

Chapter 26

Water

Part 1 Stormwater Management

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Part 1**Stormwater Management****A. General Provisions****§26-101. Statement of Findings.**

The Council of the Borough of Clarks Green finds that:

A. Inadequate management of accelerated runoff of stormwater resulting from development throughout a watershed increases flood flows and velocities, contributes to erosion and sedimentation, overtaxes the carrying capacity of streams and storm sewers, greatly increases the cost of public facilities to carry and control stormwater, undermines floodplain management and flood control efforts in downstream communities, reduces groundwater recharge and threatens public health and safety.

B. A comprehensive program of stormwater management, including reasonable regulation of development and activities causing accelerated erosion, is fundamental to the public health, safety and welfare and the protection of the people of the Borough of Clarks Green and all the people of the commonwealth, their resources and the environment.

(Ord. 4-1993, 9/13/1993)

§26-102. Purpose.

The purpose of this Part is to promote the public health, safety and welfare within the Lackawanna River Watershed by minimizing the damages described in §26-101 of this Part by provisions designed to:

A. Control accelerated runoff and erosion and sedimentation problems at their source by regulating activities which cause such problems.

B. Utilize and preserve the desirable existing natural drainage systems.

C. Encourage recharge of groundwaters where appropriate.

D. Maintain the existing flows and quality of streams and watercourses in the Borough of Clarks Green and the Commonwealth.

E. Preserve and restore the flood-carrying capacity of streams.

F. Provide for proper maintenance of all permanent stormwater management structures which are constructed in the Borough of Clarks Green.

(Ord. 4-1993, 9/13/1993)

§26-103. Statutory Authority.

The Borough of Clarks Green is empowered to regulate these activities by the authority of the Act of October 4, 1978, P.L. 864, Act 167, 32 P.S. §680.1 *et seq.*, the Stormwater Management Act, and the Code of the Borough of Clarks Green.

(Ord. 4-1993, 9/13/1993)

§26-104. Applicability.

1. This Part shall only apply to those areas of the Borough of Clarks Green which are located within the Lackawanna River drainage basin as delineated on an official map available for inspection at the Borough of Clarks Green office. A map of the Lackawanna River Watershed is included in Appendix E under separate cover.

2. This Part shall only apply to permanent stormwater management facilities constructed as part of any of the activities listed in this Section. Stormwater management and erosion and sedimentation control measures undertaken during construction which may involve nonpermanent facilities are not regulated by this Part but shall continue to be regulated under existing laws and ordinances.

3. This Part contains only those stormwater runoff control criteria and standards which are necessary or desirable from a total watershed perspective. Additional stormwater management design criteria (i.e., inlet spacing, inlet type, collection system details, etc.) which represent sound engineering practice may be regulated either by separate stormwater ordinance provisions or as part of the general responsibilities of the Borough of Clarks Green Engineer.

4. The following activities are defined as regulated activities and shall be regulated by this Part, except those which meet the waiver specifications presented in §26-137:

- A. Land development.
- B. Subdivision.
- C. Construction of new or additional impervious surfaces (driveways, parking lots, etc.)
- D. Construction of new buildings or additions to existing buildings.
- E. Diversion or piping of any natural or man-made stream channel.
- F. Installation of stormwater systems or appurtenances thereto.

5. For development taking place in stages, the entire development plan must be used in determining conformance with this criteria. Additional impervious cover shall include, but not be limited to, any roof, parking or driveway areas and any new streets and sidewalks constructed as part of or for the proposed regulated activity. Any areas which may be designed to initially be semi-pervious (e.g., gravel, crushed stone, porous pavement, etc.) shall be considered impervious areas for the purpose of waiver evaluation. No waiver shall be provided for regulated activities as defined in §26-104.4.E and .F.

(Ord. 4-1993, 9/13/1993)

§26-105. Exemptions.

In addition to those activities in §26-137, any proposed regulated activity, except those defined in §26-104.4.E and .F, which would create 10,000 square feet or less of additional impervious cover would be exempt from meeting the provisions of this Part. Such exemptions include but are not limited to single-family residential structures, private garages and other residentially related outbuildings.

(Ord. 4-1993, 9/13/1993)

§26-106. Compatibility with Other Requirements.

Approvals issued pursuant to this Part 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.

(Ord. 4-1993, 9/13/1993)

B. Definitions**§26-111. Definitions.**

As used in this Part, the following terms shall have the meanings indicated:

Cistern - an underground reservoir or tank for storing rainwater.

Conservation district - the Lackawanna County Conservation District (or applicable conservation district for those watershed municipalities located outside of Lackawanna County).

Culvert - a pipe, conduit or similar structure including appurtenant works which carries surface water.

