### TENNESSEE VALLEY AUTHORITY

Office of Natural Resources and Economic Development

# FLOODS ON NOTTELY RIVER AND MARTIN, PEACHTREE, AND SLOW CREEKS IN CHEROKEE COUNTY, NORTH CAROLINA

Flood Report
TVA/ONRED/AWR-85/25

Knoxville, Tennessee

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# FLOODS ON NOTTELY RIVER AND MARTIN, PEACHTREE, AND SLOW CREEKS IN CHEROKEE COUNTY, NORTH CAROLINA

#### INTRODUCTION

This flood hazard information report describes the extent and severity of the flood potential along selected reaches of the Nottely River and Martin, Peachtree, and Slow Creeks in Cherokee County, North Carolina. The report was prepared by TVA as a result of a request from Cherokee County for TVA technical assistance in evaluating alternative solutions to local flood problems.

A previous TVA report, "Floods on Hiwassee River, Valley River, and Peachtree Creek, Vicinity of Murphy, North Carolina," revision of May 1961 (reference 1), provides flood information on Peachtree Creek. This report updates the flood hazard information for that stream and provides current flood profiles and flooded area maps for the other stream reaches covered in this study. Current flood hazard information on the Valley River and selected streams is included in the TVA report "Floods on Valley River, Tatham Creek, and Junaluska Creek in the Vicinity of Andrews, North Carolina," August 1982 (reference 2).

This report does not propose plans for the solution of identified flood problems along the studied stream reaches. Rather, the information and technical data contained herein are intended to provide a sound basis for informed decisions regarding the wise use of flood-prone lands in Cherokee County for those stream reaches covered by this report.

#### STUDY AND SCOPE

This report describes the flood situation along the Nottely
River from the North Carolina-Georgia State line, at stream mile 18.72,
downstream to the head of Hiwassee Reservoir backwater, stream mile 6.50;
Martin Creek from mile 6.12 downstream to mile 1.38; Peachtree Creek from
Ammon Bottom at mile 4.78 downstream to its mouth at Hiwassee River mile
100.68; and Slow Creek from mile 3.15 downstream to its mouth at
Peachtree Creek mile 1.98. The vicinity map (plate 1) shows the stream
reaches covered by this report.

These streams and the specific reaches to be studied were selected by TVA and Cherokee County officials as the areas where limited information is available and where Cherokee County is experiencing rapid growth due to an ever-increasing number of retirees and vacationers establishing homes in the county. The mild climate, scenic beauty, and varied outdoor recreation activities (as well as reasonable proximity to the metropolitan area of Atlanta) make Cherokee County an ideal place for retirement and second homes. Land along the Nottely River has proven especially popular for second-home sites which will eventually be used as permanent homes, and residential development in the Martin Creek watershed is increasing due to its proximity to Murphy, the county seat. The two prime areas for industrial development in the county are in the Valley River watershed below Andrews and in the Peachtree Creek valley. Several industries have located in the Peachtree Creek valley, and it is anticipated that this development will increase. Residential development in the Peachtree and Slow Creek watersheds is also expected to increase.

The user of this report is cautioned that the information contained herein was developed to demonstrate the extent and severity of flood hazards along specific stream reaches. It does not imply that flooding will not occur on other streams not covered by this report or that floods larger than those discussed will not occur. Flooding may occur along any stream or watercourse at any time. Floods larger than those discussed are possible and may occur infrequently. These flood risks should be considered by all users of this report.

#### WATERSHED DESCRIPTION

The Hiwassee River above Hiwassee Dam at stream mile 75.8 drains an area of 968 square miles. Above the dam the Nottely River is the Hiwassee River's principal tributary. At its former mouth in the reservoir at Hiwassee River mile 91.81, the Nottely River has a drainage area of 287 square miles. The Nottely River watershed is roughly rectangular in shape and is about 27 miles long and 12 miles wide. The river headwaters extend to the Blue Ridge Divide at the Tennessee Valley Divide in north Georgia and cover portions of Union County, Georgia, and Cherokee County, North Carolina. The watershed terrain is rolling to mountainous, and the highest point is at Brasstown Bald, elevation 4784 feet, which is located on a spur ridge at the head of the basin. This is the highest point in the State of Georgia. Land along the upper rim of the watershed is mostly 3000 feet to 4000 feet in elevation.

Nottely Dam (on the Nottely River at mile 21.0) is located in Union County, 2.3 river miles upstream from the Georgia-North Carolina State line. Drainage area at the dam is 214 square miles. Closure of

the dam occurred in January 1942, and the single power unit was placed in commercial operation in January 1956. Reservation for flood control on January 1 is 100,000 acre-feet, and 79,150 acre-feet on March 15. TVA is currently (1985) planning to increase the height of the dam to prevent overtopping during a probable maximum flood, which will preserve the integrity of the dam against failure.

Martin Creek drains an area of 9 square miles and enters the Hiwassee River from the left (looking downstream) at mile 97.17. Elevations are above 2000 feet along the rim and about 1500 feet on the valley floor. The upper portion of the watershed is still heavily forested, but an increasing number of residences are being built in the lower portion of the watershed.

Peachtree Creek drains a rectangular-shaped watershed of 18.3 square miles which adjoins the lower Valley River Basin. The stream rises on Peachtree Bald at an elevation of 4186 feet, flows south-westerly, and joins Hiwassee River 4 miles upstream from Murphy. Most of the basin rim at the upper part of the valley is at elevations between 2800 feet and 3600 feet. The lower end of the basin is hilly to rolling with the basin divide at elevation of 1700 to 2000 feet. The largest tributary is Slow Creek, draining the northwest part of the basin.

