

APPENDIX F

Municipal Stormwater Ordinances Summary Table

Municipality	Stormwater Ordinance	Runoff equals pre and post development	Erosion and Sediment Control	Water Quality Requirements	Peak Rate Requirements	Design Storm	Design Standards
Abington Township	Yes, SALDO	Yes	Yes	Any development which creates a significant change in characteristics of the watershed, thus increasing volume and velocity of surface-water runoff due to the decrease in retention and infiltration of storm water, shall not be permitted until guarantees are made of improvements that will reduce the likelihood of erosion, sedimentation, inundation and water drainage from peak periods of precipitation and provide for controlled disposal of excess surface water.	Stormwater detention sized to limit peak outfall to the predevelopment rate for 2-, 5-, 10-, 25-, 50- and 100-year storms.	- Residential areas and streets: based on a ten-year storm - commercial and industrial areas, secondary and primary streets: twenty-five-year storm	- Designs shall provide for overflow that will cause no damage to property nor affect health and safety of individuals. - Additional storage shall be provided to compensate for basin bypass areas.
Bryn Athyn Borough	No	No	Yes		N/A	N/A	N/A
Hatboro Borough	Yes	Yes	Yes	- The capacity of all natural streams shall not be reduced from the predevelopment conditions. - All drainage provisions shall be of such design as to carry surface water to the nearest practical storm drain, detention basin, or natural water course. - Where drainage	Stormwater Detention. Stormwater detention facilities will be required if Runoff from the development would increase the peak runoff by one (1) cubic foot per second (CFS) or	All stormwater facilities shall be designed to transport a ten year frequency storm. Provision must be made to convey the 100 year storm to and be controlled by required	- Developer shall construct and/or install such drainage structures as necessary to: - Preserve the existing culverts and bridges by suppressing new flood peaks - Provide off-site improvements to satisfactorily handle stormwater from

				swales are used, they shall not be less than 1 % grade. (The swales shall be sodded or planted as required and shall be of such shape, size, and slope to conform with specifications of Borough Engineer.) - Construction. The developer shall construct and/or install such drainage structures and/or pipes which are necessary to prevent erosion damage and to satisfactorily carry off such surface waters to the nearest practical storm drain or natural water course, in accordance with current State Erosion Control and Sedimentation Regulations. - A 100 foot buffer (50 feet from edge or bank of water body) shall be maintained along all perennial water courses and ponds.	more from the existing conditions.	detention facilities.	proposed development - Prevent erosion damage and to satisfactorily carry off or detain and control the rate of release of surface waters. - Encourage all runoff control measures to percolate stormwater into ground - Carry surface water to nearest adequate street, storm drain, detention basin, natural watercourse or drainage facility. - Take surface water from bottom of vertical grades, to lead water away from springs, and to avoid excessive use of cross gutters - Not only handle anticipated peak discharge from property being subdivided or developed, but also existing and forecasted run-off being contributed from all land at a higher elevation in watershed. - Maintain natural stream channels.
Horsham Township	Yes, but only in portions of Township located within the confines of the Little Neshaminy Creek Watershed.	Yes, requires groundwater recharge	Yes	- Stormwater management facilities shall be provided to detain 1-year, 24-hour (SCS Type II) design storm using the distribution. - Provisions shall be made so that 1-year	Peak rate requirements for the 1-, 2-, 5-, 10-, 25-, 50- and 100-year return period runoff events (design storms) consistent	- Design storm criteria to be used in calculations for the watershed is to limit the post-development runoff for the 1-, 5-, 10-	Retention of existing watercourses and natural drainage features. - Watercourse, stream, or intermittent stream located within a development site

				storm takes 25 hours to drain from the facility from a point where maximum volume of water captured by facility for 1-year storm is achieved (i.e., maximum water surface elevation achieved in facility). - Release of this water can begin at the start of the storm (i.e., the invert of the water quality orifice is at the invert of the facility). - Stormwater management districts must implement water quality requirement of Subsections A and B. - Can be obtained through BMPs including infiltration, wet detention, extended day detention, etc.	with the calculation methodology as specified.	, 25, 50- and 100-year storms to the applicable release rate of the predevelopment flows. - Provisions must also be made for safely passing the runoff greater than that occurring from the largest design storm.	shall remain open in its natural state and location. - Existing points of natural drainage discharge onto adjacent property shall not be altered without the written approval of the affected homeowners. - No stormwater runoff or natural drainage shall be so diverted as to overload existing drainage systems (including existing stormwater management facilities) or create flooding. - Design of facility shall consider and minimize chances of clogging and sedimentation potential. (minimum outfall orifice diameter shall be four in.)
Jenkintown Borough	Yes, SALDO	No	Yes	- Stormwater or surface water shall not be discharged over a sidewalk but shall be collected in suitable inlets and conducted underground to the curb or drain, if available. - Adequate provisions must be made for disposal of surface stormwater from adjoining properties as well as disposal of roof water.	N / A	N / A	- The provisions made for disposal of sanitary sewage, refuse and stormwater, including certification of the Borough Engineer as to adequacy, and a suitable contour map of the area. - Storm drainage facilities shall be designed to convey the flow of stormwater runoff in a safe and efficient manner. - The system shall