DEP - the Pennsylvania Department of Environmental Protection. [Ord. 3-2005]

Design storm - the magnitude of precipitation from a storm event measured in probability of occurrence (e.g., 50-year storm) and duration (e.g., 24-hour) and used in computing stormwater management control systems.

Detailed study area - study areas outside of the Lackawanna River boundaries themselves for which plans have been prepared previously by the United States Army Corps of Engineers and/or the DEP. Modeling for these areas was undertaken with the Penn State Runoff Model. [Ord. 3-2005]

Detention basin - a basin designed to retard stormwater runoff by temporarily storing the runoff and releasing it at a predetermined rate.

Developer - a person, partnership, association, corporation or other entity or any responsible person therein or agent thereof that undertakes any regulated activity of this Part.

Development plan - a detailed narrative with related mapping outlining the proposed project along with the stormwater runoff measures proposed to comply with this Part.

Development site - the specific tract of land for which a regulated activity is proposed.

Drainage easement - a right granted by a landowner to a grantee, allowing the use of private land for stormwater management purposes.

Drainage plan - the documentation of the proposed stormwater management controls, if any, to be used for a given development site, the contents of which are established in §26-136.

Erosion - the removal of soil particles by the action of water, wind, ice or other geological agents.

Freeboard - the incremental depth in a stormwater management structure, provided as a safety factor of design, above that required to convey the design runoff event.

Governing body - the municipal entity empowered to review and/or approve of stormwater management plans, development site plans, facilities and maintenance agreements. The Borough Council may authorize the Borough Planning Commission or other appropriate body to undertake any or all of the above responsibilities.

Groundwater recharge - replenishment of existing natural underground water supplies.

Impervious surface - a surface which prevents the percolation of water into the ground.

Infiltration structure - a structure designed to direct runoff into the ground, e.g., French drain, seepage pit or seepage trench.

Land development - any of the following activities:

A. The improvement of one lot or two or more contiguous lots, tracts or parcels of land for any purpose involving:

(1) A group of two or more residential or nonresidential buildings, whether proposed initially or cumulatively, or a single nonresidential building on a lot or lots regardless of the number of occupants or tenure.

(2) The division or allocation of land or space, whether initially or cumulatively, between or among two or more existing or prospective occupants by means of or for the purpose of streets, common areas, leaseholds, condominiums, building groups or other features.

B. A subdivision of land.

LCRPC - the Lackawanna County Regional Planning Commission.

Mainstream (main channel) - any stream segment or other runoff conveyance facility used as a reach in the Lackawanna River hydrologic model.

Manning equation (Manning formula) - a method for calculation of velocity of flow (e.g., feet per second) and flow rate (e.g., cubic feet per second) in open channels based upon channel shape, roughness, depth of flow and slope. Open channels may include closed conduits so long as the flow is not under pressure.

Borough Engineer - person or firm engaged by the Borough to undertake engineering type reviews for projects within the Borough boundaries.

Municipal Planning Commission - that body charged with planning related functions on the municipal level as defined in Act 247, the Pennsylvania Municipalities Planning Code, 53 P.S. §10101 *et seq.*

Peak discharge - the maximum rate of flow of storm runoff at a given point and time resulting from a specified storm event.

Penn State Runoff Model (calibrated) - the computer-based hydrologic modeling technique adapted to the Lackawanna River Watershed for the Act 167 Plan. The model has been calibrated to reflect actual recorded flow values by adjusting key model input parameters.

Rational method - a method of peak runoff calculation using a standardized runoff coefficient (rational "c"), acreage of tract and rainfall intensity determined by return period and by the time necessary for the entire tract to contribute runoff. The Rational formula is stated as follows: $Q = ciA$, where "Q" is the calculated peak flow rate in cubic feet per second, "c" is the dimensionless runoff coefficient (see Appendix C under separate cover), "i" is the rainfall intensity in inches per hour and "A" is the area of the tract in acres.

Reach - any of the natural or man-made runoff conveyance channels used for

modeling purposes to connect the subareas and transport flows downstream.

Regulated activities - actions and proposed actions which impact upon proper management of stormwater runoff and which are governed by this Part as specified in §26-104.

Release rate - the percentage of the predevelopment peak rate of runoff for a development site to which the postdevelopment peak rate of runoff must be controlled to protect downstream areas.

Return period - the average interval in years over which a storm event of a given magnitude can be expected to recur. For example, the 25-year return period rainfall or runoff event would be expected to recur on the average once every 25 years.

Runoff - that part of precipitation which flows over the land.

SCS - the Soil Conservation Service, United States Department of Agriculture.

Seepage pit/seepage trench - an area of excavated earth filled with loose stone or similar material and into which surface water is directed for infiltration into the ground.

Soil cover complex method - a method of runoff computation developed by the SCS which is based upon relating soil type and land use/cover to a runoff parameter called a curve number.

