

CONSULTING ENGINEERS  
GENERAL MEMORANDUM 07-06

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF ENGINEERING AND  
HIGHWAY OPERATIONS  
OFFICE OF ENGINEERING

StreamStats

June 21, 2007

TO: CONSULTING ENGINEERS

The U.S Geological Survey (USGS) has recently developed a GIS application, named StreamStats for Connecticut (available at <http://streamstats.usgs.gov/ctstreamstats/>). The application makes the process of computing streamflow statistics much faster, **more accurate**, and more consistent than previous manual methods. The application is a map-based user interface that determines boundaries of drainage basins for ungaged sites, measures the physical characteristics of the drainage basins, and solves regression equations to estimate streamflow statistics for the sites. Previously published streamflow statistics and other information can also be obtained from StreamStats for gaged sites (USGS data-collection stations). The application is valid for obtaining peak discharges for drainage areas between 1.69 and 715 sq. miles for unregulated streams. Other limitations of the regression equations are described in the publication "Regression Equations for Estimating Flood Flows for the 2-, 10-, 25-, 50-, 100-, and 500-Year Recurrence Intervals in Connecticut," U.S. Department of the Interior, U.S. Geological Survey, Scientific Investigations Reports 2004-5160 (<http://pubs.usgs.gov/sir/2004/5160/#pdf>).

All consultants currently working for the Department on hydrology/hydraulic reports involving watershed areas between 1.69 and 715 sq. miles (unregulated streams) are to utilize StreamStats when applying the regression equation methodology, where applicable, to obtain peak discharges. This applies to all relevant projects for which the Final Hydraulic Report and/or Final Scour Report has not been approved already.

The Department's Drainage Manual will be revised in the near future to incorporate the 2004 regression equations and reference to the StreamStats application.

If there are any questions as to whether this change is to be applied to an active project assignment, please discuss with the appropriate Department project manager.

Very truly yours,

Thomas A. Harley, P.E.  
Manager of Consultant Design  
Bureau of Engineering and  
Highway Operations