Peachtree Creek drops sharply from its source to an elevation of 1750 feet at the upper end of Ammon Bottom. From this point the stream flows through broad bottoms, 1,500 to 2,000 feet in width over most of the 5-mile distance to the mouth. The bottoms are highly productive, generally very well-drained, and subject to general overflow only in severe floods. The reach covered by this investigation for Peachtree

Creek includes all the reach in bottom land from the mouth upstream through Ammon Bottom, and for Slow Creek from the mouth upstream to mile 3.15 at the Marble-Peachtree connector.

U.S. Highway 64 from Hayesville to Murphy crosses the lower portion of Peachtree Creek Valley. The Marble-Peachtree connector follows Slow Creek. Tri-County Community College is located just to the east of the watershed. The relatively flat lands are considered among the best industrial sites in Cherokee County. Several plants are located near the intersection of U.S Highway 64 and the Marble-Peachtree connector, and industrial development is expected to continue.

#### REVIEW OF HISTORIC FLOODS

Information regarding past flooding on the streams covered in this study includes stream gage records, newspaper articles, and interviews with local citizens. A stream gage on the Nottely River at Ranger was operated by the United States Geological Survey from 1901 to 1906 and from 1915 to 1945. There are no gaging records on Martin, Peachtree, or Slow Creeks. Stream gages located on the Hiwassee River at Murphy since 1896 and the Valley River at Tomotla since 1904 provide information on large floods in the area. The largest flood of record at Nottely Dam (upstream from the reach being studied) occurred in September 1898 with a discharge of 27,000 cubic feet per second. A history of general floods in the area prior to 1961, as well as specific information

on Peachtree, is contained in the TVA report mentioned earlier. Since 1961 the two largest floods experienced in the area occurred in October 1964 and May 1973. The October 1964 flood followed a storm which had occurred a week earlier and caused severe flooding in North Carolina and Georgia along the headwater streams near the Tennessee Valley Divide. Rainfall was heaviest during the second storm over the Hiwassee River watershed. Damage in Cherokee County was light and generally confined to erosion and road and bridge damage. There was no discharge at Nottely Dam during the October flood, and the reservoir filled about 18 feet with the flood runoff, which limited damages downstream.

An extremely intense rainstorm swept across the Tennessee Valley on May 27-28, 1973, causing serious flooding over parts of the Tennessee basin. One area of high rainfall included the extreme headwaters of the Hiwassee, Little Tennessee, and French Broad River basins. In the Hiwassee River basin, the maximum rainfall recorded was 6.47 inches. Damages throughout the watershed were mainly to land used for agriculture and to roadways. At Nottely Dam the May flood crest was the highest since closure of the dam in 1942.

Newspaper acounts have mentioned high water in Cherokee County on several other occasions. However, no references were made to specific high water marks or damages.

## COMPUTED FLOODS

To assist Cherokee County in administering its floodplain management program, flood discharges and elevations have been computed

for the 10-, 50-, 100-, and 500-year floods. Approximate floodplain boundaries have been determined for the 100- and 500-year floods.

#### HYDROLOGY

Computed flood discharges on Peachtree, Martin, and Slow Creeks are based on stream gage records from similar watersheds in the region.

All stream gage analyses for unregulated watersheds followed standard procedures outlined in "Guidelines for Determining Flood Flow Frequency" (reference 3).

Flood discharges in the Nottely River study reach are regulated by Nottely Dam at river mile 21.0. Computed Nottely River flood discharges are based on an analysis of (1) stream gage records at Nottely River miles 20.4 and 44.3, (2) Nottely Reservoir operations from 1942 to 1983 to determine the probability of spillway discharges, and (3) stream gage records from similar watersheds in the region to determine flood discharges from the unregulated watershed area downstream of the dam.

## Ten-Year Flood

The 10-year flood is defined as the flood which has 1 chance in 10 (10 percent) of being equaled or exceeded in any given year. In a normal 30-year home mortgage period there is a 96-percent chance of its occurrence. The 10-year flood, based on current watershed and channel conditions, would range from within banks in the upper study reach to approximately 2.5 feet above banktop in the lower study reach on Nottely River and would approximately equal the January 31, 1957, flood along Peachtree Creek.

#### Fifty-Year Flood

The 50-year flood is defined as the flood which has 1 chance in 50 (2 percent) of being equaled or exceeded in any given year. In a normal 30-year home mortgage period there is a 45-percent chance of its occurrence. The 50-year flood, based on current watershed and channel conditions, would range from within banks in the upper study reach to approximately 5 feet above banktop in the lower study reach on Nottely River and from about 0.5 to 1.0 foot above the January 31, 1957, flood along Peachtree Creek.

#### One Hundred-Year Flood

The 100-year flood is defined as the flood which has 1 chance in 100 (1 percent) of being equaled or exceeded in any given year. In a normal 30-year home mortgage period there is a 26-percent chance of its occurrence. The 100-year flood, based on current watershed and channel conditions, would range from banktop in the upper study reach to approximately 6 feet above banktop in the lower study reach on Nottely River and from about 0.5 to 1.5 feet above the January 31, 1957, flood along Peachtree Creek. The 100-year flood is the minimum standard required by the Federal Emergency Management Agency for floodplain management purposes for those communities participating in the National Flood Insurance Program.

## Five Hundred-Year Flood

Although the 500-year flood may occur at any time, it is a rare event with 1 chance in 500 (0.2 percent) of being equaled or exceeded in

any given year. In a normal 30-year mortgage period there is about a 6-percent chance of its occurrence. The 500-year flood, based on current watershed and channel conditions, would range from approximately 4 to 7 feet above banktop throughout the study reach on Nottely River and from 1 to 2 feet above the January 31, 1957, flood along Peachtree Creek. The 500-year flood is provided as a guide for planning community and industrial development in those instances where a greater degree of protection from flooding must be provided. In planning for floodplain development, TVA strongly recommends that the effects of a 500-year or higher flood be explicity considered and minimized to the fullest extent practicable.