Storage indication method - a reservoir routing procedure based on solution of the continuity equation (inflow minus outflow equals the change in storage for a given time interval) and based on outflow being a unique function of storage volume.

Storm sewer - a system of pipes or other conduits which carries intercepted surface runoff, street water and other wash waters or drainage, but excludes domestic sewage and industrial wastes.

Stormwater Management Plan - the plan for managing stormwater runoff adopted by Lackawanna County and the Borough of Clarks Green for Lackawanna River Watershed as required by the Act of October 4, 1978, P.L. 864, Act 167, and known as the "Stormwater Management Act."

Stream - a watercourse.

Subarea - the smallest unit of watershed breakdown for hydrologic modeling purposes for which the runoff control criteria have been established in the Stormwater Management Plan.

Subdivision - the division or redivision of a lot, tract or parcel of land by any means into two or more lots, tracts, parcels or other divisions of land including changes in existing lot lines for the purpose, whether immediate or future, of lease, partition by the court for distribution to heirs or devisees or transfer of ownership or building or lot development; provided, however, that the subdivision by lease of land for agricultural purposes into parcels of more than 10 acres, not involving any new street or easement of access or any residential dwelling, shall be exempted.

Subwatershed - a segment or portion of the larger watershed encompassing a tributary or tributaries to the Lackawanna River.

Swale - a low lying stretch of land which gathers or carries surface water

runoff.

Watercourse - any channel of conveyance of surface water having defined bed banks, whether natural or artificial, with perennial or intermittent flow.

2. Any term not defined in this Section shall be as defined within the latest edition of Webster's New Collegiate Dictionary.

(*Ord. 4-1993*, 9/13/1993; as amended by *Ord. 3-2005*, 10/10/2005)

C. Stormwater Management Requirements

§26-121. General Requirements.

1. Storm drainage systems shall be provided in order to permit unimpeded flow of natural watercourses except as modified by stormwater detention facilities or open channels consistent with this Part.

2. The existing points of concentrated drainage discharge onto adjacent property shall not be altered without written approval of the affected property owner(s).

3. Areas of existing diffused drainage discharge onto adjacent property shall be managed such that, at minimum, the peak diffused flow does not increase in the general direction of discharge, except as otherwise provided in this Part. If diffused flow is proposed to be concentrated and discharged onto adjacent property, the developer must document that there are adequate downstream conveyance facilities to safely transport the concentrated discharge or otherwise prove that no harm will result from the concentrated discharge. Areas of existing diffused drainage discharge shall be subject to any applicable release rate criteria in the general direction of existing discharge whether they are proposed to be concentrated or maintained as diffused drainage areas.

4. Where a subdivision or land development is traversed by watercourses other than permanent streams, there shall be provided a drainage easement conforming substantially with the line of such watercourse. The width of the easement shall be adequate to provide for unimpeded flow of storm runoff based on calculations made in conformance with §26-124 for the 100-year return period runoff and to provide a freeboard allowance of ½ foot above the design water surface level. The terms of the easement shall prohibit excavation, the placing of fill or structures and any alterations which may adversely affect the flow of stormwater within any portion of the easement. Also, periodic maintenance of the easement to ensure proper runoff conveyance shall be required.

5. Any drainage facilities required by this Part that are located on State highway rights-of-way shall be subject to approval by the Pennsylvania Department of Transportation.

6. When it can be shown that, due to topographic conditions, natural drainage swales on the site cannot adequately provide for drainage, open or closed channels may be constructed conforming substantially to the line and grade of such natural drainage swales. Capacities of open channels shall be calculated using the Manning Equation.

7. Storm drainage facilities and appurtenances shall be so designed and provided as to minimize erosion in watercourse channels and at all points of discharge.

8. Consideration should be given to the design and use of volume controls from stormwater management where geology permits.

(Ord. 4-1993, 9/13/1993)

§26-122. Stormwater Management Study Areas.

1. *Mapping of Stormwater Management Detail Study Areas.*

A. In order to implement the provisions of the Lackawanna River Stormwater Management Plan, the Lackawanna River Watershed is hereby divided into

nine detailed study areas (subareas) consistent with the Lackawanna River Watershed Map presented in the plan. The boundaries of the subareas cross individual municipal boundaries as shown on the official map which is available for inspection at the Borough of Clarks Green office.

2. *Determination of Applicable Release Rate.*

A. All areas of the Lackawanna River watershed are subject to a release rate control/criteria. The release rate criteria only applies to the 100-year storm event. Additional control requirements for the mean-annual and 25-year events are post-to-pre control as defined in §26-123.1. All portions of the watershed outside the nine detailed study areas have a release rate of 100% or post-to-pre-development control, but remain subject to individual municipal approval as discussed in subsection .2.A(3). These areas are designated on Plate 4 in the Appendixes as areas numbered "10." Prior to proceeding with preparation of stormwater control calculations or drainage plans preparation, the plan preparer/developer should first determine the release rate as follows:

(1) Locate the proposed development property using Plate 4 of the plan.

