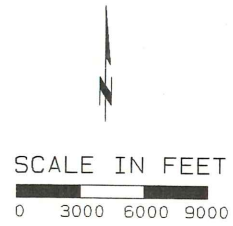
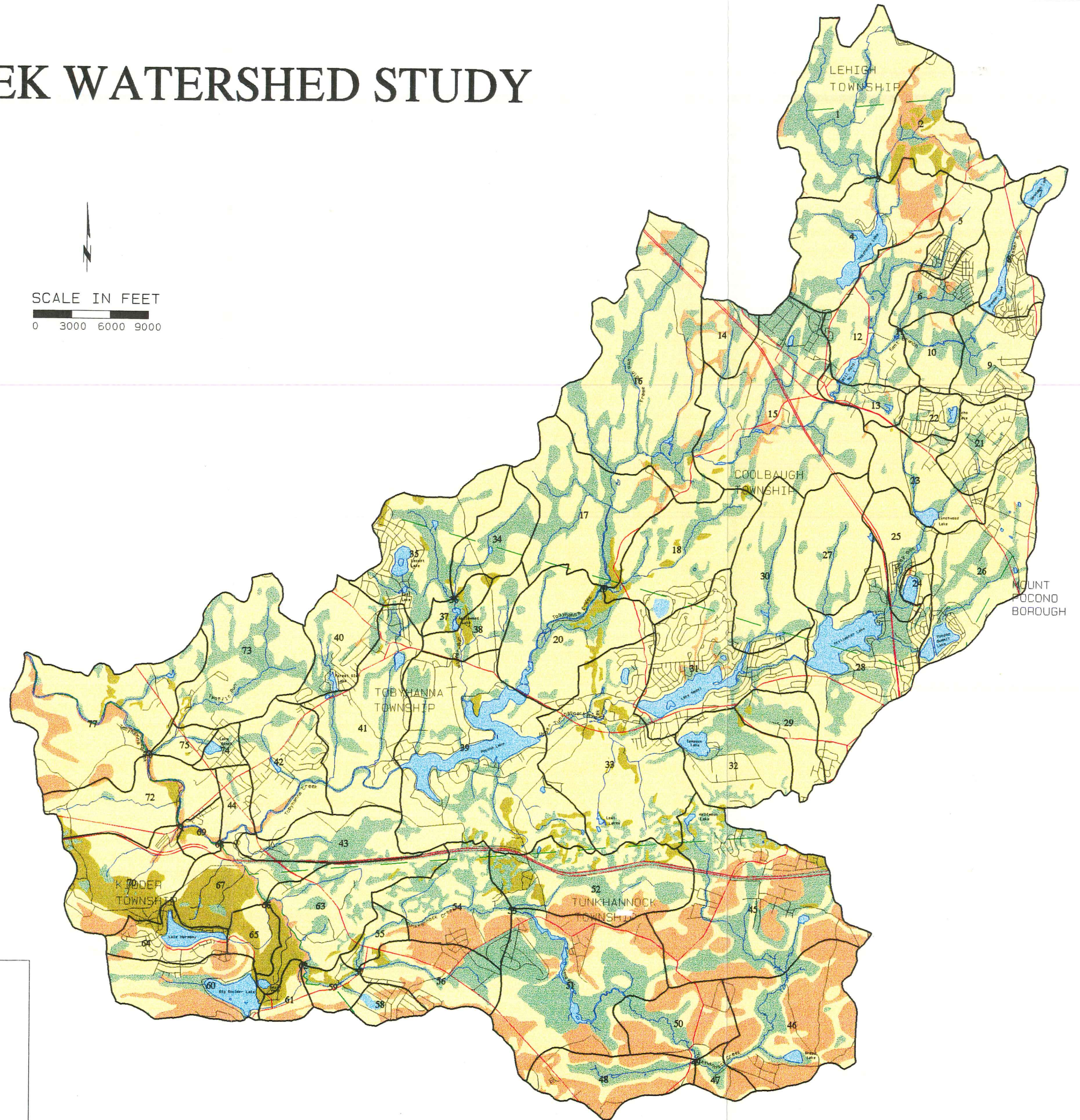


TOBYHANNA CREEK WATERSHED STUDY



- A: Low Runoff Potential, High Infiltration Rates.
- B: Moderate Infiltration Rates.
- C: Slow Infiltration Rates.
- D: High Runoff Potential, Very Slow Infiltration Rates.
- Lakes
- Subwatershed Boundaries
- Municipal Boundary
- Streams
- Major Roads
- Minor Roads



TOBYHANNA CREEK WATERSHED
HYDROLOGIC SOIL GROUP MAP



Paul A. DeBarry, Project Manager
M.L.M., Map Designer

05/30/97: wshed_hsg

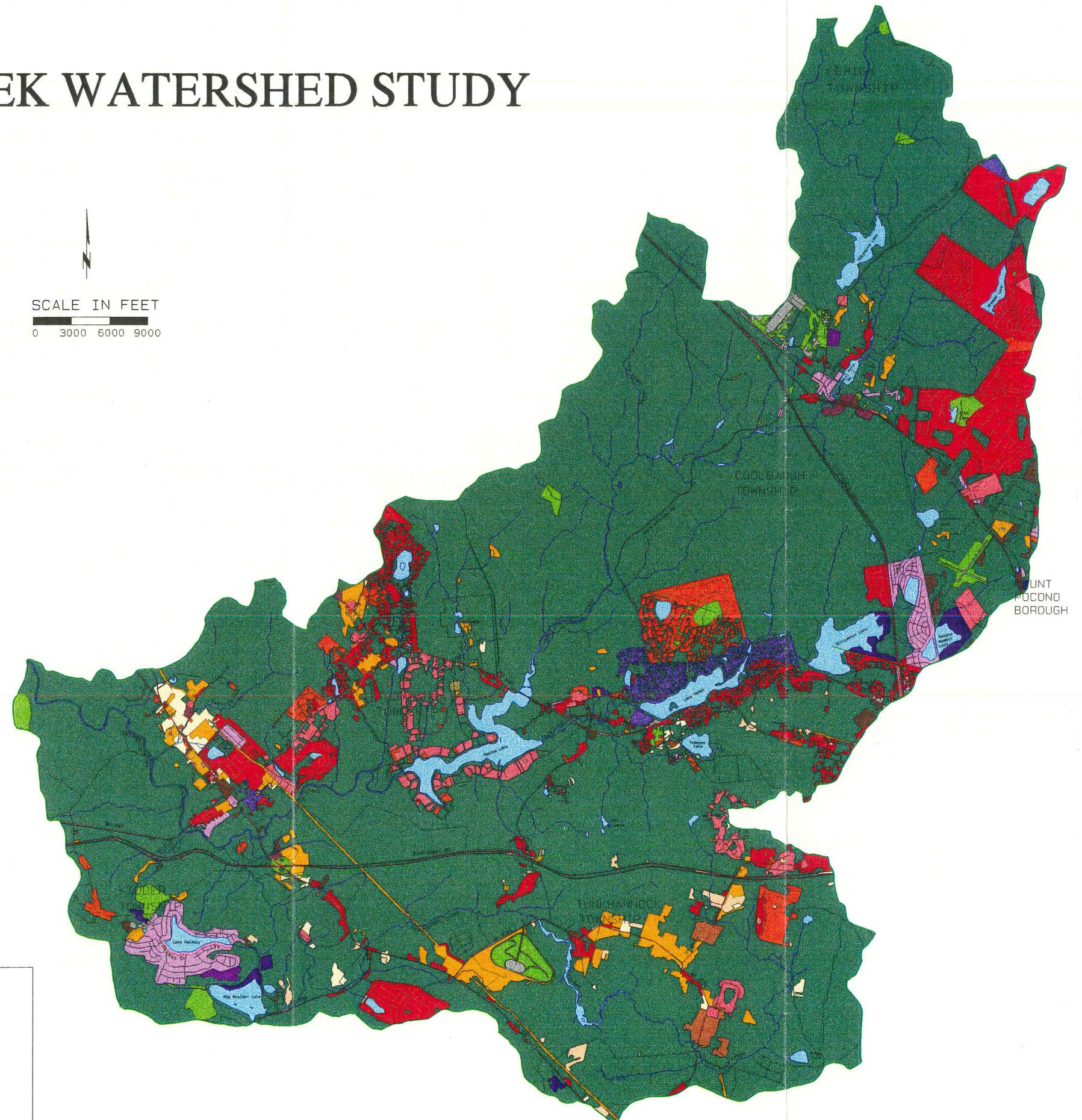
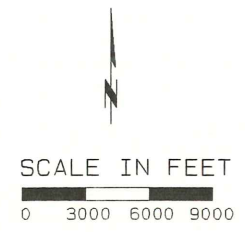
FIGURE III-2