							ensure proper drainage along streets and provide positive drainage away from buildings. - The system shall also be designed to prevent the discharge of excess runoff onto adjacent properties.
Lower Moreland Township	Yes	Yes and groundwater recharge	Yes	State Water Quality Requirements for post-construction: - BMPs shall be designed, implemented and maintained to meet State Water Quality Requirements, and any other more stringent requirements as determined - Post-construction stormwater impacts can be met by BMPs, including site design, which provide for replication of pre-construction stormwater infiltration - and runoff conditions This may be achieved by the following: - Infiltration: replication of pre-construction stormwater infiltration conditions, - Treatment: use of water quality treatment BMPs to ensure filtering out of the chemical and physical pollutants	- The rate of stormwater runoff from any proposed earth disturbance activity after full development shall not exceed the peak rate of discharge prior to development - Culverts or bridges shall be required at all stream crossings of any street or roadway, using design criteria for a 100-year peak flow rate appropriate to the contributing watershed.	The storm drain system shall be designed to carry a 50-year peak flow rate. The design 50-year peak flow rate into each inlet shall be indicated on the stormwater drainage plan. The 50-year flow rate shall be determined by the Rational Formula (NOTE: Appropriate values for the runoff coefficient and rainfall intensity can be found in the Commonwealth of Pennsylvania Department of Transportation Design Manual, Part 2, Highway Design, Chapter 12.)	- All land areas graded to secure proper drainage away from buildings. - Drainage provisions to carry surface waters to nearest practical adequate street, storm drain or natural watercourse. - Developers must carry surface water to practical storm drain or natural watercourse. - Developer shall construct and/or install such drainage structures and/or pipes as required to prevent erosion, damage and siltation and to satisfactorily carry off surface waters. - Stormwater discharge shall be carried by conduit to prevent excessive surface flow on or across streets, sidewalks, drives, parking areas and any other paved surface or traveled way, where infiltration practices, such as pervious paving, would not be feasible.

				from the stormwater runoff, and - Stream bank and Streambed Protection: management of volume and rate of post construction			- Natural swales or open drains of any type may be used only where no danger to structures or abutting property.
Rockledge Borough	No	N/A	Yes	N/A	N/A	N/A	N/A
Upper Dublin Township	Yes	Yes, and groundwater recharge	Yes	- Stormwater detention facilities shall include provisions to detain, for extended periods of time, runoff from the water quality design storm - Release of detained stormwater can begin at the start of the storm (i.e., the stormwater detention facility will not permanently retain a portion of the runoff). - When detention basins are used to satisfy the water quality requirement, the invert of the water quality orifice may be placed at invert of the basin. (Township Engineer will determine the minimum standard diameter orifice as part of the stormwater management plan review) - In soils nonconductive to infiltration, the addition of an underdrain is required, (can be waived upon determination by the Township Engineer)	Any stormwater detention facilities required by this chapter and subject to the water quality requirements and stormwater runoff peak rate requirements herein shall meet the applicable water quality and peak rate requirement for the 1-, 2-, 10-, 50 and 100-year return period runoff events (design storms) consistent with the standard and accepted calculation methodology and engineering standards and be satisfactory to the Township Engineer.	The design storm criteria to be used in calculations for the watershed is to limit the post development runoff for the one-, two-, ten-, fifty- and one-hundred-year storms to the corresponding predevelopment rates.	- Design of Stormwater management facility shall consider and minimize the chances of clogging and sedimentation potential. - Stormwater detention facilities include provisions to detain, for extended periods of time, runoff from the water quality design storm (1-year, 24-hour rainfall event), using methodology appropriate for the drainage area under consideration - Selected BMP must meet required water quality and runoff peak rate requirements - Developers shall consider use of innovative BMPs (e.g., infiltration techniques, wet ponds, riparian buffers, bioretention areas, underground detention, seepage beds, artificial wetlands), if appropriate, to provide for water quality improvement and

