of the property to meet fill requirements.

C. Fill requirements.

(1) Requirements for fill under permitted uses.

- (a) Within the flood-fringe area of delineated streams or within the one-hundred-year floodplain but outside of encroachment lines of nondelineated streams, the volume of gross fill and structures to be placed on an applicant's site shall be limited as follows:

[1] For residential construction. The volume of gross fill and structures is limited to no more than 10% of the existing total flood-fringe volume. The flood-fringe volume is the volume between the natural or existing ground surface, whichever is lower, and the level of the flood hazard design elevation along delineated streams or the one-hundred-year storm elevation along nondelineated streams. In addition, the resulting gross fill brought to the site (up to 10% of flood-fringe volume) must be balanced by an equal excavation on site, therefore resulting in a zero net fill.

[2] For nonresidential construction. The volume of gross fill and structures is limited to no more than 10% of the existing total flood-fringe volume. The flood-fringe volume is the volume between the natural or existing ground surface, whichever is lower, and the level of the flood hazard design elevation along delineated streams or the one-hundred-year storm elevation along nondelineated streams. In addition, the resulting gross fill on the site must be balanced by an equal excavation on site, therefore resulting in a zero net fill. Therefore, any gross fill brought to the site (up to 10% of the flood-fringe volume) must be balanced by an equal excavation on the site, therefore resulting in a zero net fill condition.

[3] Fill credits for both residential and nonresidential construction shall be utilized in accordance with this article herein and New Jersey Department of Environmental Protection regulations. Fill credits shall originate from the same watershed. All requests for fill credits shall first be made to the Borough, which shall have the first right of refusal of said request. Upon the Borough's decision on a fill credits request, other sources of fill credits may be sought. **[Added 6-20-2011 by Ord. No. 10-11, effective 7-10-2011]**

(b) It will have to be shown adequately on submitted plans and in calculations that the 10% limit for residential construction is not being exceeded. There shall be no net fill in the floodway or within stream encroachment lines except as provided in N.J.A.C. 7:13-3.1.

(c) All fill shall be graded in a manner so as not to adversely affect overland drainage flows.

(d) Fill shall be placed so that slopes are not steeper than a ratio of two horizontal to one vertical.

(e) Fill shall be compacted and stabilized in accordance with Standards for Soil Erosion and Sediment Control in New Jersey or latest amendment thereto, adopted pursuant to N.J.A.C. 2:90-1.3.

(f) When a stream encroachment permit and development permit have been granted allowing the placement of fill, under the provisions of this article, any subsequent subdivision of the

property shall not have the effect of increasing the total amount of fill allowed to be placed upon the property covered by the previous permit. Additional fill may be placed on the newly divided property only to the extent that the total amount to fill allowed under these rules for the original defined property has not been exceeded.

- (g) A variance from the requirements of this subsection may be granted by the municipal agency, on a case-by-case basis, for federal, state, county or municipal highway or road construction projects, pursuant to N.J.A.C. 7:13-5.4(b) and § **24-15** of this article.
 - (h) The requirements of this subsection are not applicable to flood-control projects approved as flood-control projects by the NJDEP and the municipal agency.
 - (i) Where dikes, levees, flood walls or other structures, not approved as flood-control projects, impede the entry of floodwaters into an enclosed space, the enclosed space shall be considered as solid fill for the purposes of this subsection.
- (2) Additional requirements for fill in the Central Passaic Basin.
- (a) In addition to the requirements of Subsection **C(1)** above, as the streams of Lincoln Park are within the Central Passaic Basin, all fill, beyond the total quantity already present, placed upon an applicant's project site must be counterbalanced by corresponding excavation within the flood-fringe area of the Borough of Lincoln Park.
 - (b) In fulfilling the 0% net fill balance on site, it is recognized that fill is usually placed at higher flood elevations with the compensating cut at lower elevations. This means that the replacement storage is not as effective in controlling flood peaks as the fill it is replacing. In order to correct for this deficiency it is further required that the flood-fringe storage volume under proposed conditions equal or exceed the flood-fringe storage volume under existing conditions for each foot of elevation from the existing ground service to the flood hazard area design flood (FHADF) elevation or the one-hundred-year flood elevation as appropriate. In those situations where the above requirement cannot be met, the applicant may satisfy this section by providing at any elevation on site one cubic foot of compensating storage for each cubic foot of fill placed on the site. **[Amended 2-22-2011 by Ord. No. 1-11, effective 3-14-2011]**
 - (c) This flood storage volume may be available at an appropriate Borough detention pond with the approval of the municipal agency.