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- OPEN SPACE
- PASTURE
- ORCHARD
- AGRICULTURE
- COMMERCIAL
- INDUSTRIAL
- R7 (1/8 ac. or less)
- R6 (1/8 ac. - 1/4 ac.)
- R5 (1/4 ac. - 1/3 ac.)
- R4 (1/3 ac. - 1/2 ac.)
- R3 (1/2 ac. - 1 ac.)
- R2 (1 ac. - 2 ac.)
- R1 (2 ac. - 4 ac.)
- PAVED
- WATER
- FOREST
- MEADOW
- GRADED

- Watershed Boundary
- Municipal Boundary
- Streams
- Major Roads
- Minor Roads



TOBYHANNA CREEK WATERSHED

WATERSHED EXISTING LAND USE MAP

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 81995 WEB SITE: www.rkrhess.com

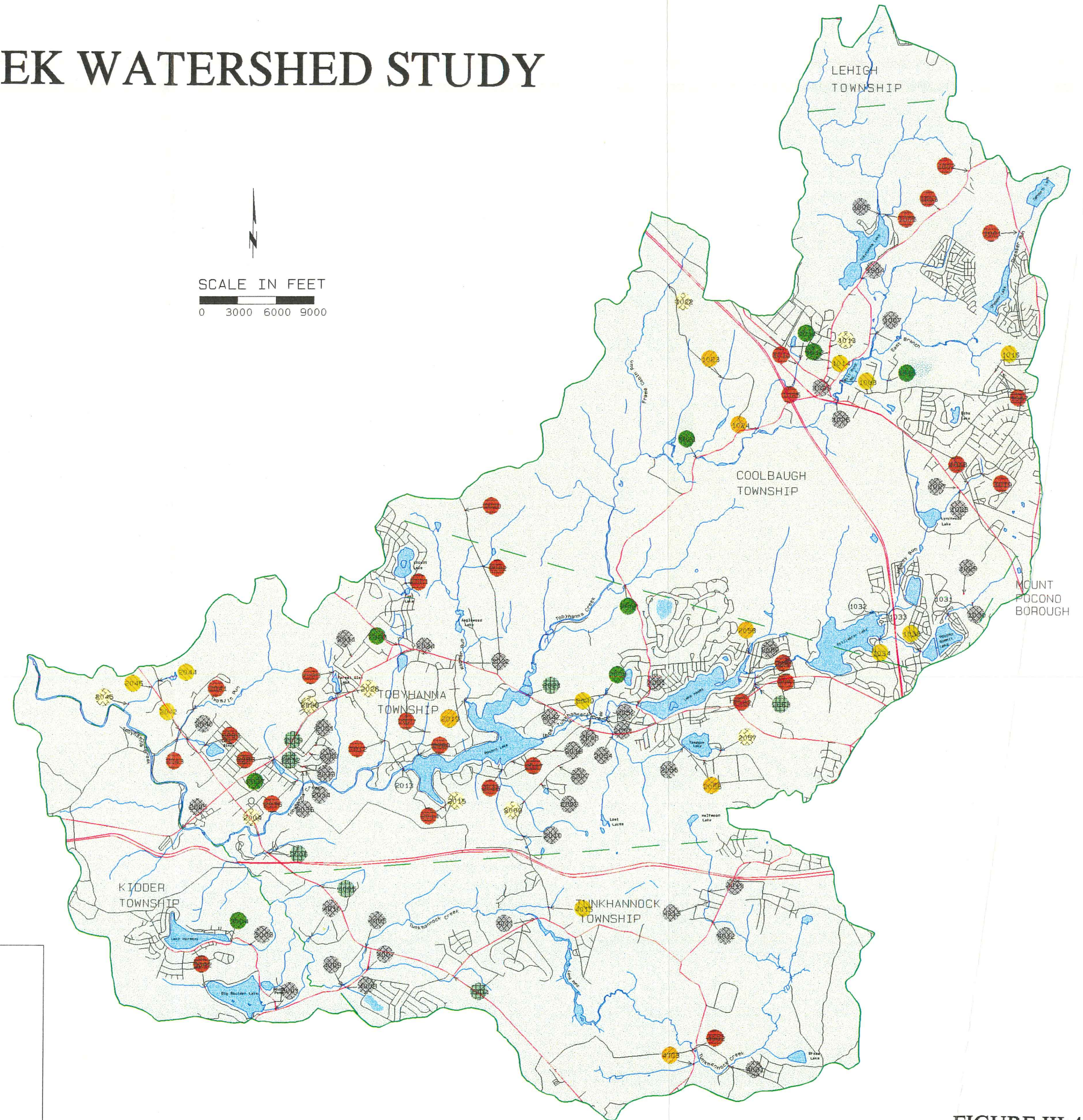
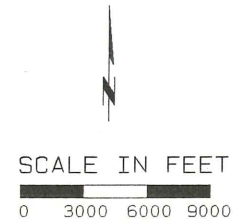
Paul A. DeBarry, Project Manager
 T.J.O. & M.L.M., Map Designers

05/30/97: watershed_eh13

FIGURE III-3

TOBYHANNA CREEK WATERSHED STUDY

- NOT ABLE TO PASS 2 YEAR FLOW AND GREATER
- NOT ABLE TO PASS 5 YEAR FLOW AND GREATER
- NOT ABLE TO PASS 10 YEAR FLOW AND GREATER
- NOT ABLE TO PASS 25 YEAR FLOW AND GREATER
- NOT ABLE TO PASS 50 YEAR FLOW AND GREATER
- NOT ABLE TO PASS 100 YEAR FLOW AND GREATER
- ABLE TO PASS 100 YEAR FLOW
- NOT APPLICABLE
(Design Storm Flows Not Determined At These Locations Due To Small Contributing Watershed Area Or Pipe Size)



- Watershed Boundary
- Municipal Boundary
- Streams
- Major Roads
- Minor Roads
- Lakes

