Chapter 1370. Storm Water Management

All developments will be constructed and maintained so that adjacent properties are not unreasonably burdened with surface waters as a result of such developments. More specifically:

1370.010 Stormwater Detention

The purpose of flood control detention requirements is to protect downstream properties from increased flooding due to upstream development. Development or redevelopment creating a total of 20,000 square feet or more of impervious area shall be designed to control the peak discharges from the 2-, 10-, and 25-year, 24-hour storm events to pre-development levels. The emergency overflow and outlet works for any stormwater BMP shall be capable of safely passing a discharge with a minimum recurrence frequency as specified in the Town of Indian Trail Stormwater Design Manual.

Development or redevelopment that proposes to use existing detention facilities shall comply with the requirements of this Section 1370.

Detention facilities shall not be located within FEMA Special Flood Hazard Areas, drainage areas where the 100-year storm event is greater than 50 cfs, or within 10 feet of any property lines. Design of detention facilities shall be consistent with the Town of Indian Trail Stormwater Design Manual except as stated herein.

Stormwater detention design must be performed by a North Carolina Registered Professional Engineer.

1370.020 Downstream Impact Analysis

A. Hydrologic Analysis

The Owner shall cause a downstream hydrologic analysis to be performed to determine if there are any additional impacts in terms of peak discharge increase or downstream flooding due to the difference in the pre and post-development 50- and 100-year storm events. The analysis shall be performed at the outlet(s) of the site and downstream at each tributary junction to the point in the conveyance system where the area of the portion of the site draining into the system is 10% of the total drainage area above that point. Key detention structures in the study area must be modeled.

B. Hydraulic Analysis

If during the site plan review process the Town Engineer determines that as a result of an increase in peak discharge between the pre and post-development 50-year storm event, detrimental impacts at thoroughfare culvert crossings are probable, the Owner shall cause a hydraulic analysis to be performed to determine flood elevations for the areas impacted by increased flows. No existing or proposed thoroughfare culvert crossing shall be designed to have stormwater encroach upon the roadway pavement.

If during the site plan review process the Town Engineer determines that as a result of an increase in peak discharge between the pre and post-development 100-year storm event, detrimental impacts on building footprints are probable, the Owner shall cause a hydraulic analysis shall to be performed to determine flood elevations for the areas impacted by increased flows. No existing or proposed building or habitable structure shall be designed to be flooded or have water impounded against it.

Downstream Impact Analysis must be performed by a North Carolina Registered Professional Engineer and shall comply with the requirements in Appendix 7, "Downstream Impact Analysis".

1370.030 100 + 1 Flood Analysis

All streams in Indian Trail which drain more than one square mile (640 acres) are regulated by Section 1360, "Flood Damage Reduction Ordinance". Streams that drain less than one square mile will also experience flooding and require regulation as well. This regulation is known as the "100 + 1 Flood Analysis". For drainage systems which are expected to carry 50cfs of more in the 100-year storm event, both the 100-year + 1 Storm Water Elevation Line (SWEL) and the Storm Water Protection Elevation (SWPE) shall be shown on the site, grading plan, and recorded map.

Flood Analysis must be performed by a North Carolina Registered Professional Engineer.

1370.040 Ponds

A. All plans that include a proposed natural pond, and all plans that include stormwater runoff to any existing natural ponds, shall be subject to the review of the State Dam Safety Engineer. An Evaluation of the pond dam shall be made by the designer, in accordance with the Dam Safety Law of 1967, and submitted to the Dam Safety Engineer for review.

B. All existing natural ponds proposed to comply with Section 1370.010 shall be evaluated to verify the ponds will safely withstand the post-development 50-year storm event with a minimum of 0.50 feet of freeboard at the dam. Design calculations shall include the assumption of future build out of the drainage basin.

C. Where ponds are proposed to be constructed, the owners, heirs, assigns or successors of the land will agree to perpetual maintenance of the pond and will release and hold harmless the Town of Indian Trail from any liability, claims, demands, attorney's fees, and costs or judgments arising from said pond. At a minimum, ponds will be inspected by a North Carolina Registered Professional Engineer on a yearly basis. The annual inspection report will be submitted to the Town Engineer for purposes of compliance.

1370.050 Embankments

All stormwater detention and water quality facilities with embankments that are designed to hold water shall comply with the requirements in Appendix 6, "Embankment Requirements".

1370.060 No certificate of occupancy or release of sureties will be issued for any development until:

A. As-built drawings of all storm drainage, detention, and water quality features have been submitted by a professional land surveyor.

B. Any required revised calculations have been submitted and approved by the Town. Said revised calculations must be sealed by a North Carolina Registered Professional Engineer.

C. The facility has been stabilized consistent with the North Carolina Department of Environment and Natural Resources standards and specifications.

D. The as-built survey, final calculations, and facility will be inspected and approved by the Town.

1370.070 When a detention facility serves more than one property, a permanent detention easement that encompasses the detention facility will be shown on a recorded plat. This easement will be described by metes and bounds.

1370.080 There will be a note placed on the recorded plat that clearly describes who is responsible for maintenance of the detention facilities, pipes and/or channels located within the permanent detention facility.

1370.090 Deviations from the Stormwater Manual may be necessary to accommodate soil types found in Union County and site constraints subject to approval by the Town Engineer.

1370.100 Additions to existing non-residential structures over 50% of the existing floor area (square footage) or demolition of existing structures for purposes of redevelopment will be subject to the requirements of this section.

1370.110 Minor residential subdivisions and individual single-family residences are exempt from said requirements.

1370.120 All non-conforming developments (existing impervious area > 20,000 sq. ft.) adding impervious area (structural or non-structural) shall provide detention for the newly added impervious area only in compliance with this section.