[1] Said fill must be taken from between the natural ground surface and the mean low water level of the adjacent stream or the seasonally adjusted high groundwater level, whichever is higher.

[2] A variance from the requirements of this subsection may be granted by the municipal agency, on a case-by-case basis, for federal, state, county or municipal highway or road construction projects, pursuant to N.J.A.C. 7:13-5.4(b) and § **24-15** of this article.

[3] The requirements of this subsection are not applicable to flood-control projects approved as flood-control projects by the NJDEP and the municipal agency.

[4] Where dikes, levees, flood walls or other structures, not approved as flood-control projects, impeded the entry of floodwaters into an enclosed space, the enclosed space shall be considered as solid fill for the purposes of this subsection.

D. Soil erosion and sediment control.

- (1) Soil erosion and sediment control measures are required on all submissions under this

section if such submissions require disturbance of more than 5,000 square feet of the surface area of land within the flood hazard area along delineated streams.

- (2) The latest revised version of the Standards for Soil Erosion and Sediment Control in New Jersey promulgated by the New Jersey State Soil Conservation Committee pursuant to the Soil Erosion and Sediment Control Act of 1975 as amended (N.J.S.A. 4:24-39 et seq.) and N.J.A.C. 2:90-1.3 shall be used in the preparation and submission of development permit applications.

E. Prohibited uses in channels, floodways and flood-fringe areas.

- (1) Channel. Within any channel, structures shall not be erected, enlarged, expanded or externally altered and fill, excavation or other improvements or changes shall not be permitted except in connection with stream improvements or stabilization, which improvements or changes shall have the specific approval of the New Jersey Department of Environmental Protection and the Borough Planning Board. The Morris County Planning Board shall receive copies of all exhibits for its review and approval as required.

- (2) Floodway. Located within areas of special flood hazard are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles, and erosion potential, the following provisions shall apply:

- (a) With any floodway, structures shall not be erected, enlarged, expanded or externally altered and fill, excavation or other improvements or changes shall not be permitted, except in connection with stream improvement or stabilization, which improvement or changes shall have the specific approval of the New Jersey Department of Environmental Protection and the Borough Planning Board. The Morris County Planning Board shall receive copies of all exhibits for its review and approval as required.

- (b) In all flood hazard areas in which base flood elevation data has been provided and no floodway has been designated, the cumulative effect of any development, when combined with all other existing and anticipated development, shall not increase the water surface elevation of the base flood more than 0.2 foot at any point.

- (3) The accepted practices of soil husbandry and farming, as well as recreational uses in the nature of parks, playgrounds, picnic areas, golf courses, and boat landings, shall be permitted in accordance with the issuance of a permit as provided by § 24-12 of this article. No material, equipment or vehicles shall be parked or stored in the floodway even in conjunction with a permitted use.

- (4) Flood-fringe area. Within any flood-fringe area structures other than mobile homes may be constructed, erected, enlarged, expanded, externally altered or modified, and fill, excavation, and other improvements may be permitted in the flood-fringe area after receiving specific approval of the Borough Planning Board for a permitted use and further subject to the conditions set forth in this article.

- F. Upon application for such a permit, the Planning Board shall notify the County Planning Board and the governing bodies and environmental agencies of other municipalities which may be affected by the proposed use. Such notification shall include the name and address of the applicant, the location of the proposed use, an abbreviated description of the proposed use, an announcement as to where and at what times the complete application may be reviewed, and to whom and by what date interested parties may communicate their positions concerning the application and any data that they may have developed in reference to the effects of the proposed use. The Planning Board shall review the application and all

information received under provisions of this article.