TOBYHANNA CREEK WATERSHED

OBSTRUCTION MAP

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05/30/97: wshed_obstret.amd

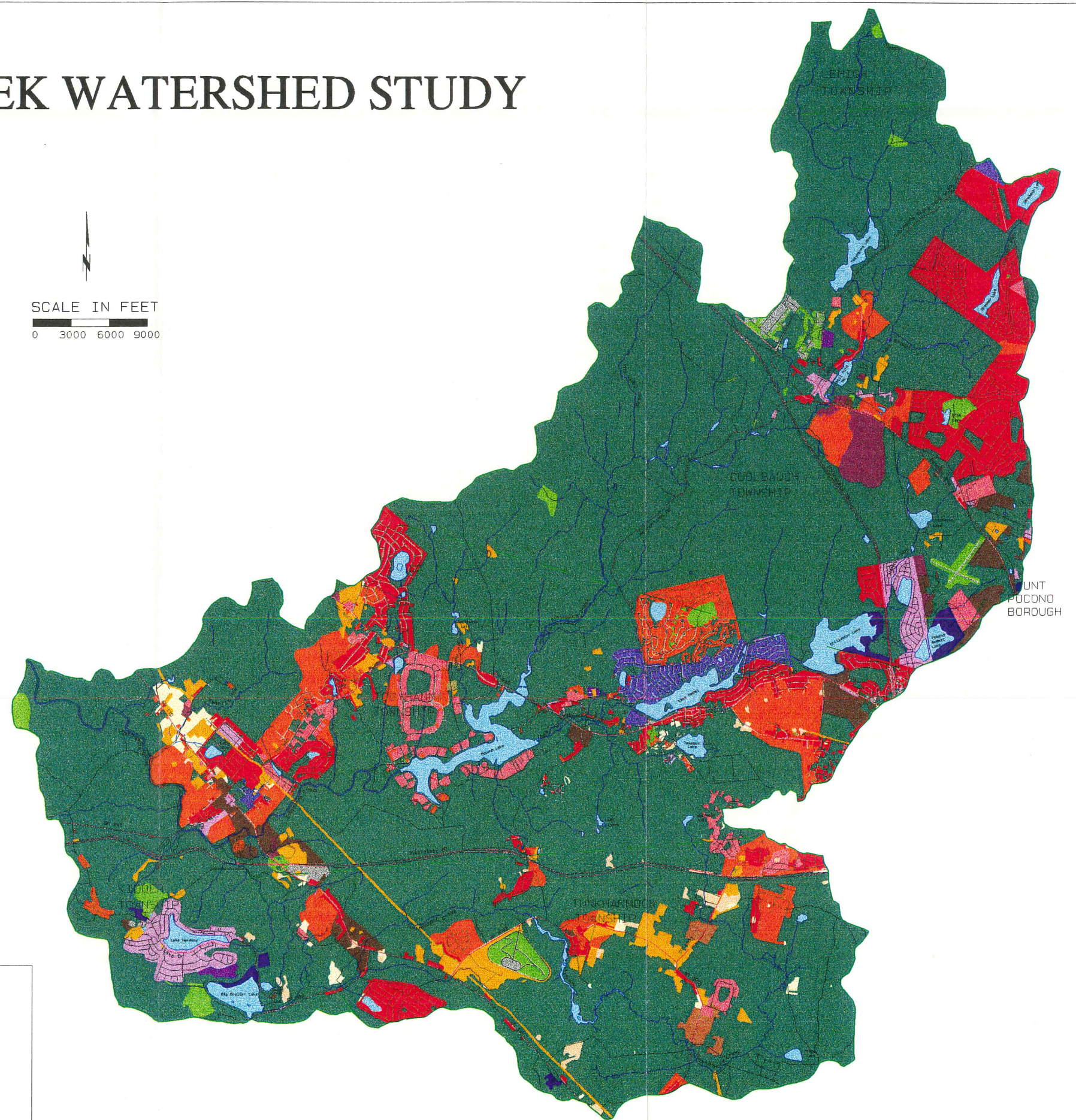
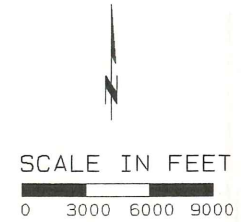
FIGURE III-4

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- OPEN SPACE
- PASTURE
- ORCHARD
- AGRICULTURE
- COMMERCIAL
- INDUSTRIAL
- R7 (1/8 ac. or less)
- R6 (1/8 ac. - 1/4 ac.)
- R5 (1/4 ac. - 1/3 ac.)
- R4 (1/3 ac. - 1/2 ac.)
- R3 (1/2 ac. - 1 ac.)
- R2 (1 ac. - 2 ac.)
- R1 (2 ac. - 4 ac.)
- PAVED
- WATER
- FOREST
- MEADOW
- GRADED

- Watershed Boundary
- Municipal Boundary
- Streams
- Major Roads
- Minor Roads



TOBYHANNA CREEK WATERSHED

WATERSHED FUTURE LAND USE MAP

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Paul A. DeBarry, Project Manager
 T.J.O. AND M.L.M., Map Designers

05/30/97: flupd8

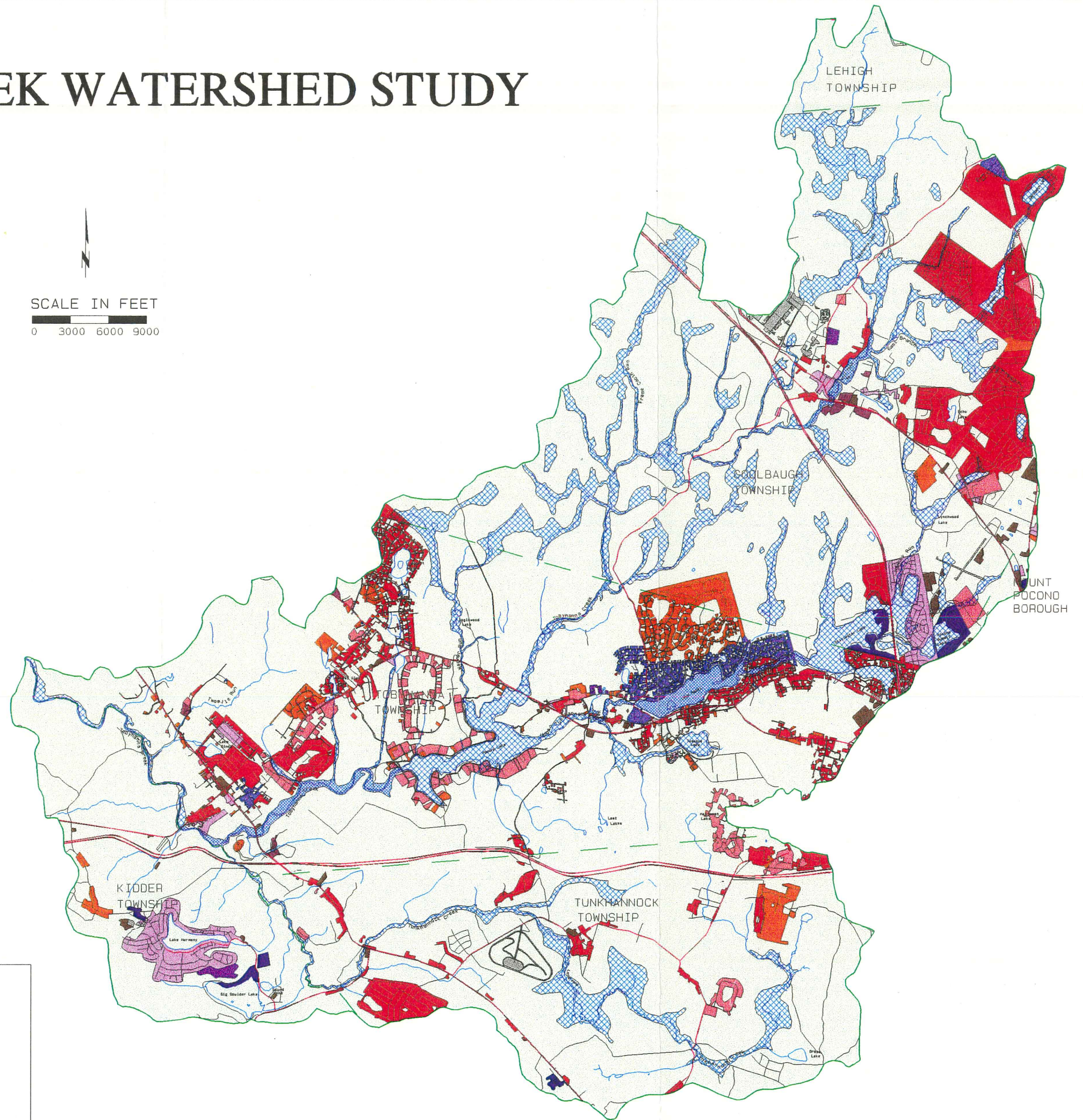
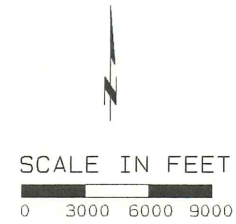
FIGURE III-5

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- COMMERCIAL
- INDUSTRIAL
- PAVED
- R7 (1/8 ac. or less)
- R6 (1/8 ac. - 1/4 ac.)
- R5 (1/4 ac. - 1/3 ac.)
- R4 (1/3 ac. - 1/2 ac.)
- R3 (1/2 ac. - 1 ac.)
- R2 (1 ac. - 2 ac.)
- R1 (2 ac. - 4 ac.)
- UNDEVELOPED