#### HYDRAULICS

The hydraulic characteristics of the Nottely River and Martin,

Peachtree, and Slow Creeks were analyzed using the U.S. Army Corps of

Engineers HEC-2 backwater program (reference 4) to provide estimates of

the 10-, 50-, 100-, and 500-year flood elevations at selected cross

sections. These cross sections were field surveyed at bridges and other

selected locations to define the floodplains of these streams. Locations

of selected cross sections used in the hydraulic analyses are shown on

the flooded area maps (plates 2-13).

The computed flood elevations for the 10-, 100-, and 500-year floods at the cross sections were plotted on a graph at the stream mile locations of the cross sections and joined by straight lines to create flood profiles (plates 14-20). The elevations shown are in feet above mean sea level, and the stream miles are measured from the mouth upstream

along the stream's principal flow path. Tabulations of the 10-, 50-, 100-, and 500-year flood elevations and discharges for each cross section location along the studied stream reaches are given in tables 1-4.

The computed flood elevations are based on the assumption that bridges and other hydraulic structures remain open and unobstructed. The accumulation of debris in bridges and culvert openings during times of flooding may increase the flood levels above those shown on the flood profiles.

The flooded area maps show the areas that would be inundated by the 100- and 500-year floods. Using the flood profiles and recent aerial photography, the flood elevations were transferred by photogrammetric methods from the profiles to the corresponding locations on the map to establish the expected limits of flooding on the ground.

#### Floodways

Encroachments in the floodplain, such as fill or structures, reduce its flood-carrying capacity and increase the danger of flooding in other areas. In reviewing floodplain development proposals, the economic gain of the proposed development must be compared to the possibility of increased flood damage both to the development and to existing neighboring developments. However, prohibiting any further floodplain development may be excessively restrictive.

Frequently the community must decide how much additional floodplain development to allow, what the effects of such development on flood levels will be, and where the development should take place. If the community is participating in the National Flood Insurance Program,

Table 1

NOTTELY RIVER PROFILE TABULATION

		10-Year Flood		50-Year Flood		100-Yea	r Flood	500-Year Flood		
Cross :	Section Mile	Discharge b	Elevation <sup>c</sup> (feet)	Discharge (cfs)	Elevation c (feet)	Discharge (cfs)	Elevation c (feet)	Discharge (cfs)	Elevation <sup>c</sup> <u>(feet)</u>	
1	6.50	6,800	1532.0	9,800	1533.6/	11,400	1534.3	15,500×	1536.1	
2	7.00	6,775	1542.9	9,750	1544.9	11,300	1545.7	15,400	1547.1	
3	7.42	6,750	1551.8	9,700	1553.4	11,200	1554.0	15,350	1555.6	
*	7.70	6,750	1553.8	9,700	1555.4	11,200	1556.0	15,350	1557.7	
4	7.95	6,700	1556.1	9,600	1558.1	11,100	1559.0 —	15,325	1561.0	
5	8.44	6,680	1558.2	9,500	1560.3	11,000	1561.3	15,300	1563.4	
6A	8.67	6,650	1559.2	9,400	1561.2	10,850	1562.1	15,250	1564.2	
6	8.72 DSª	6,650	1559.2	9,400	1561.3	10,850	1562.1	15,250	1564.2	
6	8.72 USª	6,650	1559.5	9,400	1561.8	10,850	1562.7	15,250	1565.2	
7	9.01	6,600	1560.3	9,350	1562.6	10,800	1563.7	15,200	1566.4	
A8	9.22	6,550	1560.7	9,300	1563.1	10,750	1564.2	15,175	1566.9	
8	9.25 DS	6,550	1561.0	9,300	1563.3	10,750	1564.4	15,175	1567.0	
8	9.25 US	6,550	1561.0	9,300	1563.4	10,750	1564.5	15,175	1567.3	
9A	9.53	6,525	1561.8	9,250	1564.2	10,725	1565.3	15,150	1568.0	
10	10.44	6,490	1564.2	9,200	1566.6	10,600	1567.6	15,100	1570.3	
11	10.90	6,450	1565.9	9,100	1568.3	10,450	1569.4	15,000	1572.3	
12	11.13	5,300	1567.0	7,500	1569.3	8,600	1570.4	14,000	1573.2	
13	11.68	5,200	1569.1	7,300	1571.5	8,350	1572.3	13,900	1574.9	
14A	11.94	5,150	1570.3	7,250	1572.9	8,300	1573.8	13,850	1576.8	
14	11.96 DS	5,150	1570.5	7,250	1572.9	8,300	1573.8	13,850	1576.8	
14	11.96 US	5,150	1570.5	7,250	1573.0	8,300	1574.0	13,850	1577.4	
15	12.24	5,100	1571.3	7,200	1573.8	8,250	1574.7	13,825	1578.1	
17	13.22 DS	4,950	1573.5	6,950	1575.8	8,000	1576.7	13,800	1580.1	
17	13.22 US	4,950	1573.9	6,950	1576.1	8,000	1576.9	13,800	1580.2	

a. Downstream and upstream at bridges and dams.

b. Cubic feet per second (cfs) is a measurement of the volume of water flowing past a given point per second.

c. Feet above mean sea level (USC&GS 1936 Supplemental Adjustment).