G. In reviewing the application and arriving at findings, the Planning Board shall consult with the Borough Engineer and other experts and consider the following criteria in addition to those set forth in Subsection **B**:

- (1) The danger to life and property due to increased flood heights or velocities caused by encroachments.
- (2) The danger that materials may be swept onto other lands or downstream to the injury of others.
- (3) The proposed water supply and sanitation systems and the insulation of these systems from disease, contamination, and unsanitary conditions resulting from flooding.
- (4) The susceptibility of the proposed use to flood damage and the effects of such damage.
- (5) The need for a waterfront location.
- (6) The availability of alternate locations not subject to flooding.
- (7) The duration, rate of rise and sediment transport of floodwaters expected at the site.
- (8) The safety of access to the property in time of flooding for ordinary and emergency vehicles.
- (9) The extent to which the hydraulic capacity of the floodway will be disrupted.
- (10) The degree to which the proposed use serves the general public's health, safety and welfare.
- (11) The degree to which any aspect of food chain or plant, animal, fish, or human life processes are affected adversely within or beyond the proposed use area.
- (12) The degree to which the proposed activity alters natural water flow or water temperatures.
- (13) The degree to which the proposed use provides facilities for the proper handling of litter, trash, refuse and sanitary and industrial waste.
- (14) The degree to which irreplaceable land types will be destroyed.
- (15) The degree to which the natural, scenic, and aesthetic values at the proposed development site can be retained.
- (16) The degree to which materials not subject to major damage by floods are firmly anchored to prevent flotation and/or are readily removable from the area within the time available after flood warning.

H. Denial. If the Planning Board finds that the proposed use would violate or tend to violate the purposes and intent of this article, the application shall be denied.

I. Conditions of approval for permitted uses. If the applicant will not violate the purposes and intent of this article the Planning Board may approve the application and impose such conditions as are necessary to promote the public safety, health and welfare, to protect public and private property, wildlife and fisheries, and to preserve and enhance the natural environment of the floodplain.

- (1) General conditions. These conditions may include but are not limited to the following:
 - (a) Modification of waste disposal and water supply facilities.
 - (b) Imposition of operational controls, sureties and deed restrictions.
 - (c) Requirements for construction of stormwater detention facilities, channel modifications, dikes, levees, and other protective measures.
 - (d) Installation of an adequate flood warning system.
 - (e) Postponement of development until such time as protective measures are installed or until the floodway and flood hazard areas have been delineated by the State Department of Environmental Protection or the Borough.
- (2) Specific conditions. In all special flood hazard areas the following standards are required:
 - (a) Where the lowest floor of any new structure is more than two feet above the existing grade at the perimeter of said structure the site may be filled. All fill in flood hazard areas must be in compliance with the State of New Jersey Flood Hazard Area Regulations of May 21, 1984. Such fill shall be subject to the following conditions:
 - [1] All fill material shall be well compacted.
 - [2] The elevation of the fill shall be not less than two feet below the base flood elevation.
 - [3] The elevation of the fill at the perimeter of the structure shall be stabilized by a retaining wall or by slopes of not greater than 4:1 and shall be protected from erosion.
 - [4] Where fill is stabilized by a retaining wall, said fill shall extend beyond the perimeter of the structure a distance equal to not less than twice the height of the retaining wall or five feet, whichever is the greater.
 - (b) All new residential construction, residential additions and substantial improvements of residential structures within the flood-fringe area and floodway shall have the lowest floor (including basement) elevated to not less than one foot above the base flood elevation. For the purposes of site plan review and approval, the requirement of one foot above the base flood elevation shall not include a patio, terrace, or deck, provided that any entrance from such structure to a main entrance shall be minimum of one foot above the base flood elevation or at the NJDEP flood hazard area elevation, whichever is higher.
 - (c) New nonresidential construction or substantial improvement of any commercial, industrial, or other nonresidential structure shall either have the lowest floor, including basement, elevated one foot above the base flood elevation or at the NJDEP flood hazard area elevation, whichever is higher, or, together with attendant utility and sanitary facilities, be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
 - (d) All utility and sanitary facilities shall be floodproofed below the base flood level or the NJDEP flood hazard area elevation or the structure shall be watertight with walls substantially impermeable to the passage of water and with structural components having the capability or resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Floodproofing measures shall be consistent with those outlined in the Manual.

