

## Peak Flow

### 6.2.3.1 Evaluation of Downstream Impacts:

All new development shall evaluate the stormwater impacts, created by their project, to off-site existing, stormwater systems that receive runoff from the new development. These off-site systems may be open ditches, streams, or pipe.

- A. The limits of the analysis shall be 500 feet downstream and to a point where the proposed development is 10% of the total watershed.
- B. Analysis shall also be conducted upstream to insure the proposed development does not use up all the existing capacity of the off-site system.
- C. If the existing stormwater system(s) cannot handle the runoff from the proposed development, the development shall either:
  - I. Install on site stormwater controls (BMP's) to reduce the peak flow; OR
  - II. Upgrade the existing stormwater system to handle the increased flow.
- D. All engineered stormwater solutions shall be evaluated by the City Engineer to determine whether the improvements meet the City's requirements.

### 6.2.3.2 Peak Flow Requirements:

- A. All new development as described in Section 6.2 above shall comply with the following peak flow requirements for stormwater runoff control:

The post-development stormwater runoff rate leaving the site shall not exceed the pre-development (existing conditions) stormwater runoff rate leaving the site for the local 1-year 24-hour event, and in fact must reduce peak runoff by 20% for both the 1- and 2-year 24-hour storm events and 10% for both the 10- and 25-year 24-hour storm events, as shown in Table 6.1 below.

**TABLE 6.1 PEAK FLOW ATTENUATION REQUIREMENTS**

STORM EVENT	PEAK FLOW REQUIREMENT	REASON FOR REQUIREMENT
1-year, 24 hour 2-year, 24 hour	20% Reduction	To reduce downstream channel degradation, and to not aggravate existing flooding problems
10-year, 24 hour	10% Reduction	To protect downstream drainage system capacity
25-year, 24 hour	10% Reduction	To protect downstream properties

Peak flow attenuation calculations are to be shown on all plans using the City's chart templates, available online at:

<http://www.wilsonnc.org/departments/publicservices/engineering/stormwatermanagement/waterquality/reviewsubmittal/>