(2) If the site is located within Area 10 and not near the border, of detailed study Areas 1 through 9 or within a Borough listed in Table 4-1 of the plan, the applied release rate is to be 100%.

(3) If the site is located within Area 10 on Plate 4 but is within any part of a Borough listed in Table 4-1 of the plan, the Borough must be contacted to verify that the release rate is 100%. The Table 4-1 municipalities may have portions of priority areas (Subwatersheds 1 through 9) and nonpriority areas (Area 10) within their borders. Each Borough also has the ability to impose stricter release rate criteria for those Area 10 developments for ease of municipal-wide implementation. (For example, a Table 4-1 Borough may have one third of its municipal area designated as nonpriority Area 10 with 100% release rate. The other two-thirds could be in a priority watershed area which has an additional range of release rates (based on subarea identifications) from 100% down to 75%. The Borough may impose a municipal-wide release rate of 75%, which would meet the minimum criteria of the plan. The plan preparer/developer must verify with each Borough that an Area 10 site has not been assigned an alternative release rate using the Borough's ordinance.)

(4) If the site as identified from Plate 4 is located near the border of a detailed subwatershed, its location shall be verified by the associated detailed study area map in Appendix I. Upon verification, the release rate shall be determined by subsection .2.A.(3) above or subsection .2.A.(5) below.

(5) If the site is located within a detailed subwatershed 1 through 9, the exact site location shall be determined and drawn on the appropriate map from Appendix I. All subareas and their release rates which overlap the site shall be identified from the map and the Appendix F tables. The map and release rate identification should be confirmed by the Borough's ordinance. A copy of the site location on the section of the Appendix I map shall be included as part of the drainage plan submission.

B. Once the release rate is defined and confirmed, stormwater analysis and

design of control measures can proceed in accordance with the plan.
(*Ord. 4-1993, 9/13/1993*)

§26-123. Stormwater Management District Implementation Provisions.

1. Any stormwater management controls required by this Part and subject to release rate criteria shall meet the applicable release rate criteria, consistent with the calculation methodology specified in §26-124, as follows:

A. New land development controls are to incorporate infiltration of the first 1.5 inches of runoff (i.e., one-half of the mean annual event) from impervious surfaces. At a minimum, infiltration facilities design/overflow capacity should be for the 10-year event. Post-to-pre-flow control should be provided for the design capacity of the receiving storm sewer systems, but in no case less than the 10-year storm event. This design criteria applies to small infill type developments (i.e., up to two single-family homes) or new driveways, additions or impervious surfaces less than 2,000 square feet total. Where infiltration is not feasible, based on demonstration of site constraints and approved by the reviewing agency, post-to-pre-control of the mean annual and 10-year events is required. Where the receiving storm sewer system is designed for the 25-year event, post-to-pre-control for the mean-annual and 25-year event shall prevail.

B. Unless qualified under subsection .1.A above, 100-year control with applied release rates is required in addition to the previous requirements.

2. The exact location of the stormwater management detailed area boundaries as they apply to a given development site shall be determined by mapping the boundaries using the two-foot topographic contours provided as part of the drainage plan (refer to subarea maps in Appendix I under separate cover). The area boundaries as originally drawn coincide with topographic divides or, in certain instances, are drawn from the intersection of the watercourse and a physical feature (such as the confluence with another watercourse or a potential flow obstruction, e.g., road, culvert, bridge, etc.) to the topographic divide consistent with topography.

3. Any downstream capacity analysis conducted in accordance with this Part shall use the following criteria for determining adequacy for accepting increased peak flow rates:

A. Natural or man-made channels or swales must be able to convey the increased runoff associated with a 2-year return period event within their banks at velocities consistent with protection of the channels from erosion. Acceptable velocities shall be based upon criteria included in the DEP "Soil Erosion and Sedimentation Control Manual" (February 1985) and presented in Appendix B under separate cover. [*Ord. 3-2005*]

B. Natural or man-made channels or swales must be able to convey the increased 25 year return period runoff peak within their banks or otherwise not create any hazard to persons or property.