Table 1

NOTTELY RIVER PROFILE TABULATION

(Continued)

10-Year Flood		Flood	50-Year	Flood	100-Yea	ır Flood	500-Year Flood		
Cross No.	Section Mile	Discharge b	Elevation <sup>C</sup> (feet)	Discharge b	Elevation <sup>c</sup> <u>(feet)</u>	Discharge b	Elevation <sup>c</sup> (feet)	Discharge b	Elevation <sup>c</sup> (feet)
18	13.89	4,950	1575.2	6,950	1577.3	8,000	1578.0	13,800	1581.0
19	14.32	4,800	1575.9	6,750	1578.0	7,750	1578.7	13,750	1581.7
20	14.76	4,800	1576.8	6,750	1579.0	7,750	1579.8	13,750	1583.0
21	14.99	4,725	1577.5	6,600	1579.7	7,550	1580.6	13,700	1584.1
22	15.35	4,725	1578.6	6,600	1581.1	7,550	1582.0	13,700	1585.9
*	15.60	4,725	1579.5	6,600	1581.9	7,550	1582.8	13,700	1586.8
23A	15.69	4,600	1579.9	6,375	1582.3	7,550	1583.3	13,625	1587.5
23	15.73 DSª	4,600	1579.9	6,375	1582.4	7,375	1583.3	13,625	1587.5
23	15.73 USª	4,600	1580.0	6,375	1582.6	7,375	1583.7	13,625	1587.8
24	16.34	4,500	1581.7	6,300	1584.4	7,250	1585.5	13,600	1589.7
*	16.50	4,500	1582.3	6,300	1584.9	7,250	1586.0	13,600	1590.2
25	16.67	4,450	1583.1	6,250	1585.7	7,100	1586.8	13,590	1591.4
26	17.34	4,350	1587.5	6,000	1589.8	6,950	1590.8	13,575	1595.9
27 <sup>.</sup>	18.06	4,250	1592.7	5,800	1594.8	6,750	1595.8	13,550	1600.2
*	18.34	4,250	1594.4	5,800	1596.6	6,750	1597.6	13,550	1602.2
28.	18.64	4,200	1595.9	5,750	1598.2	6,650	1599.3	13,510	1604.4

a. Downstream and upstream at bridges and dams.

b. Cubic feet per second (cfs) is a measurement of the volume of water flowing past a given point per second.

c. Feet above mean sea level (USC&GS 1936 Supplemental Adjustment).

Table 2

MARTIN CREEK PROFILE TABULATION

	10-Year Flood		50-Year	Flood	100-Yea	r Flood	500-Year Flood		
Cross No.	Section Mile	Discharge (cfs)	Elevation <sup>c</sup> <u>(feet)</u>	Discharge b	Elevation <sup>C</sup> (feet)	Discharge b	Elevation c (feet)	Discharge b	Elevation <sup>C</sup> (feet)
1	1.38	1,400	1558.1	2,300	1560.3	2,800	1561.3	4,100	1563.4
2	1.58	1,390	1561.3	2,290	1563.0	2,790	1563.7	4,075	1565.5
3 <b>A</b>	1.81	1,370	1566.3	2,260	1566.8	2,760	1563.7 1587.1 1567.\	4,025	1567.6
3	1.92 DSª	1,360	1569.5	2,250	1570.6	2,750	1571.0	4,015	1572.0
3	1.92 USª	1,360	1571.6	2,250	1572.8	2,750	1573.2	4,015	1573.9
4	2.01	1,360	1572.4	2,230	1573.9	2,730	1574.5	3,850	1575.8
5	2.59	1,305	1581.3	2,175	1583.5	2,680	1584.6	3,910	1586.6
*	3.00	1,305	1589.4	2,175	1591.4	2,680	1592.4	3,910	1594.3
*	3.30	1,305	1596.0	2,175	1598.1	2,680	1599.1	3,910	1601.1
6	3.51	1,140	1599.2	1,960	1601.4	2,370	1602.4	3,450	1604.4
7	3.70	1,120	1599.8	1,920	1601.9	2,320	1602.8	3,390	1604.9
8	3.95 DS	1,110	1602.0	1,870	1602.4	2,270	1603.1	3,300	1605.1
8	3.95 US	1,110	1605.2	1,870	1606.2	2,270	1606.5	3,300	1607.2
9	4.15	1,105	1606.5	1,825	1607.4	2,225	1607.8	3,240	1608.6
10	4.23 DS	1,100	1608.8	1,810	1609.3	2,205	1609.9	3,205	1610.3
10	4.23 US	1,100	1609.5	1,810	1610.4	2,205	1610.5	3,205	1610.9

a. Downstream and upstream at bridges and dams.

b. Cubic feet per second (cfs) is a measurement of the volume of water flowing past a given point per second.

c. Feet above mean sea level (USC&GS 1936 Supplemental Adjustment).

Table 2

MARTIN CREEK PROFILE TABULATION

(Continued)

10-Year Flood		50-Year	Flood	100-Yea	r Flood	500-Year Flood			
Cross No.	S Section Mile	Discharge (cfs)	Elevation c (feet)	Discharge (cfs)	Elevation c (feet)	Discharge (cfs)	Elevation <sup>c</sup> (feet)	Discharge (cfs)	Elevation <sup>c</sup> (feet)
11 ~	4.39 4.34 DSa	1,100	1611.8	1,800	1612.3	2,200	1612.7	3,200	1613.3
11	4.34 USa	950	1612.1	1,630	1612.7	2,030	1613.0	3,030	1613.6
12	4.70 DS	915	1619.0	1,570	1619.7	1, <del>9</del> 70	1620.0	2,940	1620.7
12	4.70 US	915	1619.4	1,570	1620.7	1,970	1621.0	2,940	1621.4
*	4.90	915	1621.5	1,570	1622.1	1,970	1622.5	2,940	1623.3
13	5.13	890	1626.2	1,520	1627.0	1,920	1627.3	2,840	1627.8
14	5.31	770	1629.2	1,300	1629.8	1,600	1630.1	2,400	1630.8
15	5.41	760	1630.5	1,280	1631.1	1,580	1631.4	2,370	1632.0
16	5.66 DS	710	1636.4	1,210	1637.1	1,510	1637.3	2,270	1637.8
16	5.66 US	710	1637.6	1,210	1638.3	1,510	1638.6	2,270	1639.1
17	5.83 DS	690	1639.8	1,180	1641.1	1,480	1641.7	2,200	1642.9
17	5.83 US	690	1640.8	1,180	1644.1	1,480	1644.5	2,200	1645.5
18	5.90	680	1642.1	1,150	1644.4	1,450	1644.9	2,180	1645.9
19	6.12 DS	650	1645.2	1,100	1645.7	1,400	1646.0	2,100	1646.8
19	6.12 US	650	1646.4	1,100	1649.7	1,400	1650.1	2,100	1650.8

a. Downstream and upstream at bridges and dams.

b. Cubic feet per second (cfs) is a measurement of the volume of water flowing past a given point per second.

c. Feet above mean sea level (USC&GS 1936 Supplemental Adjustment).

