QUESTIONS: ‘Effects of Urban Development on Floods’

1. List three actions associated with urban development land use changes that affect flooding:

2. List 4 factors that influence peak discharge in a flood event:

3. What is the difference between ‘permeable’ and ‘impermeable’?

4. Using the text and graph on page 1, describe the difference in the flow of an urban vs. rural stream? What factors lead to these differences?

5. How does the construction of roads change the flow of water in stream channels and floodplains?
6. Where are the hydrologic effects of urban development often greatest and in what kind of storms? Why do you think this would be?

7. Look at the chart on page 3 showing the relative annual maximum discharge in Salt Creek, Illinois. What do the gold dots in the chart represent? What type of scale is being used for the Y-axis? The text states large floods in Salt Creek have increased by 100%, while small floods have increased by 200%. How is this true when the chart shows the dotted line for large floods is above the solid line representing small floods?

8. Study the chart in the lower left corner of page 3. How many times did daily discharge in the Northeast Branch of the Anacostia River exceed 1,000 ft3/sec in the time period 1960 to 1970 versus the time period 1990 to 2000?

9. What recommendations are made in the text to reduce flood hazards in urban areas?