C. Any facilities that constitute water obstructions (e.g., culverts, bridges, outfalls or stream enclosures), as described in PADEP Chapter 105 regulations (as amended or replaced from time to time by PADEP), shall be designed in accordance with Chapter 105 and will not require a permit from PADEP. Any other

drainage conveyance facility that does not fall under Chapter 105 regulations must be able to convey, without damage to the drainage structure or roadway, runoff from the 25-year design storm with a minimum of 1.0 foot of freeboard measured below the lowest point along the top of the roadway. Roadway crossings located within designated floodplain areas must be able to convey runoff from a 100-year design storm with a minimum 1.1 feet of freeboard measured below the lowest point along the top of the roadway. Any facility that constitutes a dam as defined in PADEP Chapter 105 regulations may require a permit under dam safety regulations. Any facility located within a PennDOT right-of-way must meet PennDOT minimum design standards and permit submission requirements. [*Ord. 3-2005*]

D. Storm sewers must be able to convey postdevelopment runoff from a 25-year design storm without surcharging inlets.

4. For a proposed development site located within only one release rate category area, the total runoff from the site shall meet the applicable release rate criteria. For development sites with multiple points of concentrated runoff discharge, individual drainage points may be designed for a release rate of up to 100% so long as the total runoff from the site is controlled to the applicable release rate.

5. For a proposed development site located within two or more release rate category areas, the maximum peak rate of runoff that may be discharged at any point is limited to the predevelopment peak rate of runoff at that point multiplied by the applicable release rate. The control rates shall apply regardless of any grading modifications which may change the drainage area which discharges at a given point.

6. For proposed development sites located partially within a release rate category area and partially within a provisional no-detention area, in no event shall a significant portion of the site area subject to the release rate control be drained to the discharge point(s) located in the no-detention area.

7. *Regional or Subregional Detention Alternatives.* For certain areas within the watershed, it may be more cost effective to provide one control facility for an entire subarea, group of subareas or portion of a subarea incorporating more than one development site than to provide an individual control facility for each development site. The initiative and funding for any regional or subregional runoff control alternatives are the responsibility of prospective developers. The design of any regional control basins must incorporate reasonable development of the entire upstream watershed. The peak outflow of a regional basin would be determined on a case-by-case basis using the hydrologic model of the watershed consistent with protection of the downstream watershed areas. "Hydrologic model" refers to the calibrated Lackawanna River version of the Penn State Runoff Model as developed for the stormwater management plan.

8. *Capacity.*

A. In certain instances, primarily within the provisional no-detention areas, local drainage conditions may dictate more stringent levels of runoff control than those based upon protection of the entire watershed. In these instances, if the developer could prove that it would be feasible to provide capacity improvements to relieve the capacity deficiency in the local drainage network, then capacity improvements could be provided by the developer in lieu of runoff controls on the

development site. Any capacity improvements would be designed based upon development of all areas tributary to the proposed improvements and the capacity criteria specified in §26-123.3. In addition, all new development upstream of a proposed capacity improvement shall be assumed to implement the applicable runoff controls consistent with this Part except that all new development within the subarea(s) within which the proposed development site is located shall be assumed to implement the developer's proposed discharge control, if any.

B. Capacity improvements may also be provided as necessary to implement any regional or subregional detention alternatives or to implement a modified no-harm option which proposes specific capacity improvements to document the validity of a less stringent discharge control which would not create any harm downstream.

9. *Waiver of Runoff Control Based on Minimum Additional Imperious Cover.* Any proposed regulated activity, except those defined in §26-104.4.E and .F, which would create 10,000 square feet or less of additional impervious cover would be exempt from meeting the runoff control provisions of this Part. For developments which are to take place in stages, the entire development plan must be used in determining conformance to this criteria. Additional impervious cover shall include but not be limited to any roof, parking or driveway areas and any new streets and sidewalks constructed as part of or for the proposed development. Any areas which may be designed to initially be semi-pervious (e.g., gravel, crushed stone, porous pavement, etc.) shall be considered impervious areas for the purposes of waiver evaluation. No waiver shall be provided for any regulated activities as defined in §26-104.4.E and .F.

10. Any stormwater management facility required or regulated by this Part shall be designed to provide a minimum 1.0 foot of freeboard above the maximum 100-year water surface elevation for post-development conditions. Should any stormwater management facility qualify as a dam under PADEP Chapter 105, the facility shall be designed in accordance with Chapter 105 and meet the regulations of the Chapter concerning dam safety.

(Ord. 4-1993, 9/13/1993; as amended by Ord. 3-2005, 10/10/2005)

§26-124. Calculation Methodology.

1. Stormwater runoff from all development sites shall be calculated using a method acceptable to the review agency, either the rational method or a soil-cover complex methodology.

2. The design of any detention basin intended to meet the requirements of this Part shall be verified by routing the design storm hydrograph through the proposed basin. For basins designed using the modified rational method technique, the detention volume shall, at minimum, equal the volume derived from the approximate routing process as contained in SCS Technical Release Number 55 (TR55, 1986), Chapter 6 (Figure 6-1).

3. All calculations using the soil-cover-complex method shall use the Soil Conservation Service Type II 24 hour rainfall distribution. The 24-hour rainfall depths for the various return periods to be used consistent with this Part are taken from the PennDOT "Intensity - Duration - Frequency Field Manual" (May 1986).