- (e) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- J. Materials prohibited in channels, floodways and flood-fringe areas. No person shall hereafter engage in, cause, or permit other persons to engage in prohibited uses within a delineated floodplain. The following uses shall be prohibited:
- (1) Placing, depositing, or dumping any solid waste, garbage, refuse, trash, rubbish or debris.
 - (2) Dumping or discharging untreated domestic sewage or industrial wastes, either solid or liquid.
 - (3) The storage or disposal of pesticides.
 - (4) The storage of processing of materials that are, in time of flooding, buoyant, flammable, or explosive.
 - (5) The storage or processing of hazardous materials that could be injurious in time of flooding to human, animal or plant life.
- K. Preexisting nonconforming structures and uses.
- (1) Structures or land uses in any floodplain which existed on or before the effective date of this article may be permitted to continue subject to the following conditions:
 - (a) If any preexisting structure is destroyed by any means, including floods, to an extent of 50% or more of its replacement cost at time of destruction, it shall not be reconstructed except in conformity with the provisions of this article.
 - (b) No preexisting structure shall be moved, altered, expanded, changed or enlarged unless the provisions of this article are complied with. This provision does not apply to routine maintenance and repair, provided that such maintenance and repair does not increase the flood damage potential of the structure.
 - (c) In any portion of the floodplain an existing nonconforming use or structure may be altered or expanded, provided that such alteration or expansion does not increase its ground coverage or flood damage potential.
 - (2) If actual construction of a structure is underway on or before the effective date of this article, then such construction may be completed. Actual construction is hereby defined to include the placing of construction materials in permanent position and fastened in a permanent manner. The provisions of Subsection **K(1)** above shall apply to such structures upon completion of construction.
 - (3) Structures in the floodway abandoned for six consecutive months or longer and structures abandoned for 12 consecutive months or longer in the flood-fringe area after the effective date of this article shall not qualify as preexisting uses.
- L. Flood map. The Planning Board, after proper investigation, survey and public hearing, may recommend amendments to the Federal Emergency Management Agency for changes in the Flood Insurance Rate Map and the municipal agency for changes in the Floodplain/Floodway/Wetlands Maps of Lincoln Park.

§ 24-14 Administration and enforcement.

The administration and enforcement of the provisions of this article relating to the construction, erection, maintenance and continued operation at design capacity of stormwater detention

facilities and other facilities, structures, devices and techniques required to carry out the objectives of this article shall be the responsibility of the Borough Engineer. Duties of the Borough Engineer shall include, but not be limited to:

- A. Review all development permit applications to determine that the permit requirements of this article have been satisfied.
- B. Review all development permit applications to ensure that all necessary permits have been obtained from those federal, state or local governmental agencies from which prior approval is required.
- C. Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) as defined in §§ 24-2 and 24-13I(2) of all new or substantially improved structures, and whether or not the structure contains a basement.
- D. For all new or substantially improved floodproofed structures:
 - (1) Verify and record the actual elevation (in relation to mean sea level); and
 - (2) Maintain the floodproofing certifications required in § 24-13I(2)(d).
- E. Maintain for public inspection all records pertaining to the provisions of this article.
- F. Make interpretations, where needed, as to the exact location of the boundaries of the special flood hazard areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided by this article.

§ 24-15 Variance and exception procedure.