Table 3

PEACHTREE CREEK PROFILE TABULATION

	10-Year Flood		50-Year	Flood	100-Yea	r Flood	500-Year Flood		
Cross No.	Section Mile	Discharge (cfs)	Elevation c (feet)	Discharge b	Elevation <sup>c</sup> (feet)	Discharge b	Elevation <sup>c</sup> (feet)	Discharge (cfs)	Elevation c (feet)
*	0.00d	_	1561.5	_	1562.9		1563.3		1564.0
1	0.30d	2,200	1562.8	3,640	1564.1	4,430	1564.5	-	1564.2
2	0.45 DSa	2,200	1563.4	3,600	1564.3	4,400	1564.7	6,340	1565.3
2	0.45 US&	2,200	1564.4	3,600	1566.5	4,400	1564.7	6,300	1565.4
3	0.59	2,190	1565.8	3,595	1567.3	4,390	1568.2	6,300	1569.7
4	0.95	2,170	1570.4	3,580	1571.1	4,330		6,290	1570.0
4 <b>A</b>	1.38	2,130	1579.1	3,540	1579.9	4,285	1571.4	6,210	1572.1
5	1.66	2,115	1583.4	3,520	1584.3	-	1580.2	6,120	1580.6
*	1.97	2,100	1587.6	3,500	1588.2	4,235	1584.6	6,080	1585.5
6 <b>A</b>	2.20	1,500	1596.1	*		4,200	1588.4	6,000	1589.0
7 7	2.35	1,500		2,480	1596.8	3,000	1597.1	4,375	1597.7
7A	2.59	-	1600.6	2,460	1601.3	3,000	1601.6	4,350	1602.3
		1,500	1612.9	2,425	1614.1	3,000	1614.3	4,320	1614.9
8	2.78 DS	1,500	1619.4	2,400	1619.9	3,000	1620.3	4,300	1621.0
8	2.78 US	1,500	1620.2	2,400	1621.8	3,000	1623.0	4,300	1625.2
9	2.97	1,490	1629.1	2,390	1629.6	2,960	1629.7	4,250	1630.5
10	3.05	1,485	1633.4	2,380	1634.1	2,940	1634.5	4,230	1634.9
10A	3.46 DS	1,925	1656.6	2,320	1657.0	2,860	1657.2	4,160	1657.8
10A	3.46 US	1,925	1659.2	2,320	1659.4	2,860	1659.7	4,160	1660.3
11	3.74 DS	1,400	1667.9	2,300	1668.5	2,800	1668.7	4,100	1669.5
11	3.74 US	1,400	1669.6	2,300	1671.8	2,800	1673.0	4,100	1674.2
11A	3.82	1,190	1675.8	2,070	1676.4	2,580	1676.7	3,670	1677.2
13A	4.34	1,130	1709.8	1,920	1710.4	2,380	1710.7	3,410	1711.2
14A	4.52	1,120	1721.7	1,890	1722.4	2,310	1722.7	3,340	1723.3
14	4.60	1,110	1728.7	1,860	1729.4	2,290	1729.7	3,300	1730.4
14B	4.75	1,100	1746.6	1,815	1748.4	2,220	1748.8	3,230	1749.3
*	4.78	1,100	1751.2	1,815	1753.0	2,220	1753.3	3,230	1753.8

a. Downstream and upstream at bridges and dams.

b. Cubic feet per second (cfs) is a measurement of the volume of water flowing past a given point per second.

c. Feet above mean sea level (USC&GS 1936 Supplemental Adjustment).

d. Hiwassee River backwater elevation at miles 100.68 and 100.86.

Table 4
SLOW CREEK PROFILE TABULATION

		10-Year Flood		50-Year Flood		100-Yea	r Flood	500-Year Flood	
Cross No.	Section Mile	Discharge b	Elevation c (feet)	Discharge b	Elevation c (feet)	Discharge b	Elevation <sup>c</sup> (feet)	Discharge b	Elevation <sup>C</sup> (feet)
*	0.00	-	1588.0	-	1588.6	-	1588.8	-	1589.4
1	0.20	1,100	1592.5	1,900	1593.1	2,400	1593.4	3,500	1594.0
2	0.66 DSª	900	1601.5	1,525	1602.2	1,930	1602.5	2,840	1603.1
2	0.66 US <b>a</b>	900	1602.3	1,525	1603.2	1,930	1603.6	2,840	1604.2
3	0.77	880	1603.7	1,500	1604.8	1,900	1605.4	2,800	1606.4
4	1.13	680	1611.9	1,155	1612.8	1,455	1613.2	2,155	1614.0
*	1.39	650	1618.3	1,100	1618.7	1,400	1618.9	2,100	1619.3
5	1.41 DS	650	1619.3	1,100	1619.8	1,400	1620.1	2,100	1620.6
5	1.41 US	650	1621.1	1,100	1622.5	1,400	1623.2	2,100	1625.1
6	1.49	645	1622.3	1,180	1622.7	1,380	1623.3	2,090	1625.1
7	1.61 DS	630	1625.5	1,065	1626.2	1,365	1626.3	2,060	1626.6
7	1.61 US	630	1627.2	1,065	1627.9	1,365	1628.2	2,060	1628.7
7 <b>A</b>	1.66 DS	675	1627.3	1,050	1628.5	1,350	1628.7	2,050	1629.3
7 <b>A</b>	1.66 US	675	1629.2	1,050	1629.7	1,350	1629.9	2,050	1630.4
8	1.90	600	1632.7	1,000	1633.1	1,300	1633.4	2,000	1634.1
*	2.04	600	1635.5	1,000	1636.0	1,300	1636.2	2,000	1636.7
9	2.37	530	1641.0	890	1642.0	1,145	1642.6	1,750	1643.7
10	2.62 DS	485	1651.9	830	1652.4	1,055	1652.6	1,620	1653.1
10	2.62 US	485	1655.4	830	1655.8	1,055	1656.1	1,620	1656.6
11	2.80	460	1659.7	780	1660.6	990	1660.9	1,570	1661.6
12	2.96	430	1667.1	745	1667.8	940	1668.2	1,435	1668.9
13	3.15	400	1677.3	700	1677.7	875	1677.9	1,330	1678.3

