

SILVER CREEK WATER RESOURCES FIELDTRIP:
Floods, Channel Stability and Modification in an Urban Environment

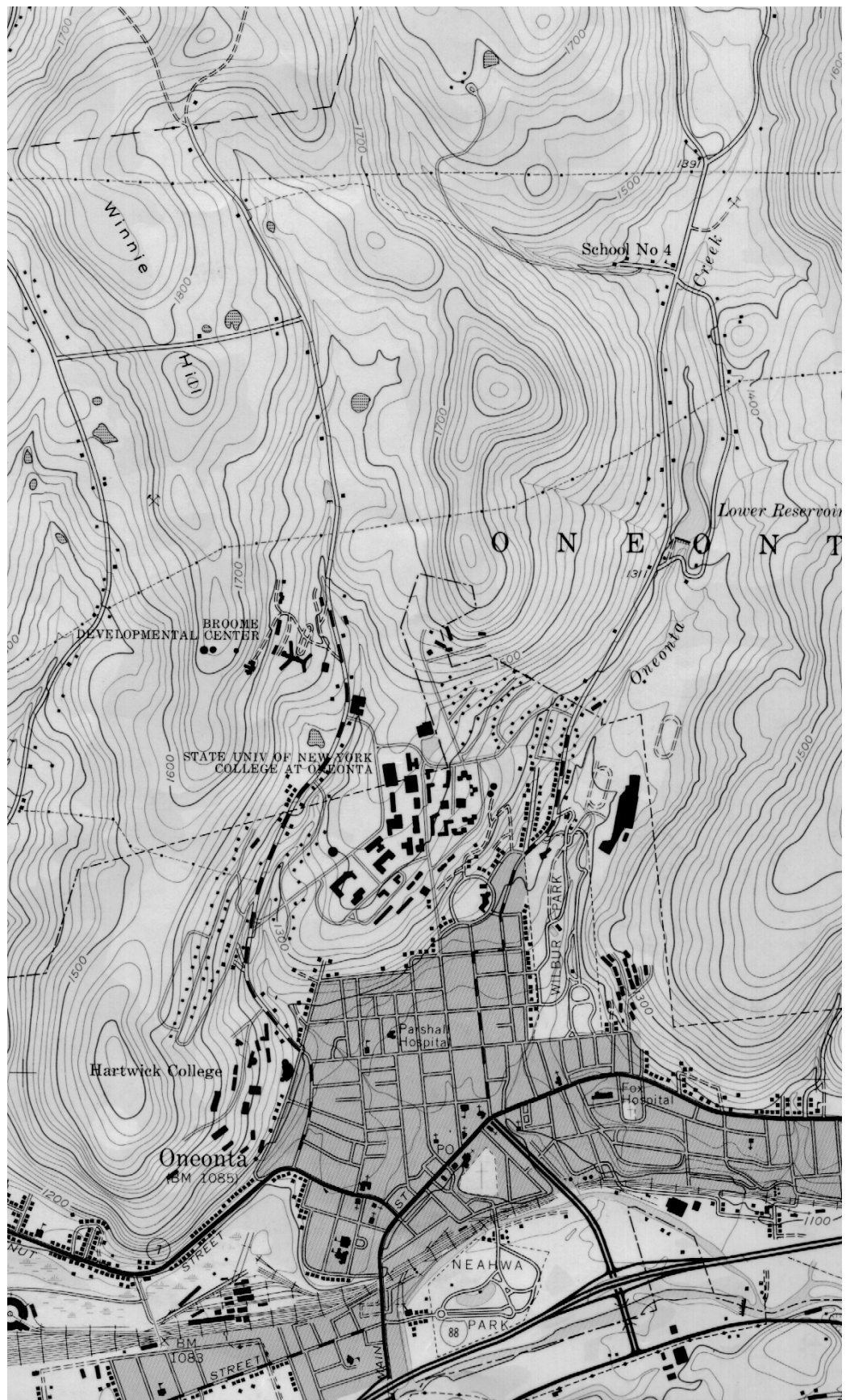
General Directions: For each stop on this field trip, you must record a site photo and written description of the location. Follow the directions for each stop as they are written below.

Stop 1: Silver Creek Headwater

- 1) Locate silver creek on the map provided. Draw in the creek with a pen. Label - Upper West Street, Blend Hill Road, the University, and the Mill Race
- 2) Draw on the map the entire boundary for the Silver Creek watershed.
- 3) Mark and X to indicate the highest point in the watershed.
- 4) What is the nature of the soil? Texture? Thick? Thin? Well-Drained?
- 5) Describe the vegetation along the drainage divide.
- 6) What type of landcover/use would you expect have found 50 years ago?

Stop 2: Barn Site

- 1) What is the general landcover and land use? How does this compare to Stop 1? Identify hydrophytic vegetation.
- 2) Is the pond a natural feature? Identify the creek. What was the use of the pond?
- 4) What effect might such ponds have on the regime of the annual and seasonal flow of Silver Creek?
- 5) Does the barn tell you anything about current and past economic activity? Explain.
- 6) How do current landuses impact Silver Creek? How might past landuses impact Silver Creek? Consider: surface run-off, groundwater seepage, water quality.



Stop 3: Silver Creek Crosses Upper West Steet

- 1) Describe the volume of flow.
- 2) What evidence is there that while its flow may be more substantial than it is now, it is rarely, if ever, a major torrent?

Stop 4: Former Water Use

- 1) Identify evidence that this was or was not a natural pond?
- 2) What was the cause of the demise of the pond?
- 3) Are there any hydrophytes?
- 4) What do you think was the purpose of the dam?

Stop 5: Retaining Wall

- 1) How does the wall change the course of the creek?
- 2) How has water volume changed since the last crossing?

Stop 6: Stream Reach inventory and Channel Stability Evaluation

- 1) Define downcutting, headward erosion and slope retreat. Find evidence of each along this section of Silver Creek.
- 2) What is the approximate gradient in feet per mile of Silver Creek? How does the gradient change within the upper and lower sections of the creek?
- 3) Take a soil sample.
- 4) Divide into groups and perform a Stream Reach inventory and Channel Stability Evaluation
- 5) Discuss your results

Stop 7: Spruce Street Dam

- 1) Why was the dam constructed? Why was it constructed at this location?
- 2) What possible function do the new concrete blocks at the north end of the pond serve? Provide evidence that indicates if the blocks are successfully serving their purpose.
- 3) Study the floodplain maps. What is a 100-year floodplain?

Stop 8: Below Dam

- 1) Is this a natural channel?
- 2) Why was the Creek channel “armored”?

Stop 9: Multiple stops through the city