- Detailed Flood Area
- Approximate Flood Area
- Watershed Boundary
- Municipal Boundary
- Streams
- Major Roads
- Minor Roads



TOBYHANNA CREEK WATERSHED

WATERSHED FLOODPLAINS & DEVELOPMENT MAP

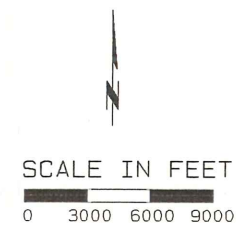
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Paul A. DeBarry, Project Manager
 T.J.O. & M.L.M., Map Designers

05/30/97: floods

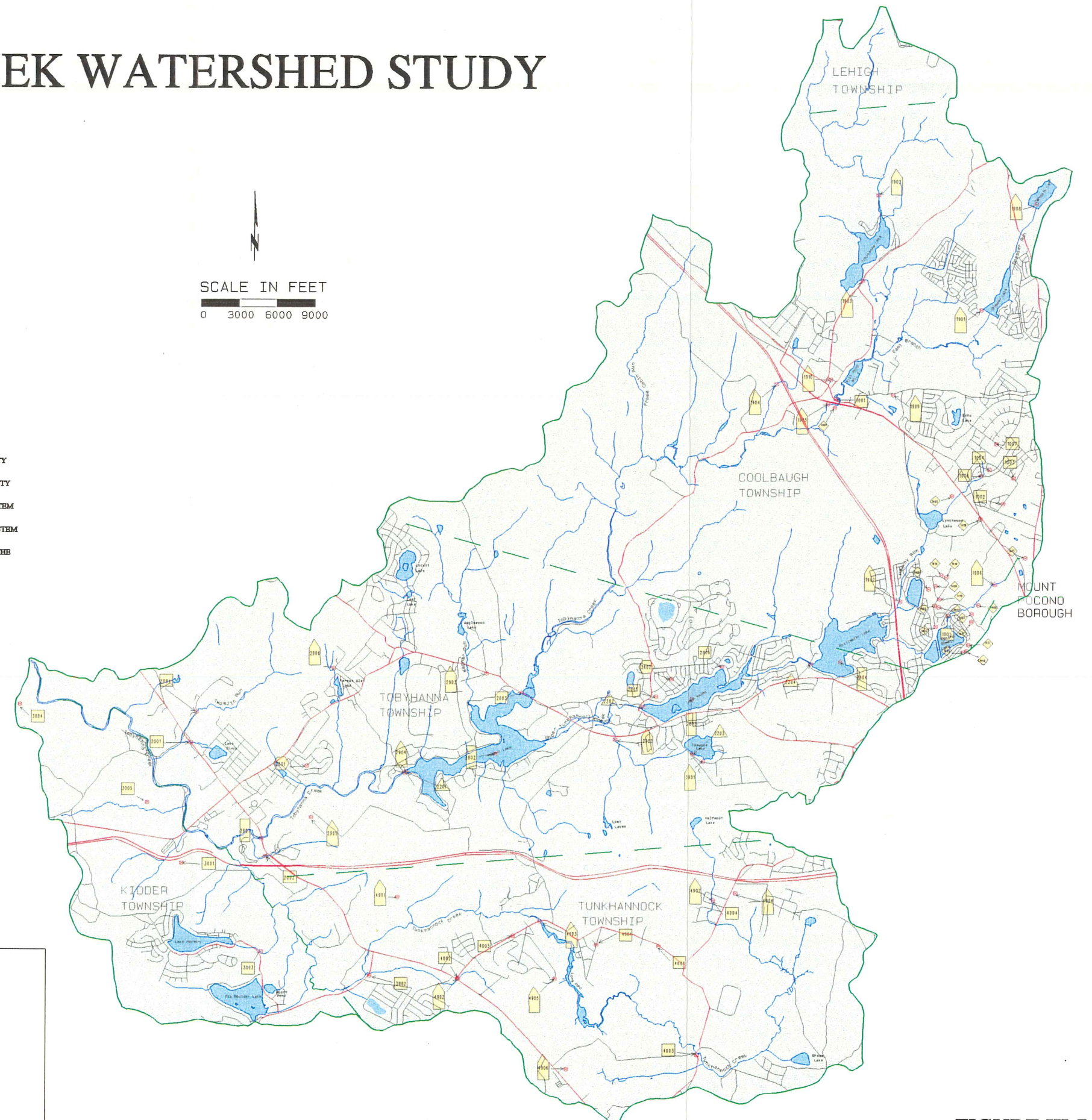
FIGURE III-6

TOBYHANNA CREEK WATERSHED STUDY



- STORM WATER PROBLEM AREAS
- EXISTING FLOOD CONTROL PROJECTS
- PROPOSED FLOOD CONTROL PROJECTS
- EXISTING STORM WATER CONTROL FACILITY
- PROPOSED STORM WATER CONTROL FACILITY
- EXISTING STORM WATER COLLECTION SYSTEM
- PROPOSED STORM WATER COLLECTION SYSTEM
- PRESENT & PROJECTED DEVELOPMENT IN THE FLOOD HAZARD AREA
- WATER QUALITY PROBLEM

- Watershed Boundary
- Municipal Boundary
- Streams
- Major Roads
- Minor Roads
- Lakes