a. Downstream and upstream at bridges and dams.

b. Cubic feet per second (cfs) is a measurement of the volume of water flowing past a given point per second.

c. Feet above mean sea level (USC&GS 1936 Supplemental Adjustment).

it must not allow further development which will cumulatively increase the existing level of the 100-year (1-percent-chance) flood by more than 1 foot at any point along the stream.

To accommodate some floodplain development, the floodplain can be divided into two separate parts—the floodway and the flood fringe. This division recognizes the natural functions of the floodplain. The floodway is the stream channel and that portion of the adjacent floodplain which must remain open and unobstructed to permit passage of floodwaters. The floodwaters are deepest and swiftest in the floodway, and structures and other uses located in this area are subject to the greatest danger during times of flooding. The remainder of the floodplain is called the flood fringe. Here the water is more shallow and may have little or no movement. Therefore, most communities permit development in this portion of the floodplain if the development is elevated or otherwise protected to the regulatory (usually 100-year) flood level.

While a community may have some flexibility in setting limits, a floodway must be determined which is capable of handling all of the floodwater which occupies the entire floodplain. When making this determination, it is assumed that the community will permit development in the remainder of the floodplain (that is, in the flood fringe) and that ultimately total development of the flood fringe will occur, thereby restricting floodwaters from flowing through the developed area.

The areas needed to pass floodwaters through the community without causing increases in flood heights by more than the National Flood insurance Program requirement, or to a lesser amount if desired by the community, are determined by engineering calculations. After the floodway boundaries are determined and officially designated by local

ordinance, total filling or development of the flood fringe will not increase flood levels at any point on the stream by more than the previously determined amount (usually 1 foot). Tabulations of the 100-year floodway data are given in tables 1A-4A. Proposed floodway boundaries are shown on the flooded area maps (plates 2-13).

#### STUDY USE

The information and technical data contained in this report may be used as the engineering basis for adopting and administering regulations governing the use and development of flood-prone lands within Cherokee County. Such regulations may be in the form of separate flood-plain management ordinances or may be incorporated into the community's zoning and subdivision regulations and building codes. The adoption of land-use regulations governing the development of flood-prone lands is a major requirement for community participation in the National Flood Insurance Program. Cherokee County has participated in the emergency phase of the flood insurance program since July 19, 1979.

In addition to use by the county officials and local planning commission members, the flood profiles and flooded area maps contained in this report can be used by developers, engineers, those involved in industry and business, individuals, and others to gain knowledge of the extent and severity of flood hazards at specific locations within the county.

The information contained in this report may also be used as a basis for further study and planning on the part of Cherokee County in developing alternative long-term solutions to local flooding problems.

Table 1A NOTTELY RIVER 100-YEAR FLOODWAY DATA

			Floodway							
			Section	Mean	Water Surface Elevation b					
<u>Cross</u> <u>No.</u>	Section Mile	Width <u>(Feet)</u>	Area (Sq. Ft.)	Velocity (Ft/Sec)	With <u>Floodway</u>	Without <u>Floodway</u>	Difference			
t <sup>1</sup> 1	6.50	200	1,987	5.7	1535.3	1534.3	1.0			
2	7.00	275	1,004	11.3	1545.7	1545.7	0.0			
3	7.42	300	2,257	5.0	1554.7	1554.0	0.7			
<b>&gt; 4</b>	7.95	270	2,519	4.4	1559.5	1559.0	0.5			
<b>⇒</b> 5	8.44	350	3,050	3.6	1562.0	1561.3	0.7			
6A 2	8.67	325	3,165	3.4	1563.1	1562.1	1.0			
· 6 \	8.72 US <sup>a</sup>	160	2,180	5.0	1563.6	1562.7	0.9			
7	9.01	400	3,913	2.8	1564.4	1563.7	0.7			
A8	9.22	400	2,706	4.0	1564.8	1564.2	0.6			
8	9.25 US	190	2,550	4.2	1565.3	1564.5	0.8			
9 <b>A</b>	9.53	400	3,676	2.9	1566.2	1565.3	0.9			
10	10.44	195	2,428	4.4	1568.6	1567.6	1.0			
11	10.90	275	2,371	4.4	1570.3	1569.4	0.9			
12	11.13	550	3,340	2.6	1571.3	1570.4	0.9			
13	11.68	250	1,509	5.5	1573.1	1572.3	0.8			
14A	11.94	280	2,774	3.0	1574.5	1573.8	0.7			
14	11.96 US	150	2,480	3.4	1574.6	1574.0	0.6			
15	12.24	250	2,691	3.1	1575.4	1574.7	0.7			
17	13.22 DSª	550	2,927	2.7	1577.6	1576.7	0.9			
17	13.22 US	550	3,039	2.6	1577.8	1576.9	0.9			

a. Downstream and upstream at bridges and dams.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