- A. The issuance of a variance from the provisions of this article is for floodplain management purposes only and is subject to applicable state and federal laws and regulations. The Borough Planning Board, after examining the applicant's hardships, shall approve or disapprove a variance request. While granting of variances generally is limited to a lot size less than 1/2 acre as set forth in Subsection **D** of this section, deviations from that limitation may occur. However, as the lot size increases beyond the 1/2 acre, the technical justification required for issuing a variance increases.
- B. The Federal Insurance Administrator may review the Borough Planning Board's findings justifying the granting of variances, and if that review indicates a pattern inconsistent with the objectives of sound floodplain management, the Federal Insurance Administrator may take appropriate action as set forth in Section 1901.24, Paragraph (b), of Federal Register Vol. 41, No. 207, dated Tuesday, October 26, 1976.
- C. Variances may be issued by the Borough Planning Board for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or a state inventory of historic places without regard to the procedures set forth in this section.
- D. Procedures for the granting of variances by the Borough Planning Board are as follows:
 - (1) Variances shall not be issued by the Borough Planning Board within any designated regulatory floodway if any increase in flood level above the allowable 0.2 foot during the base flood discharge would result.
 - (2) Variances may be issued by the Borough Planning Board only for the replacement or

reconstruction of existing nonconforming structures and for additions of not more than 150 square feet to existing residential structures on lots of 1/2 acre or less in size contiguous to and surrounded by lots with existing structures below the base flood elevation, in conformance with the procedures of Subsection **D(4)** of this section.

- (3) Variances may be issued by the Borough Planning Board for the construction of off-site detention facilities where on-site constraints, such as topography, inadequacy of receiving water conveyance system to provide positive discharge, seasonal high groundwater less than two feet below ground, and wetland conservation areas, make it impossible to achieve the zero increase runoff requirement for development.
- (4) Variances may be issued by the Borough Planning Board for cases in which there is no feasible and prudent alternative to the proposed project, including the no-action alternative, which would avoid or subsequently reduce any anticipated adverse effects and where the waiver is consistent with the reasonable requirements of the public health, safety and welfare.
- (5) Variances may be issued for cases in which the Borough Planning Board and the applicant agree to alternative requirements that, in the judgment of the Board, provide equal or better protection to the public health, safety and welfare.
- (6) Variances shall only be issued by the Borough Planning Board upon:
 - (a) A showing of good and sufficient cause by the applicant.
 - (b) A determination that failure to grant the variance would result in exceptional hardship to the applicant.
 - (c) A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, or extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (7) Variances shall only be issued after advance public notice and, where requested or needed, a fact-finding meeting or public hearing which determines that the variance is the minimum necessary to afford relief, considering the flood hazard and/or site constraints.
- (8) The Borough Planning Board shall notify the applicant in writing that:
 - (a) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
 - (b) Such construction below the base flood elevation increases risks to life and property. Such notification shall be maintained with a record of all variance actions as required in Subsection **D(9)** of this section.
 - (c) The issuance of a variance to construct off-site or off-tract detention facilities will require that the applicant meet the requirements, criteria and share of costs as set forth in § **24-11** of this article.
- (9) The Borough Planning Board shall:
 - (a) Maintain a record of all variance actions, including justification for their issuance, and shall make a report within 30 days to the County Planning Board.
 - (b) Report such variance issued in its annual report submitted to the Federal Insurance

Administrator and/or the New Jersey Department of Environmental Protection.

(10) The burden of proof to establish all of the elements required for the issuance of a variance shall be upon the applicant, who shall submit the request for a variance to the Board and prove these elements by expert testimony and documentation demonstrating the following:

- (a) That by reason of the extraordinary or exceptional situation or condition of the property, the strict enforcement of the provisions of this article would result in exceptional and undue hardship upon the applicant in question.
- (b) That the waiver will not substantially impair the appropriate use or development of adjacent property and will not pose a threat to the public health, safety and general welfare.
- (c) That the hardship is unique or peculiar to the applicant.
- (d) That the exceptional or undue hardship claimed as grounds for the waiver has not been created by the applicant.

E. Hardship waiver. The applicant shall submit to the Board with an application for a hardship waiver as much of the following information as is relevant to the project:

- (1) A plan for floodproofing, the implementation of which shall be a condition of the waiver.
- (2) Proof that appropriate steps shall be taken to anchor materials in order to prevent flotation, collapse, or lateral movement.
- (3) The relationship of the proposed project to the Master Plan and floodplain program for the area.
- (4) Proposed routes to and from the property during flood times.
- (5) The projected height, velocity and duration of the floodwaters expected at the site during the design flood.
- (6) The type of soil located at the proposed site.
- (7) A statement concerning the land use and value absent the granting of the hardship waiver.
- (8) Information regarding the existing development of the area and the impact of the additional work.
- (9) Evidence that the project will not distort the stream's flood-carrying capacity so as to cause substantial problems along the stream.
- (10) An analysis of the extent to which the sediment regimen and water quality of the stream will be affected by the proposed exemption.
- (11) A description of the potential effects of the project upon the environment.