TOBYHANNA CREEK WATERSHED PROBLEM AREAS MAP

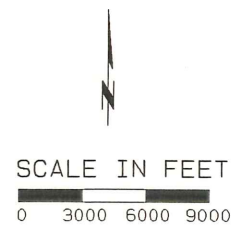




Paul A. DeBarry, Project Manager
T.J.O. & M.L.M., Map Designers

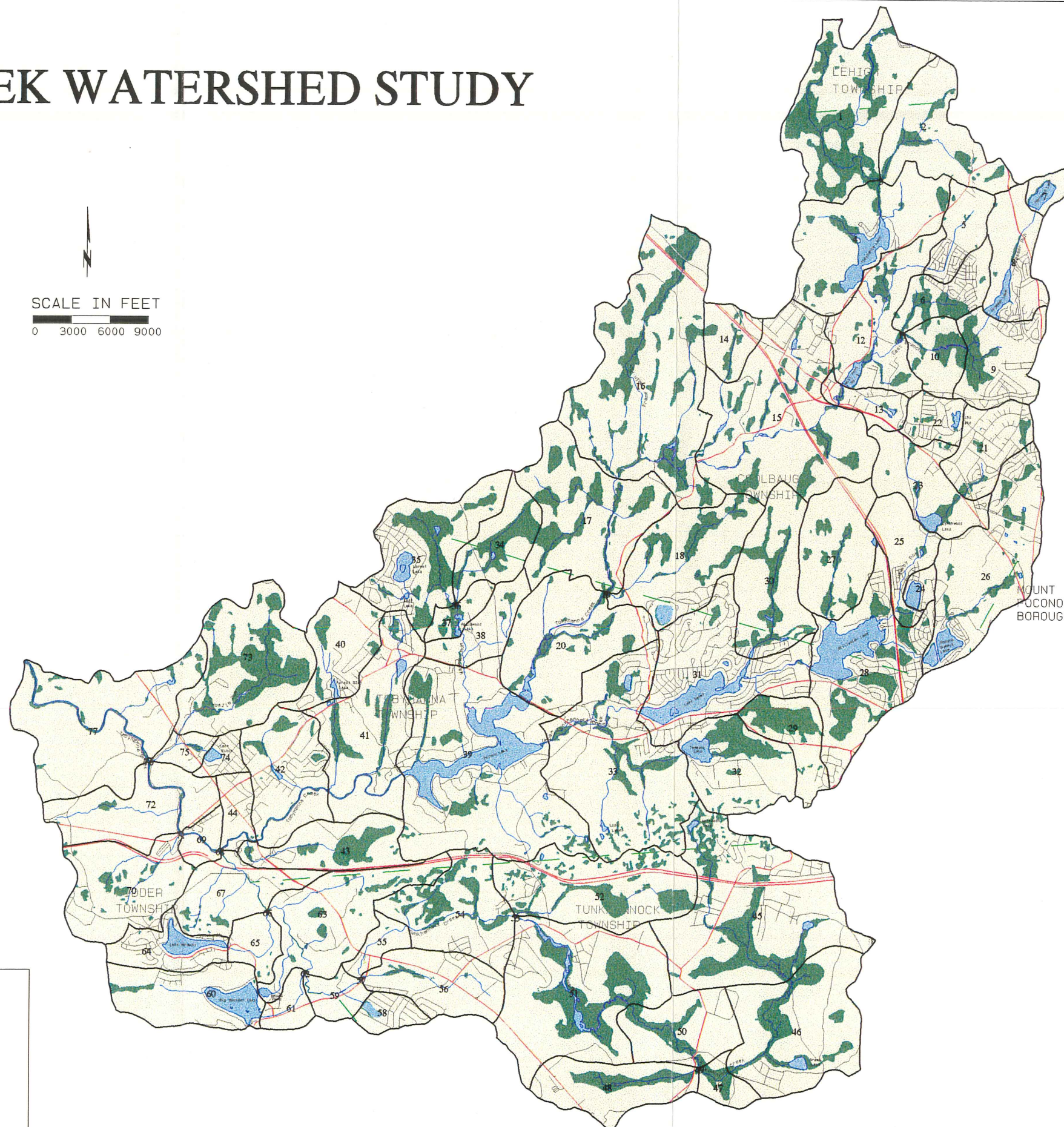
05/30/97: wabed_ptbpol

FIGURE III-7

TOBYHANNA CREEK WATERSHED STUDY



-  NWI Delineated Wetlands
-  Lakes
-  Subwatershed Boundaries
-  Municipal Boundary
-  Streams
-  Major Roads
-  Minor Roads



TOBYHANNA CREEK WATERSHED WATERSHED WETLANDS MAP

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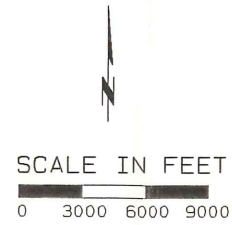
03/30/97: wshed_wetland

FIGURE III-8

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- TOTAL NITROGEN < 1.00 LB/AC/YR
- TOTAL NITROGEN 1.00 - 4.00 LB/AC/YR
- TOTAL NITROGEN > 4.00 LB/AC/YR
- TOTAL PHOSPHORUS < 0.20 LB/AC/YR
- TOTAL PHOSPHORUS 0.20 - .40 LB/AC/YR
- TOTAL PHOSPHORUS > .40 LB/AC/YR
- Subwatershed Boundaries
- Municipal Boundary
- Streams
- Major Roads
- Lakes



NONPOINT SOURCE POLLUTANT LOADINGS
CRITICAL SUBWATERSHEDS

TOTAL NITROGEN AND TOTAL PHOSPHORUS
7, 8, 9, 21, 22, 24, 28, 31, 44, 58, 64, 74

EXISTING CONDITIONS

TOBYHANNA CREEK WATERSHED
WATER QUALITY MANAGEMENT PLAN



Paul A. DeBarry, Project Manager
M.L.M., Map Designer

05/30/97: watershed_01.mxd watershed_01

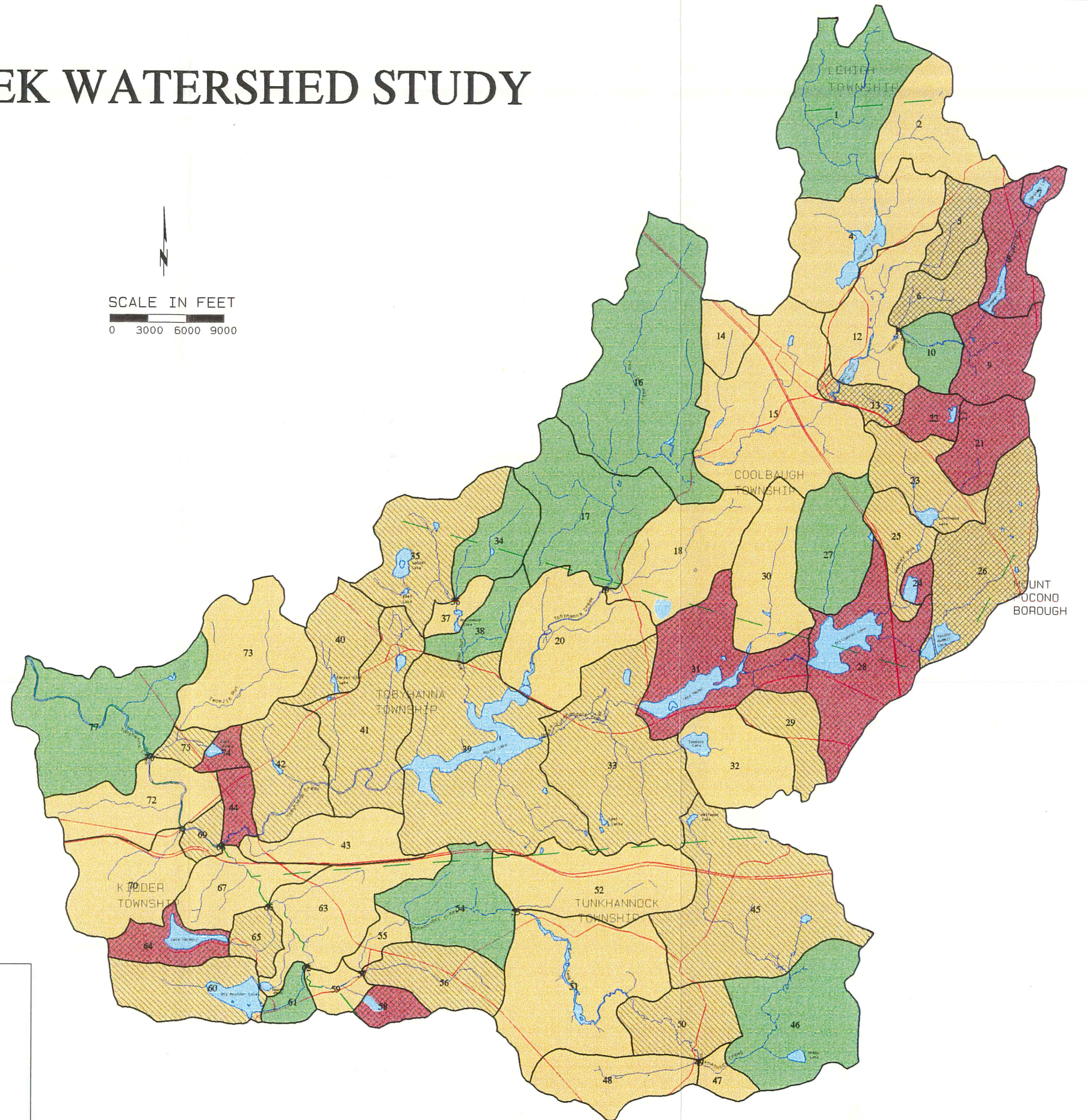
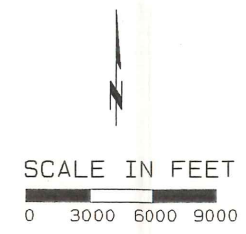


FIGURE IV-2

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- B.O.D. < 16.00 LB/AC/YR
- B.O.D. 16.00 - 17.80 LB/AC/YR
- B.O.D. > 17.80 LB/AC/YR
- SUSPENDED SOLIDS < 150 LB/AC/YR
- SUSPENDED SOLIDS 150 - 300 LB/AC/YR
- SUSPENDED SOLIDS > 300 LB/AC/YR
- Subwatershed Boundaries
- Municipal Boundary
- Streams
- Major Roads
- Lakes



NONPOINT SOURCE POLLUTANT LOADINGS
CRITICAL SUBWATERSHEDS

B.O.D. AND SUSPENDED SOLIDS
13, 26, 40, 44, 50

EXISTING CONDITIONS

TOBYHANNA CREEK WATERSHED
WATER QUALITY MANAGEMENT PLAN



Paul A. DeBarry, Project Manager
M.L.M., Map Designer
05/30/97: wshed_eps2.mxd wshed_eps

