MODEL DRAINAGE SYSTEM AND EROSION CONTROL LANGUAGE
for site plan review, zoning and/or subdivision regulations

Suggested by Southern Tier Central Regional Planning and Development Board, October 2010.

Section 1. Drainage Systems.
The following standards are intended to ensure that storm water runoff is safely conveyed through a development site, to minimize streambank erosion, and to reduce flooding related to land development and urbanization. The standards for storm water drainage systems are as follows:

(a) Any alteration of the hydrology of the site shall be minimized and/or mitigated so as to minimize the impact on water quality, peak discharge, groundwater recharge, and drainage patterns. To the extent possible, the quantity, quality, and timing of stormwater runoff during and after development shall not be substantially altered from pre-development conditions. The recommended technical standards for the design of post-construction structures are detailed in the "*New York State Stormwater Management Design Manual*," as revised.

(b) Any new or modified drainage channel or storm water facility shall have sufficient capacity to accommodate the potential future runoff based upon the probable land use and ultimate development of the total watershed area upland of the development.

(c) Priority should be given to maintaining natural drainage systems, including perennial and intermittent streams, swales and drainage ditches.

(d) Any existing storm water management system including a swale, ditch, basin, pond, drywell, catch basin, stream or other system component shall be maintained in such a manner as to be functional.

(e) No building or structure shall be erected, altered or moved within any drainage course, including a swale, ditch, or stream. Any activity within Waters of the United States or within fifty (50) feet of a New York State protected stream will comply with all permit requirements of the New York State Department of Environmental Conservation and the U.S. Army Corps of Engineers.

(f) Any disturbance or alteration of a wetland or wetland buffer area will be minimized and shall comply with all permit requirements of the New York State Department of Environmental Conservation and the U.S. Army Corps of Engineers.

(g) All new buildings shall be set back a minimum of fifty (50) feet from the bank of any perennial or intermittent stream. Site Plan Review is required for any other development within fifty (50) feet of a streambank, such as roads, grading, shaping, or removal of woody vegetation.

(h) Private stream crossings should be avoided wherever possible. When such crossings

are necessary, they should be adequately designed and installed to provide a stable flow path during all water level conditions. Planning Board review and Town/Village/City approval is required for any bridge or culvert build as a private stream crossing on any perennial or intermittent stream. If professional engineering and/or review are necessary, incurred costs are the responsibility of the property owner.

(i) When a land development project is within or adjacent to any area with known flooding problems or known high ground water, the elevations of buildings should be above the observed, anticipated or computed water levels. The effect of such development on upstream and downstream reaches of the watercourse and adjacent properties shall be considered and adequate protective measures shall be implemented.

(j) Any development on alluvial fans should be protected from the streambank erosion and flood damage that may result from natural channel alterations in these areas. [NOTE: If there are alluvial fans within your jurisdiction, the locations should be indicated on a map. If not, remove this paragraph.] An alluvial fan is a fan-shaped deposit of sediment usually at the foot of a steep slope.

(k) Utilizing the drainage guidelines outlined above, the Planning Board may require the developer to submit the following:

(1) Stormwater Pollution Prevention Plan, the contents of which are specified in the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity.

(2) A statement of the proposed stormwater management objectives.

(3) The soil types in all areas that will be disturbed. If those soils have limitations applicable to the proposed development (as indicated on tables in the "*Soil Survey of* _____ *County, New York*") the developer should indicate how the project would overcome those limitations.

(4) A description of the proposed structural and vegetative stormwater measures that will be utilized to ensure that the quantity, temporal distribution and quality of stormwater runoff during and after development are not substantially altered from pre-development conditions. This will include appropriate plans, design data, calculations, and other information.

(5) A maintenance plan, which describes the type and frequency of maintenance required by the stormwater management facilities utilized and the arrangements that will be made to ensure long-term maintenance of these facilities. Operation, maintenance, and any necessary repairs are the responsibility of the property owner or his/her designee. Storm water management facilities shall have adequate easements to permit the Town/Village/City to inspect and, if necessary, to take corrective action should the owner fail to properly maintain the system. If corrective action by the Town/Village/City is required, incurred costs are the responsibility of the property owner.

(6) A flood hazard analysis for any development located within or adjacent to the designated floodplain.

(l) The Town/Village/City shall inspect drainage systems and drainage structures before, during and after construction to assure that all Town/Village/City specifications and requirements are met. The applicant shall promptly correct any portion of the work that does not comply.

Section 2. Erosion and Sediment Control.

The goals for erosion and sediment control are (1) to minimize the opportunity for soil to be moved by wind, precipitation and runoff and (2) to contain sediment that does move close to its place of origin and thus prevent it from reaching a water body or damaging other lands. In order to ensure that the land will be developed with a minimum amount of soil erosion and to protect the natural character of on-site and off-site water bodies, the Planning Board shall require the developer to follow certain erosion control practices. The standards for erosion and sediment control are as follows:

(a) Erosion and sediment control practices shall be consistent with requirements of the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity. A permit is generally required for construction activities that disturb one or more acre of land.

(b) The Planning Board may require the developer to submit an erosion and sediment control plan, the contents of which are specified in the New York State Department of Environmental Conservation SPDES General Permit for Stormwater Discharges from Construction Activity.

(c) The recommended technical standards for erosion and sedimentation control are detailed in the "*New York Standards and Specifications for Erosion and Sediment Control"* published by the Empire State Chapter of the Soil and Water Conservation Society, as revised.

(d) The development plan should be consistent with the topography, soils, and other physical characteristics of the site so as to minimize the erosion potential and avoid disturbance of environmentally sensitive areas.

(e) Existing vegetation on the project site should be retained and protected as much as possible to minimize soil loss from the project site. (This will also minimize erosion and sediment control costs.)

(f) Erosion and sediment control measures should be constructed prior to beginning any land disturbances. All runoff from disturbed areas should be directed to the sediment control devices. These devices should not be removed until the disturbed land areas are stabilized.

(g) The timing and sequence of construction activities shall expose the smallest practical area of land at any one time during the development. Temporary vegetation and/or mulching should be used to protect critical areas. Permanent vegetation shall be established as soon as practicable. Construction will not be considered complete until all disturbed areas are successfully seeded or stabilized with erosion control materials.

(h) The off-site impacts of erosion and sedimentation from the development site should not be any greater during and following land disturbance activities than under pre-development conditions.

(i) Sediment laden runoff should not be allowed to enter the roadside drainage system or any water body in such quantity that would result in deposition on the bottom of the water body, degrade its natural biological functions, or be harmful to the classified usage of the water.

(j) Water in streams on-site and downstream of construction areas should not have substantial visible contrast relative to color, taste, odor, turbidity and sediment deposition from upstream of the construction area.

(k) The Town/Village/City shall inspect erosion and sediment control practices during and after construction to assure that all Town/Village/City specifications and requirements are met. The applicant shall promptly correct any portion of the work that does not comply.

Section 3. Off-site drainage and sediment control facilities.

The Town/Village/City may allow storm water runoff or sediment leaving the site to exceed the Town's/Village's/City's performance standards if the runoff is discharged into storm water management facilities off the site and all of the following conditions are met:

(a) It is not practicable to completely manage runoff on-site in a manner that meets the Town's/Village's/City's performance standards.

(b) The off-site drainage facilities and channels leading to them are designed, constructed and maintained in accordance with all Town/Village/City specifications and requirements.

(c) Adverse environmental impacts on the site of development will be minimized.

(d) A request to use off-site storm water management facilities and relevant information about to the proposed off-site facilities shall be submitted to the Planning Board.