Table 1A NOTTELY RIVER 100-YEAR FLOODWAY DATA

			Floodway							
0			Section	Mean	Water Surface Elevation b					
No.	Section Mile	Width (Feet)	Area (Sq. Ft.)	Velocity (Ft/Sec)	With <u>Floodway</u>	Without Floodway	Difference			
18	13.89 DS&	650	2,899	2.8	1579.0	1578.0	1.0			
19	14.32 US&	500	3,111	2.5	1579.7	1578.7	1.0			
20	14.76	175	2,056	3.8	1580.7	1579.8	0.9			
21	14.99	100	1,519	5.0	1581.4	1580.6	0.8			
22	15.35	220	1,872	4.0	1582.7	1582.0	0.7			
23A	15.69	330	2,045	3.6	1584.0	1583.3	0.7			
23	15.73 US	120	2,145	3.4	1584.3	1583.7	0.6			
24	16.34	175	2,080	3.5	1586.0	1585.5	0.5			
25	16.67	140	1,412	5.0	1587.2	1586.8	0.4			
26	17.34	110	1,165	6.0	1591.0	1590.8	0.2			
27	18.06	110	1,219	5.5	1595.9	1595.8				
28	18.64	100	1,395	4.8	1599.4	1599.3	0.1 0.1			

a. Downstream and upstream at bridges and dams.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

Table 2A MARTIN CREEK 100-YEAR FLOODWAY DATA

			Floodway	· .			
			Section	Mean	Wate	er Surface Elev	vation
Cross No.	<u>Section</u> <u>Mile</u>	Width (Feet)	Area (Sq. Ft.)	Velocity (Ft/Sec)	With Floodway	Without Floodway	Difference
1	1.38	60	560	5.0	1562.1	1561.3	0.9
2	1.58	185	949	2.9	1564.7	1563.7	1.0
3 <b>A</b>	1.81	95	318	8.7	1567.4	1567.1	0.3
3 -	1.92 DS&	125	623	4.4	1572.0	1571.0	1.0
3	1.92 US&	60	545	5.0	1574.0	1573.2	0.8
4	2.01	60	517	5.3	1575.5	1574.5	1.0
5	2.59	60	503	5.3	1585.4	1584.6	0.8
6	3.51	80	760	3.1	1603.1	1602.4	0.7
7	3.70	300	2,098	1.1	1603.7	1602.8	0.9
8	3.95 DS	185	582	3.9	1604.1	1603.1	1.0
8	3.95 US	185	808	2.8	1606.6	1606.5	0.1
9	4.15	340	1,029	2.2	1608.5	1607.8	0.7
10	4.23 DS	150	303	7.3	1609.9	1609.9	0.0
10	4.23 US	150	545	4.0	1611.2	1610.5	0.7
11	4.34 DS	175	595	3.7	1613.6	1612.7	0.9
11	4.34 US	175	556	3.6	1614.0	1613.0	1.0

a. Downstream and upstream at bridges and dams.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

Table 2A MARTIN CREEK 100-YEAR FLOODWAY DATA

		Floodway					
			Section	Mean	Wate	r Surface Ele	vation
Cross No.	Section Mile	Width (Feet)	Area (Sg. Ft.)	Velocity (Ft/Sec)	With Floodway	Without Floodway	Difference
12	4.70 DSa	210	644	3.1	1620.7	1620.0	0.7
12	4.70 USa	210	713	2.8	1621.0	1621.0	0.0
13	5.13	135	427	4.5	1627.8	1627.3	0.5
14	5.31	250	816	2.0	1631.0	1630.1	0.9
15	5.41	175	464	3.4	1632.2	1631.4	0.8
16	5.66 DS	190	494	3.1	1637.5	1637.3	0.2
16	5.66 US	190	780	1.9	1639.0	1638.6	0.4
17	5.83	105	329	4.5	1642.6	1641.7	0.9
17	5.83	105	623	2.4	1645.4	1644.5	0.9
18	5.90	175	1,012	1.4	1645.8	1644.9	0.9
19	6.12 DS	155	387	3.6	1646.8	1646.0	0.8
19	6.12 US	155	964	1.5	1650.5	1650.1	0.4

a. Downstream and upstream at bridges and dams.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

Table 3A PEACHTREE CREEK 100-YEAR FLOODWAY DATA

			Floodway				
			Section	Mean	Wate	r Surface Elev	vation
Cross No.	Section Mile	Width (Feet)	Area (Sg. Ft.)	Velocity (Ft/Sec)	With Floodway	Without Floodway	Difference
1	0.30	350	1,290	3.4	1562.4 <sup>c</sup>	1561.4°	1.0
1 2	0.45 DS <sup>a</sup>	200	998	4.4	1565.4	1564.7	0.7
2 3	0.45 US <sup>a</sup>	200	1,479	3.0	1567.8	1567.6	0.2
3	0.59	300	1,954	2.2	1568.9	1568.2	0.7
4	0.95	550	1,960	2.2	1572.4	1571.4	1.0
4A	1.38	190	900	4.8	1581.0	1580.2	0.8
5	1.66	500	2,256	1.9	1585.6	1584.6	1.0
6A	2.20	415	1,284	2.3	1597.9	1597.1	0.8
7	2.35	195	674	4.5	1602.2	1601.6	0.6
7A	2.59	100	420	7.1	1615.2	1614.3	0.9
8	2.78 DS	270	1,087	2.8	1621.1	1620.3	0.8
8	2.78 US	270	1,249	2.4	1623.0	1623.0	0.0
9	2.97	190	412	7.2	1630.7	1629.7	1.0
10	3.05	260	934	3.1	1635.4	1634.5	0.9
10A	3.46 DS	150	394	7.3	1657.2	1657.2	0.0
10A	3.46 US	150	691	4.1	1660.6	1659.7	0.9
11	3.74 DS	120	462	6.1	1669.7	1668.7	1.0
11	3.74 US	120	692	4.0	1673.0	1673.0	0.0
11A	3.82	140	379	6.8	1676.9	1676.7	0.2
13A	4.34	180	610	3.9	1711.6	1710.7	0.9
14A	4.52	100	274	8.4	1723.0	1722.7	0.3
14	4.60	150	510	4.5	1730.7	1729.7	1.0
14B	4.75	70	224	9.9	1748.8	1748.8	0.0