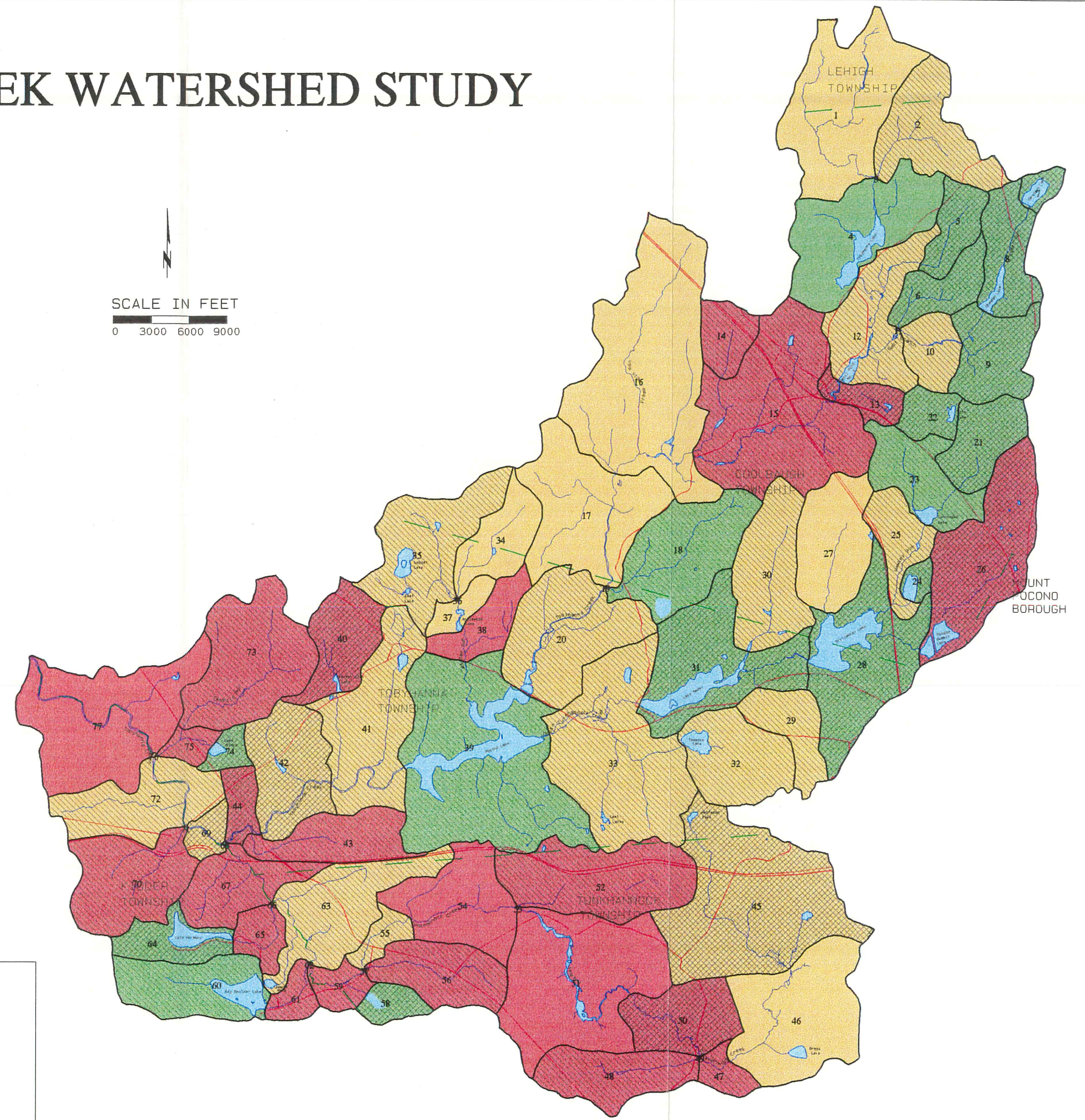
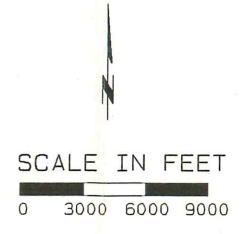


FIGURE IV-3

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- TOTAL NITROGEN < 1.00 LB/AC/YR
- TOTAL NITROGEN 1.00 - 4.00 LB/AC/YR
- TOTAL NITROGEN > 4.00 LB/AC/YR
- TOTAL PHOSPHORUS < 0.20 LB/AC/YR
- TOTAL PHOSPHORUS 0.20 - .40 LB/AC/YR
- TOTAL PHOSPHORUS > .40 LB/AC/YR
- Subwatershed Boundaries
- Municipal Boundary
- Streams
- Major Roads
- Lakes