F. Grant or denial.

- (1) The Planning Board shall notify the applicant of the results of its review within 90 days.
- (2) Before making a decision, the Planning Board may request that additional information and/or documentation be supplied. When additional information is not provided by the applicant as requested, the variance will be denied.

- (3) If the material submitted to the Board by the applicant in support of the petition for a variance or hardship waiver does not satisfactorily demonstrate that a variance or hardship waiver is warranted, the Board shall so notify the applicant by letter advising the applicant that the petition for a variance or hardship waiver has been denied by the Board. It shall also state the reasons for this denial.
 - (4) The denial of a variance request shall be treated as the denial of an application without prejudice.
 - (5) A variance or hardship waiver granted pursuant to this section does not relieve the applicant from obtaining any other approvals, certifications or permits required by law. A copy of the notification granting the variance or hardship waiver shall be forwarded to the Bureau of Floodplain Management.
- G. If any person shall be aggrieved by the action of the Planning Board or Borough Engineer, an appeal in writing to the governing body may be taken within 10 days after the date of such action. The governing body shall fix and notify the appellant of the time and place for a public hearing on said appeal, and the appellant shall cause notice of such hearing to be published in the official newspaper of the Borough at least 10 days prior to the hearing. All parties in interest shall be afforded an opportunity to be heard hereon. After such hearing, the governing body shall affirm or reverse the action of the Planning Board, or Borough Engineer, stating its findings and reasons for its action and a written copy of such action shall be given to the appellant.
- (1) In passing upon such applications, the governing body shall consider all technical evaluations, all relevant factors, standards specified in other sections of this article and:
 - (a) The danger that materials may be swept onto other lands to the injury of others;
 - (b) The danger to life and property due to flooding or erosion damage;
 - (c) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (d) The importance of the service provided by the proposed facility to the community;
 - (e) The necessity to the facility of a waterfront location, where applicable;
 - (f) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (g) The compatibility of the proposed use with existing and anticipated development;
 - (h) The relationship of the proposed use to the Master Plan and floodplain management program for the area;
 - (i) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (j) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters expected at the site; and
 - (k) The costs of providing governmental services during and after flood conditions, including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems and streets and bridges.
 - (2) Upon consideration of the factors listed above and the purposes of this article, the governing

body may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article.

- H. The Borough Engineer shall maintain the records of all appeal actions and report any variances to the Federal Insurance Administration and the New Jersey Department of Environmental Protection annually.

§ 24-16 Submissions.

The following submissions shall be required for each proposed development subject to review under this article. The applicant is free to combine exhibits or otherwise consolidate the required information, so long as all required information is clearly presented.

- A. Topographic base map. Topographic base map of the site including a minimum of 200 feet beyond the limits of the proposed development shall be prepared at a scale of one inch equals 50 feet and show two-foot contour intervals. The map shall indicate at least the following: existing surface water drainage, marshlands, outlines of woodland cover, existing man-made structures, roads, utilities, bearing and distances of property lines, and other significant natural and man-made features.
- B. Vicinity map. Applicants must prepare a map at a scale of one inch equals 400 feet or greater on a paper print of the latest air photograph available from the County Planning Board, updated in the field to reflect current conditions, showing the relationship of the proposed development to significant features in the general surroundings. The map must indicate at least the following: roads, pedestrianways, access to the site, adjacent land uses, existing open space, public facilities, landmarks, places of architectural and historic significance, utilities, drainage [including, specifically, streams and other surface waters shown on Natural Resources Conservation Service (NRCS) maps], and other significant features.
- C. Environmental site analysis. A written and graphic description of the natural and man-made features of the site and its environs as required. This description should include a discussion of soil conditions, slopes, wetlands, vegetation and animal life on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.
- D. Project description and site plan(s). A map (or maps) at the scale of the topographical base map indicating the location of proposed buildings, roads, parking areas, utilities, structural facilities for detaining or recharging stormwater and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations in the natural terrain, cover, and grade are proposed, proposed changes in natural cover, including lawns, and other landscaping. A written description of the site plan and justification of proposed changes in natural conditions should also be provided.
- E. Water detention facilities map.
 - (1) The following information, illustrated on a map of the same scale as the topographic base map, shall be included:
 - (a) Total area to be paved or built upon, estimated land area to be occupied by water detention facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of surface water.
 - (b) Details of all water detention plans during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