				- Water quality objective can be obtained through a variety of approved BMPs or combinations thereof, including retention basins, detention basins and bioretention areas.			groundwater recharge.
Upper Moreland Township	Yes, SALDO	Yes	Yes	State Water Quality Requirements can be met by BMPs, including site design, which provide for replication of pre-construction stormwater filtration and runoff conditions, so that post-construction stormwater discharges do not degrade the physical, chemical or biological characteristics of the receiving waters. - BMPs must be designed to protect and maintain existing uses (e.g., drinking water use; cold water fishery use) and maintain the level of water quality necessary to protect those uses in all streams, and to protect and maintain water quality in "Special Protection" streams, as required by statewide regulations at 25 Pa. Code Chapter 93 (collectively referred to herein as "State Water Quality Requirements").	Facilities should be so designed that during a 10 year frequency storm the maximum discharge from the site is equal to a 2 year undeveloped flow.	Stormwater detention facilities shall be designed for a 50 year frequency storm with a maximum permitted outlet of 10 year storm during the undeveloped condition.	The computations and design for the drainage system, including runoff calculations, locations and size of inlets, determination of type and size of storm sewer pipe, design of swales and ditches shall be in accordance with the Standards of Upper Moreland Township and/or the Pennsylvania Department of Transportation, Design Manual No. 2, Chapter 12. The computations and design with plans indicating drainage runoff areas and coefficients shall be submitted to the Township Engineer for approval.

Upper Southampton Township	Yes, for the portion of the Township within the Neshaminy Creek Watershed	Yes	Yes	State Water Quality Requirements for post-construction: - BMPs shall be designed, implemented and maintained to meet State Water Quality Requirements, and any other more stringent requirements as determined - Post-construction stormwater impacts can be met by BMPs, including site design, which provide for replication of pre-construction stormwater infiltration - and runoff conditions This may be achieved by the following: - Infiltration: replication of pre-construction stormwater infiltration conditions, - Treatment: use of water quality treatment BMPs to ensure filtering out of the chemical and physical pollutants from the stormwater runoff, and - Stream bank and Streambed Protection: management of volume and rate of post construction	Stormwater Runoff Peak Rate Districts: General - Proposed conditions peak rates of runoff from any regulated activity shall not exceed 75% of the peak release rates of runoff from existing conditions for the design storms specified on the Stormwater Management District Watershed Map (Ordinance Appendix D) and Section 408 A 3, of this Ordinance	Standards for managing runoff from each subarea in the Neshaminy Creek Watershed for the 2, 5, 10, 25, 50 and 100-year design storms are shown on the Map in Appendix D. Development sites located in each of the Management Districts must control proposed conditions runoff rates to existing conditions runoff rates, or percentages thereof	In addition to the peak runoff rate requirements above, the erosion and sedimentation control, the nonstructural project design, the groundwater recharge, the water quality, and the streambank erosion requirements shall be implemented.
Warminster Township	Yes, SALDO	Yes	Yes	- Storm water runoff shall be limited so that no more	Basins shall be designed to detain the	All run-off calculations shall be	- Blocks and lots shall be graded to secure proper

				run-off is generated than that of the site in its natural condition. Where farm field or disturbed earth is the existing condition, meadow shall be used as the starting base for such calculations instead of the actual condition. - All streams, lakes and ponds shall be protected from sedimentation and shall control erosion in accordance with the Clean Streams Law, P.L. 1987, Chapter 102, however, in addition, an erosion-control plan shall be submitted as part of the preliminary land development plan, where such a plan is required, even if the ground to be subdivided, developed or built on is less than 25 acres in extent.	post-development quantity of water resulting from a 100 year, 24 hour duration rainfall development , releasing at a maximum outflow rate equal to that resulting from a pre-development 10 year 24 hour rainfall.	based on a 100 year, 24 hour storm.	drainage away from buildings and to prevent the collection of storm water in pools. - All drainage provisions shall be of such design as to carry surface waters to the nearest practical street, storm drain, or natural water course - Owner shall construct and/or install such drainage structures and/or pipes necessary to prevent erosion damage and to satisfactorily carry off such surface waters - Where storm water or surface water will be gathered within the subdivision or land development and discharge or drain in volume over lands within or beyond the boundaries of the subdivision or land development, the applicant or owner shall reserve or obtain easements over all lands affected thereby, which easements shall be adequate for such discharge of drainage and for the carrying off of such water and for the maintenance, repair and reconstruction of the same, upon demand.
--	--	--	--	---	---	--	---

Source: <http://www.ordinance.com>