4. All calculations using the rational method shall use rainfall intensities consistent with appropriate times of concentration and return periods and the intensity - duration - frequency curves as presented in Appendix B under separate cover.

5. Runoff curve numbers (CN's) to be used in the soil cover-complex method shall be based upon the matrix presented in Appendix B under separate cover.

6. Runoff coefficients for use in the rational method shall be based upon the table presented in Appendix A under separate cover.

7. The manning equation shall be used to calculate the capacity of watercourses. Manning "n" values used in the calculations shall be consistent with the table presented in Appendix A under separate cover. Pipe capacities shall be determined by methods acceptable to the Borough Engineer.

8. Any detention basin or other structure intended to meet the requirements of this Part which required a dam safety permit from the DEP shall be designed consistent with the provisions of the Dam Safety and Encroachments Act, 32 P.S. §693.1 *et seq.*, and the DEP Chapter 105 Rules and Regulations. [*Ord. 3-2005*]

(*Ord. 4-1993, 9/13/1993; as amended by Ord. 3-2005, 10/10/2005*)

D. Drainage Plan Requirements

§26-131. General requirements.

For any of the regulated activities of this Part, prior to the final approval of subdivision and/or land development plans or the issuance of any permit or the commencement of any land disturbance activity, the owner, subdivider, developer or his agent shall submit a drainage plan for approval.

(Ord. 4-1993, 9/13/1993)

§26-132. Exemptions.

Any regulated activity which would create 10,000 square feet or less of additional impervious cover is exempt from the drainage plan preparation provisions of this Part. This criteria shall apply to the total proposed development even if development is to take place in stages (i.e., the impervious cover associated with the total development shall be used to compare to the waiver minimum, not merely the individual stage impervious cover). Additional impervious cover shall include, but not be limited to, any roof, parking or driveway areas and any new streets and sidewalks constructed as part of or for the proposed regulated activity. Any areas designed to initially be gravel, crushed stone, porous pavement, etc., shall be assumed to be impervious for the purposes of comparison to the waiver criteria.

(Ord. 4-1993, 9/13/1993)

§26-133. Drainage Plan Contents.

The following items shall be included in the drainage plan:

A. *General*.¹

(1) A completed application form.

(2) A written description of the project, either as a separate document or as notes on the site plan.

(3) A written description of proposed permanent stormwater controls, either as a separate document or as notes on the plan sheet.

(4) A construction staging schedule, listing the beginning and completion of any earth disturbance by staging or phases, and including all erosion and sedimentation and other controls.

B. *Map(s)*.

(1) Map(s) of the project area showing:

(a) The location of the project relative to highways, municipalities or other identifiable landmarks; normally the base map should be the appropriate United States Geologic Survey quadrangle map or portion thereof.

(b) Existing contours at intervals of 2 feet. In areas of steep slopes (greater than 15%), 5-foot contour intervals may be used, at the direction

¹Editor's Note: The application form is available at the Borough office.

of the reviewing agency.

(c) Streams, lakes, ponds, wetlands or other bodies of water within the project area, including the average surface height or top of impoundment.

(d) Other physical features, including existing drainage swales and areas of natural vegetation to be preserved.

(e) Locations of proposed underground utilities, sewers and waterlines.

(f) An overlay showing soil types and boundaries.

(g) Proposed locations and extents of changes to land surface and vegetative cover.

(h) Proposed locations of structures, roads, paved areas and buildings.

(i) Final contours at intervals of two feet. In areas of steep slopes (greater than 15%), 5-foot contour intervals may be used, at the direction of the reviewing agency.

(2) All maps drawn as part of this Section shall be at a scale of no less than one inch to 50 feet and no greater than one inch to 200 feet, with the exception of subsection .B(1)(a), and shall be displayed on sheets no smaller than 11 x 17 inches and no greater than 24 x 36 inches.

C. Stormwater Management Controls.

(1) All stormwater management controls must be shown on a map and described, including:

(a) Groundwater recharge methods such as seepage pits, beds or trenches.

1) When these structures are used, the locations of septic tank infiltration areas and wells must be shown.

(b) Other control devices or methods such as rooftop storage, semi-pervious paving materials, grass swales, parking lot ponding, vegetated strips, detention or retention ponds, storm sewers, etc.

(2) All calculations, assumptions and criteria used in the design of the control device or method must be shown.

(a) Subwatershed boundaries applicable to the site.

D. Maintenance Program.

(1) A maintenance program for all stormwater management control facilities must be included. This program must include the proposed ownership of the control facilities, the maintenance requirements for the facilities and the financial responsibilities for the required maintenance.

(Ord. 4-1993, 9/13/1993)

§26-134. Plan Submission.