NONPOINT SOURCE POLLUTANT LOADINGS
CRITICAL SUBWATERSHEDS

TOTAL NITROGEN AND TOTAL PHOSPHORUS
7, 8, 9, 13, 21, 22, 24, 26, 28,
29, 31, 42, 44, 58, 64, 74, 75

FUTURE CONDITIONS

TOBYHANNA CREEK WATERSHED
WATER QUALITY MANAGEMENT PLAN



Paul A. DeBarry, Project Manager
M.L.M., Map Designer

05/30/97: wshed_fig1.dwg wshed_fig2.dwg

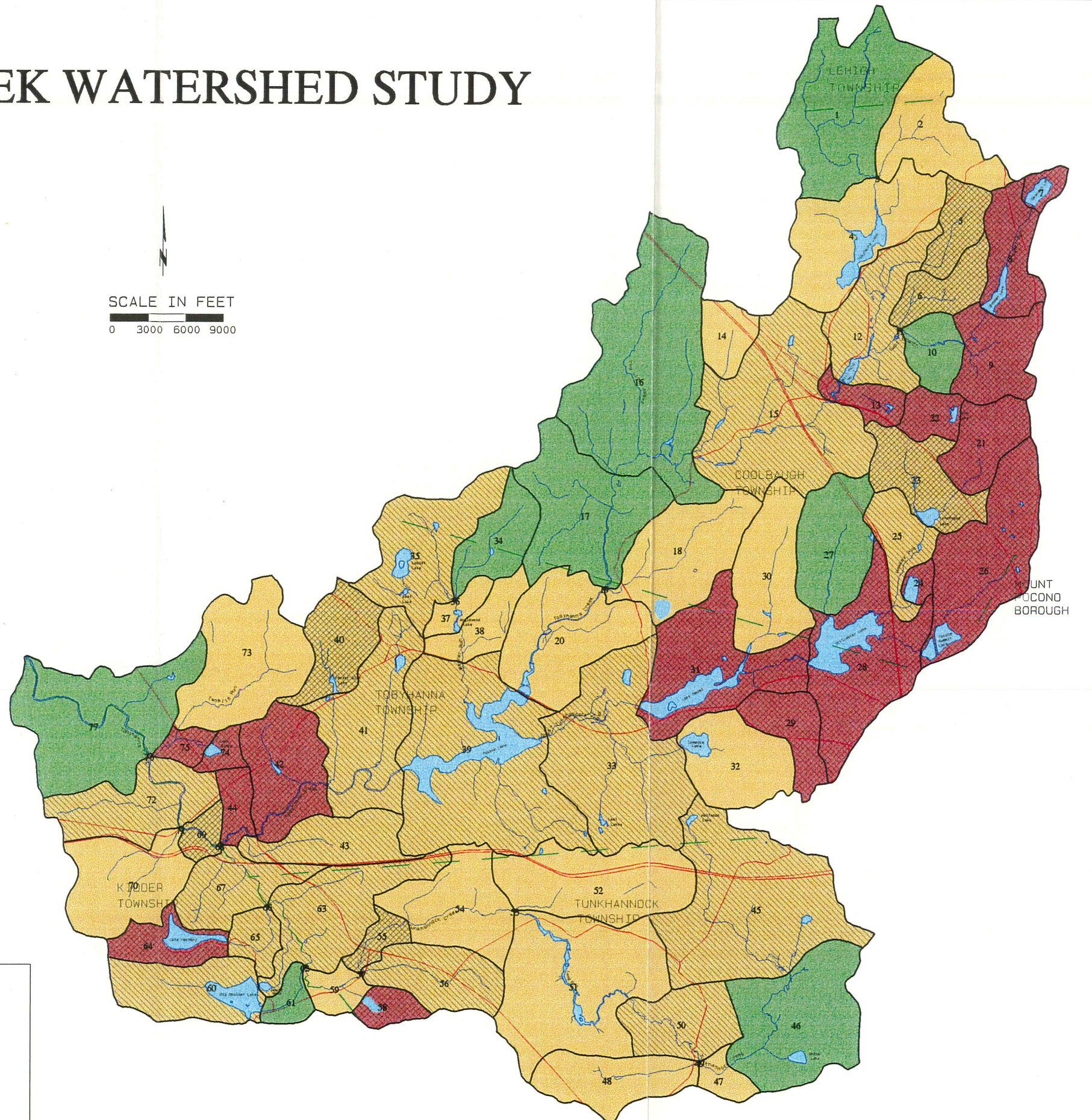


FIGURE IV-4

TOBYHANNA CREEK WATERSHED STUDY

LEGEND :

- B.O.D. < 16.00 LB/AC/YR
- B.O.D. 16.00 - 17.80 LB/AC/YR
- B.O.D. > 17.80 LB/AC/YR
- SUSPENDE SOLIDS < 150 LB/AC/YR
- SUSPENDE SOLIDS 150 - 300 LB/AC/YR
- SUSPENDE SOLIDS > 300 LB/AC/YR
- Subwatershed Boundaries
- Municipal Boundary
- Streams
- Major Roads
- Lakes