- (c) Maximum discharge and total volume of runoff which would occur from the project area without the improvement for the following storms:
 - [1] One and one-fourth inches of rainfall occurring within two hours or a one-year frequency Type III twenty-four-hour storm.
 - [2] The specific design storms (two-, ten-, twenty-five- and one-hundred-year recurrence intervals).
- (2) The municipal official or board reviewing an application under this article may, in consultation with the Borough Engineer, waive submission of any of the above requirements when the information requested is impossible to obtain or when it would work a hardship on the applicant to obtain and where its absence will not materially affect the review process.
- F. Engineering report. The stormwater control plan should be accompanied by an engineering report. The engineering report must be prepared by an engineer licensed by the New Jersey State Board of Professional Engineers and Land Surveyors and should include all investigations, analyses, studies undertaken and conclusions drawn during the design of the stormwater control plan, including but not limited to the following:
 - (1) Hydrologic computations to determine the design discharge along with reasoning for the methods used and the underlying assumptions. Recommendations concerning the hydrologic methods to be used are explained in earlier parts of this article.
 - (2) Hydraulic computations for the analysis and designing of the stormwater facilities. All assumptions made in the analysis should be justified and documented.
 - (3) Detention basin routing computation by the Storage Indication (Modified Puls) Method or other appropriate procedure or method for the specific design storms.
 - (4) Color photographs of the project site and of the immediate vicinity. Photographs should encompass the whole project site and give a clear picture of the waterway and surrounding topographic and environmental conditions. Photograph locations must be keyed onto the plan and cross sections.
 - (5) Cross sections and computations indicating the following:
 - (a) The volume of net and gross fill and structures to be placed on the applicant's property within the flood-fringe of delineated streams or within the one-hundred-year floodplain but outside the encroachment lines of nondelineated streams.
 - (b) Volume of flood storage between the natural ground surface of the applicant's property and the flood hazard design elevation for delineated streams or one-hundred-year flood elevation for nondelineated streams. This computation is to exclude areas within the floodway of delineated streams and encroachment lines of nondelineated streams.
 - (c) The quantity (a) expressed as a percentage of (b) above.
 - (6) Water diversion plan or method of diverting stormwater during construction shall be provided where applicable.
 - (7) Data, illustrations and narrative outlining provisions to meet the water quality requirement.
 - (8) Computations showing change in percentage of impervious surface for development.

§ 24-17 Fees.

In addition to any fee due to the municipality as a result of the applicant's underlying application for a municipal approval, there shall be due to the municipality at the time of submission of materials in support of this application a fee as provided in Chapter 34, Fees, § 34-9. This fee is an approximation of the estimated cost to the municipality to have its professional staff and consultants review the proposed project for compliance with the provisions of this article.

§ 24-18 Violations and penalties.

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this article shall be subject to the following penalties: for any and every violation of the provisions of this article, the owner, contractor or other person or persons interested as lessee, tenant or otherwise in any lot, building, structure or premises where such violation has been committed or shall exist shall, for each and every violation, be subjected to penalty as provided in § 1-2 of this Code, at the discretion of the court or judicial officer before whom a conviction may be had. For each and every day that a violation continues after 10 days' written notice by the Borough Engineer, Zoning Officer or Building Inspector (or their designee), served either personally or by registered mail, the violator shall be subject to prosecution for separate offenses for each day the offense or violation continues after the service of such notice. This provision shall not be construed as requiring the service of notice as a prerequisite to prosecution for a single offense.