1. For regulated activities specified in §26-104.4.A and .B:

A. The drainage plan shall be submitted by the developer to the Borough

Secretary (or other appropriate person) as part of the preliminary plan submission for the subdivision or land, development.

B. Six copies of the drainage plan shall be submitted.

C. Distribution of the drainage plan will be as follows:

(1) One copy to the Borough of Clarks Green Council.

(2) One copy to the Borough of Clarks Green Engineer.

(3) Two copies to the Borough of Clarks Green Planning Commission.

(4) Two copies to the Lackawanna County Regional Planning Commission or applicable County Planning Agency for municipalities outside of Lackawanna County.

2. For regulated activities specified in §26-104.4.C and .D, the drainage plan shall be submitted by the developer to the Borough of Clarks Green building permit officer as part of the building permit application.

3. For regulated activities specified in §26-104.4.E and .F:

A. The drainage plan shall be submitted by the developer to the County Planning Agency for coordination with the DEP permit application process under Chapter 105 (Dam Safety and Waterway Management) or Chapter 106 (Flood Plain Management) of the DEWS rules and regulations. [*Ord. 3-2005*]

B. Two copies of the drainage plan shall be submitted.

(*Ord. 4-1993, 9/13/1993; as amended by Ord. 3-2005, 10/10/2005*)

§26-135. Drainage Plan Review.

1. The Borough of Clarks Green Engineer shall review the drainage plan for consistency with the adopted Lackawanna River Stormwater Management Plan as embodied by this Part and against any additional storm drainage provisions contained in the Borough of Clarks Green Subdivision and Land Development [Chapter 22] or Zoning Ordinance [Chapter 27] as applicable, and provide his or her findings to the Borough of Clarks Green Planning Commission within 30 days of receipt of the drainage plan.

2. The County Planning Agency shall provide an advisory review of the drainage plan for consistency with the Lackawanna River Stormwater Management Plan.

3. For regulated activities specified in §26-104.4.A and .B, the County Planning Agency shall provide written comments to the Borough of Clarks Green, within 30 days of receipt of the application by the County Planning Agency consistent with established procedures under Act 247, as to whether the drainage plan has been found to be consistent with the stormwater management plan.

4. For regulated activities specified in §26-104.4.E and .F, the County Planning Agency shall notify the DEP whether the drainage plan is consistent with the stormwater management plan and forward a copy of the review letter to the Borough of Clarks Green, the developer and any other interested party(ies). [*Ord. 3-2005*]

5. The Borough of Clarks Green shall not approve any subdivision or land development (regulated activities §26-104.4.A and .B) or building permit application (regulated activities §26-104.4.C or .D) if the drainage plan has been found to be inconsistent with the stormwater management plan as determined by the Borough of

Clarks Green Engineer. The Borough of Clarks Green shall provide the developer with a written approval or denial of the proposal no later than 90 days following the date of the regular meeting of the governing body, consistent with established procedures under Act 247.

(*Ord. 4-1993, 9/13/1993; as amended by Ord. 3-2005, 10/10/2005*)

§26-136. Modification of Plans.

A modification to a submitted drainage plan for a proposed development site which involves a change in control methods or techniques or which involves the relocation or redesign of control measures or which is necessary because soil or other conditions are not as stated on the drainage plan (as determined by the Borough of Clarks Green Engineer) shall require a resubmission of the modified drainage plan consistent with §26-134 subject to review per §26-135 of this Part.

(*Ord. 4-1993, 9/13/1993*)

§26-137. Hardship Waiver Procedure.

The Borough of Clarks Green may hear requests for waivers where it is alleged that the provisions of this Part inflict unnecessary hardship upon the applicant. The waiver request shall be in writing on an application form promulgated by the Borough of Clarks Green accompanied by the requisite fee based upon a fee schedule adopted by the Borough of Clarks Green. A copy of the completed application form shall be provided to each of the following:

A. The Borough of Clarks Green, the Borough of Clarks Green Engineer, the Borough of Clarks Green Solicitor and the County Planning Agency. The application shall fully document the nature of the alleged hardship.

(1) The Borough of Clarks Green may grant a waiver, provided that all of the following findings are made in the given case:

(a) That there are unique physical circumstances or conditions, including irregularity of lot size or shape, or exceptional topographical or other physical conditions peculiar to the particular property and that the unnecessary hardship is due to such conditions and not the circumstances or conditions generally created by the provisions of this Part in the Borough of Clarks Green in which the property is located.

(b) That because of such physical circumstances or conditions, there is no possibility that the property can be developed in strict conformity with the provisions of this Part, including the no-harm provisions and that the authorization of a waiver is therefore necessary to enable the reasonable use of the property.

(c) That such unnecessary hardship has not been created by the applicant.