SCALE IN FEET
0 3000 6000 9000

NONPOINT SOURCE POLLUTANT LOADINGS
CRITICAL SUBWATERSHEDS

B.O.D. AND SUSPENDE SOLIDS
13, 23, 26, 44, 50, 55, 75

FUTURE CONDITIONS

TOBYHANNA CREEK WATERSHED
WATER QUALITY MANAGEMENT PLAN



Paul A. DeBarry, Project Manager
M.L.M., Map Designer

05/30/97: wshed_figs2.mxd wshed_figs

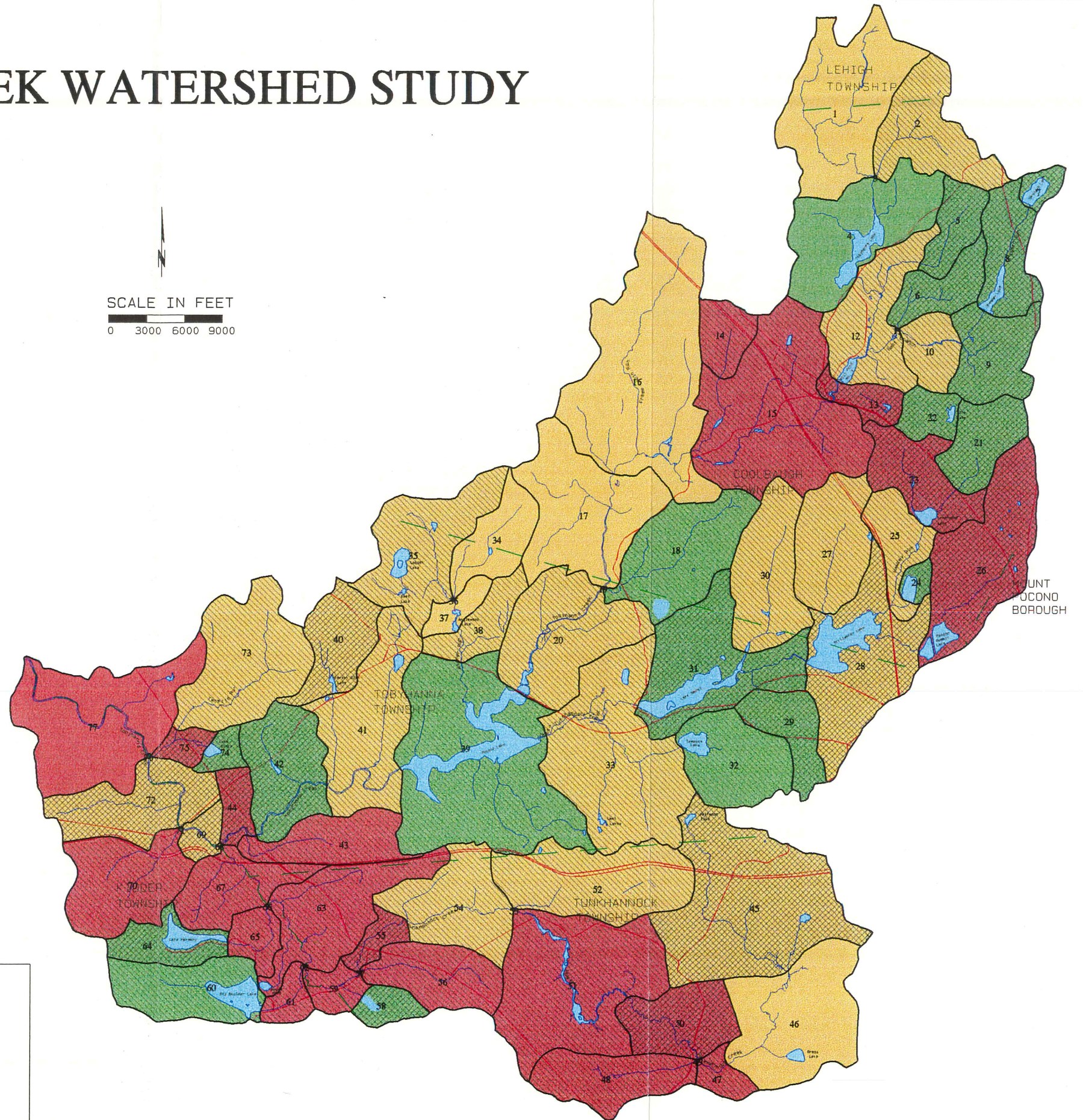










FIGURE IV-5





TOBYHANNA CREEK WATERSHED STUDY

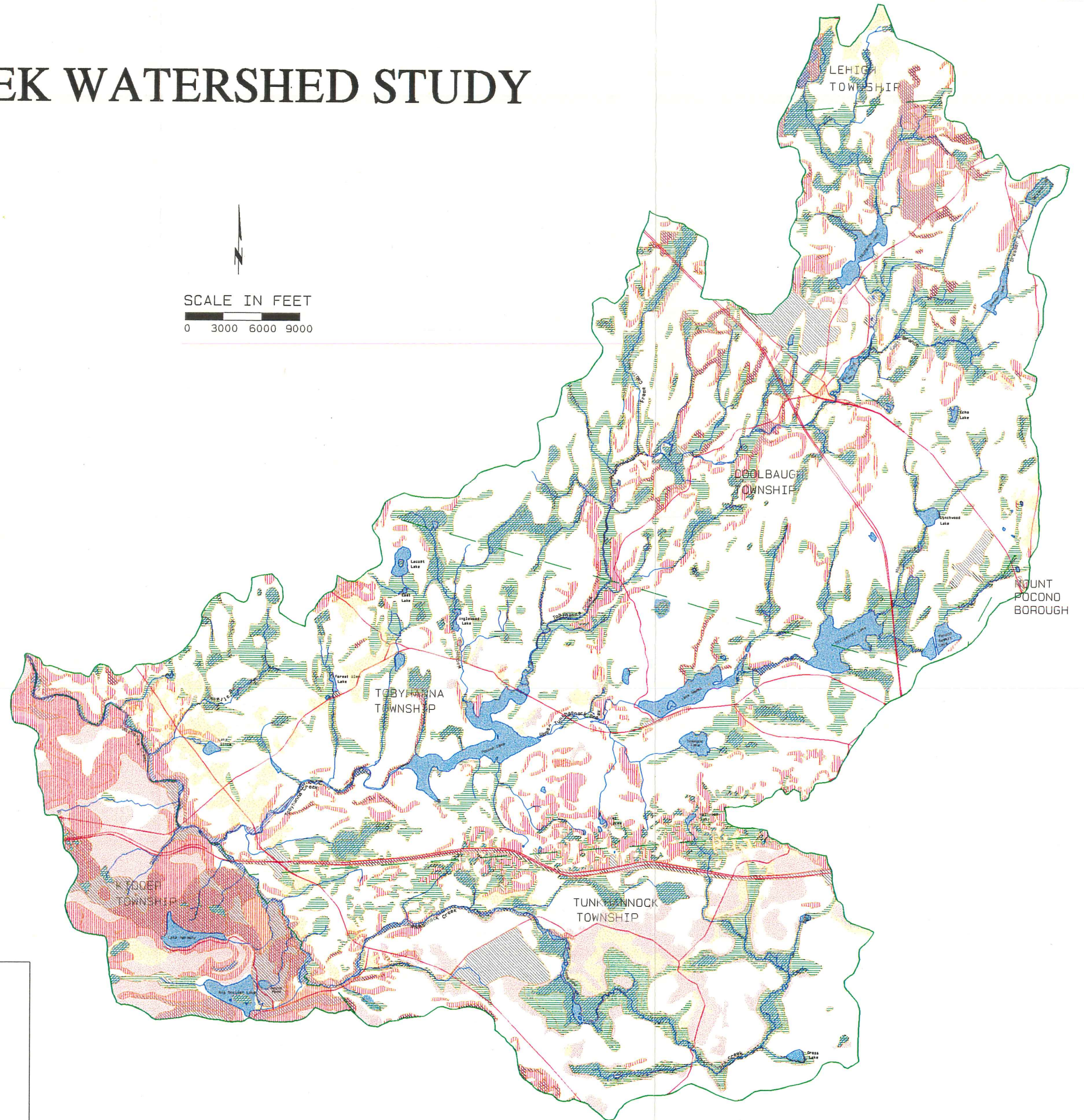
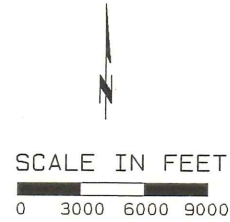
OPPORTUNITIES

-  GOOD OPEN HABITAT FOR WILDLIFE
-  GOOD WOODLAND HABITAT FOR WILDLIFE
-  GOOD WETLAND HABITAT FOR WILDLIFE
-  LAKES

CONSTRAINTS

-  EROSION PROBLEM
-  SLOPE 15% OR GREATER
-  FLOODING HAZARD
-  HYDRIC SOILS

-  Watershed Boundary
-  Municipal Boundary
-  Streams
-  Major Roads



TOBYHANNA CREEK WATERSHED

OPPORTUNITY & CONSTRAINTS MAP



Paul A. DeBarry, Project Manager
T.J.O. & M.L.M., Map Designers

05/30/97: TSOIL.TBL

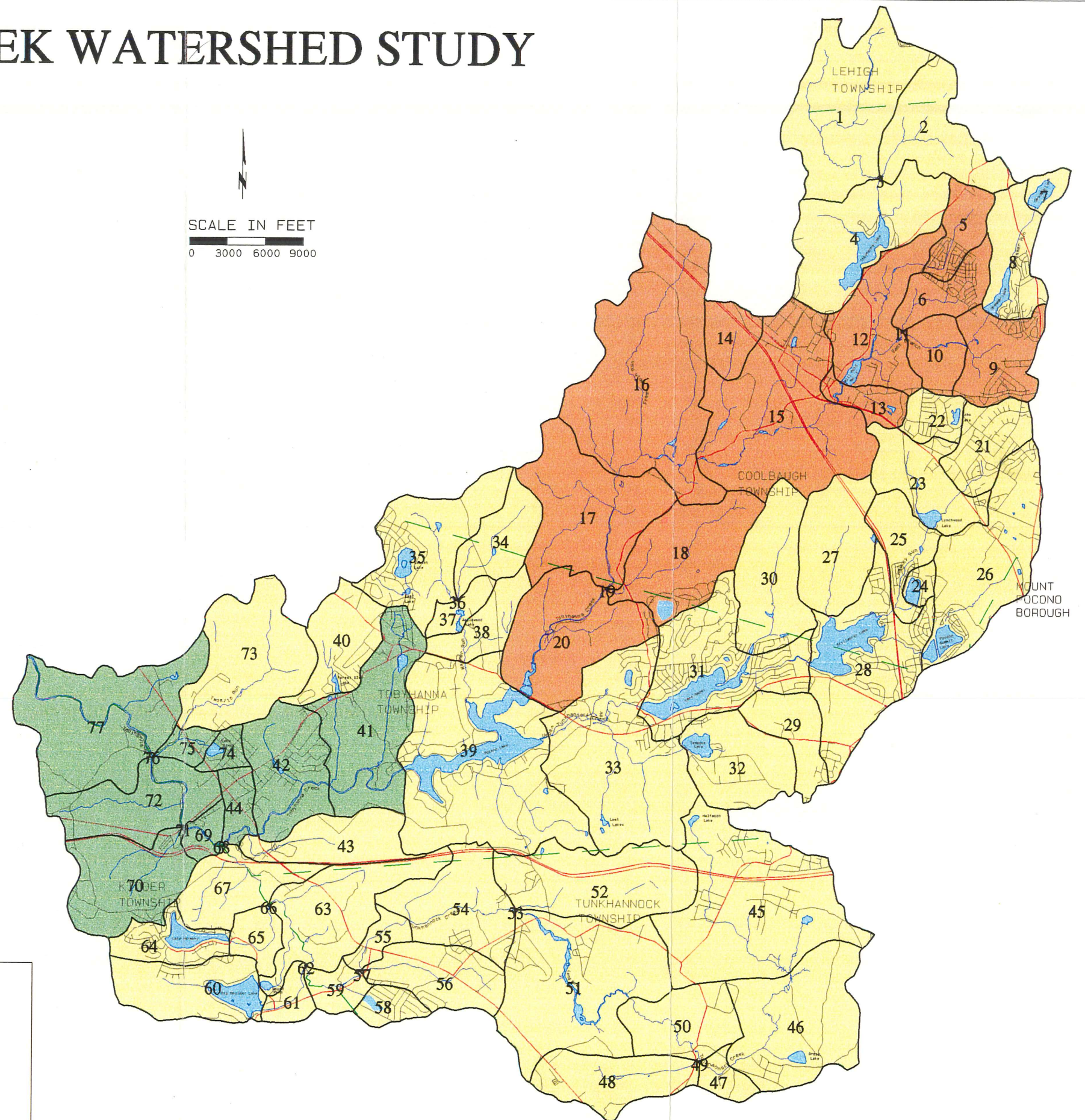
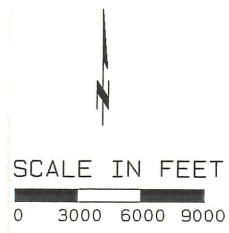
FIGURE IV-6

TOBYHANNA CREEK WATERSHED STUDY

DISTRICT LEGEND:

- | | | | |
|----------|--|--------------|-----------------|
| | POST DEV. FLOW | TO DEV. FLOW | PRE-DEV. FLOW |
| A | 2.33 YEAR | 2.33 YEAR | 10-YEAR 50-YEAR |
| B | 10-YEAR | 2.33 YEAR | 50-YEAR 10-YEAR |
| C | ** DETENTION IS NOT REQUIRED IF THE INCREASE IN STORM WATER RUNOFF CAN BE CONVEYED TO A STREAM OR WATERCOURSE IN A SAFE MANNER (ORDINANCE SECTIONS 303F, G, H); OTHERWISE DISTRICT A REQUIREMENTS APPLY. | | |

-  Subwatershed Boundaries
-  Municipal Boundary
-  Streams
-  Major Roads
-  Minor Roads
-  Lakes



STORMWATER RUNOFF PEAK RATE DISTRICTS

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 M.L.M., Map Designer

05/30/97: wabed_subw6