(d) That the waiver, if authorized, will represent the minimum waiver that will afford relief and will represent the least modification possible of the regulation in issue.

(2) In granting any waiver, the Borough of Clarks Green may attach such reasonable conditions and safeguards as it may deem necessary to implement

the purposes of Act 167 and this Part.
(*Ord. 4-1993, 9/13/1993*)

E. Inspections**§26-141. Schedule of Inspections.**

1. The Borough of Clarks Green Engineer or his designee shall inspect all phases of the installation of the permanent stormwater control facilities and the completed installation as outlined under §26-133.1. Inspection of all phases of installation of the control facilities and the completed installation shall be conducted by the Engineer or his designee within 30 days after written notification of the completion by the developer.

2. If at any stage of the work the Borough of Clarks Green Engineer determines that the permanent stormwater control facilities are not being installed in accordance with the approved development plan, the Borough of Clarks Green shall revoke any existing permits until the work is brought into compliance with the approved plan or a revised. development plan is submitted and approved as required by §26-136.

(Ord. 4-1993, 9/13/1993)

F. Fees and Expenses**§26-151. General.**

A drainage plan fee schedule shall be established by resolution of the Borough Council of the Borough of Clarks Green. The purpose of the fees will be to defer municipal costs for drainage plan review and processing.

(Ord. 4-1993, 9/13/1993)

§26-152. Expenses Covered by Fees.

The fees required by this Part shall at a minimum cover:

- A. The review of the drainage plan by the Borough Engineer.
- B. The site inspection.
- C. The inspection of required controls and improvements during construction.
- D. The final inspection upon completion of the controls and improvements required in the plan.
- E. Any additional work required to enforce any permit provisions regulated by this Part, to correct violations and to assure the completion of stipulated remedial actions.

(Ord. 4-1993, 9/13/1993)

G. Maintenance Responsibilities

§26-161. Maintenance Responsibilities.

1. The maintenance responsibilities for permanent stormwater runoff control facilities shall be determined based upon the type or ownership of the property which is controlled by the facilities.

A. *Single Entity Ownership.*

(1) In all cases where the permanent stormwater runoff control facilities are designed to manage runoff from property in a single entity ownership as defined below, the maintenance responsibility for the stormwater control facilities shall be with the single entity owner. The single entity owner shall enter into an agreement with the Borough Council which specifies that the owner will properly maintain the facilities consistent with accepted practice as determined by the Borough Engineer. The agreement shall provide for regular inspections by the agents of the Borough of Clarks Green and contain such provisions as necessary to ensure timely correction of any maintenance deficiencies by the single entity owner.

(2) A "single entity owner" shall be defined as an individual, association, public or private corporation, partnership firm, trust, estate or any other legal entity empowered to own real estate.

B. *Multiple Ownership.*

(1) In cases where the property controlled by the permanent stormwater control facilities shall be in multiple ownership (i.e., many individual owners of various portions of the property), the developer shall dedicate the permanent stormwater control facilities to the Borough for maintenance. The developer shall pay a fee to the Borough corresponding to the present worth of maintenance of the facilities for a 10-year period.

2. The fee shall cover the costs of:

A. Review by the Borough Engineer for facility compliance with the previously approved plans.

B. Inspection of the facility, required controls and associated systems.

C. Any additional work required to enforce permit provisions and/or to correct violations.

3. The estimated annual maintenance cost for the facilities shall be based on a fee schedule provided by the Borough of Clarks Green Engineer and adopted by the Borough of Clarks Green. The fee schedule must be reasonable. In certain multiple ownership situations, the Borough of Clarks Green may benefit by transferring the maintenance responsibility to an individual or group of individuals residing within the controlled area. These individuals may have the permanent stormwater control facilities adjacent to their lots or otherwise have an interest in the proper maintenance of the facilities. In these instances, the Borough of Clarks Green and the individual(s) may enter into a formal agreement for the maintenance of the facilities. The Borough of Clarks Green shall maintain ownership of the facilities and be responsible for periodic inspections.

(Ord. 4-1993, 9/13/1993)

§26-162. Right of Entry.

Upon presentation of the proper credentials, duly authorized representatives of the Borough of Clarks Green may enter at reasonable times upon any property within the Borough of Clarks Green to investigate or ascertain whether proper maintenance is being provided for any stormwater management facilities for which the Borough of Clarks Green is not directly responsible for maintenance, as provided in §26-161.

(Ord. 4-1993, 9/13/1993)

H. Adoption**§26-171. Adoption.**

This Part shall take full force and effect from the date of passage. This Part, however, shall have no effect on subdivision and/or land development plans pending at the time of passage of this Part or within 60 days of said passage as long as the plans were on file with the Borough Planning Commission.

(Ord.4-1993, 9/13/1993)