<sup>a. Downstream and upstream at bridges and dams.
b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).
c. Elevations computed without consideration of backwater effects from Hiwassee River.</sup> 

Table 4A SLOW CREEK 100-YEAR FLOODWAY DATA

		Floodway					
			Section	Mean	Wate	r Surface Ele	vation
Cross No.	Section Mile	Width (Feet)	Area (Sq. Ft.)	Velocity (Ft/Sec)	With Floodway	Without Floodway	Difference
1	0.20	250	895	2.7	1594.4	1593.4	1.0
2	0.66 DSa	140	498	3.9	1603.0	1602.5	0.5
2	0.66 USa	140	719	2.7	1604.5	1603.6	0.9
3	0.77	60	370	5.1	1606.2	1605.4	0.8
4	1.13	175	653	2.2	1615.1	1613.2	0.9
5	1.41 DS	100	209	6.7	1620.3	1620.1	0.2
5	1.41 US	100	627	2.2	1623.5	1623.2	0.3
6	1.49	100	277	5.0	1623.9	1623.3	0.6
7	1.61 DS	115	433	3.2	1627.2	1626.3	0.9
7	1.61 US	115	603	2.3	1628.7	1628.2	0.5
7 A	1.66 DS	80	188	7.2	1628.8	1628.7	0.1
7.A	1.66 US	80	333	4.1	1630.6	1629.9	0.7
8	1.90	150	397	3.3	1634.4	1633.4	1.0
9	2.37	100	395	2.9	1643.4	1642.6	0.8
10	2.62 DS	110	192	5.5	1652.6	1652.6	0.0
10	2.62 US	110	704	1.5	1657.0	1656.1	0.9
11	2.80	75	159	6.2	1660.9	1660.9	0.0
12	2.96	75	262	3.6	1668.9	1668.2	0.7
13	3.15	65	149	5.9	1678.5	1677.9	0.6

a. Downstream and upstream at bridges and dams.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

#### USER'S GUIDE

TVA has published a document entitled "Guide for the Use of Technical Information and Data for Floodplain Management in the Tennessee River Basin" (reference 5) to assist those who use this report and other flood hazard data in interpreting and applying such information and technical data to specific lands or development proposals.

The "User's Guide," together with this flood hazard information report, can be a valuable tool in assisting Cherokee County in administering and enforcing its floodplain management program. Copies of the "User's Guide" are available upon request from the following TVA offices:

Floodplain Management Staff
Division of Services and
Field Operations
Tennessee Valley Authority
179 Charlotte Street
Asheville, North Carolina 28801
Telephone: (704) 254-8346

or

Floodplain Management Program Flood Protection Branch Tennessee Valley Authority 200 Liberty Building Knoxville, Tennessee 37902 Telephone: (615) 632-4792

#### ACKNOWLEDGEMENTS

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#### DEFINITION OF TERMS

Computed Flood - An estimated future flood based on a hydraulic analysis of the potential storm runoff from an area and flow of water through the floodplain.

<u>Cross Section of a Floodplain</u> - A vertical section of the floodplain surface, normally taken at right angles to the direction of floodflow.

<u>Effective Stream Mileage</u> - The point along the centerline of the stream channel which has the same flood elevation as a specified location in the floodplain.

<u>Flood</u> - A temporary rise in water levels or an accumulation of water runoff, resulting in inundation of areas not ordinarily covered by water.

10-Percent-Chance (10-Year) Flood - A flood having 10 chances in 100 (1 chance in 10) of being equaled or exceeded in any 1-year period.

2-Percent-Chance (50-Year) Flood - A flood having 2 chances in 100 (1 chance in 50) of being equaled or exceeded in any 1-year period.

1-Percent-Chance (100-Year) Flood - A flood having 1 chance in 100 of being equaled or exceeded in any 1-year period.

0.2-Percent-Chance (500-Year) Flood - A flood having 0.2 chance in 100 (1 chance in 500) of being equaled or exceeded in any 1-year period.

Flood Boundary - The estimated outermost limit the waters of a flood of a certain magnitude will reach.

<u>Flood Elevation or Water Surface Elevation</u> - The height (expressed in relation to mean sea level) reached by floods or channel flows of various magnitudes.

Flood Fringe - The area of a floodplain which is outside of the floodway.

<u>Floodflow Line</u> - A line drawn on a map indicating the general direction of the floodwaters in a floodplain.

Flooded Area Map - A map which shows the horizontal flood limits for one or more floods.

<u>Floodplain</u> - Any land area susceptible to inundation by water from any source including, at a minimum, that area subject to a 1-percent or greater chance of flooding in any given year.

Floodplain Management - A term applied to the full range of public policy and action for ensuring wise use of the floodplains. It includes, but is not limited to, collection and dissemination of flood control information acquisition of floodplain lands, enactment and administration of floodplain regulations including building codes, and construction of floodmodifying structures.

<u>Floodplain Regulations</u> - A general term applied to the full range of codes, ordinances, and other regulations relating to the use of land and construction within designated floodplain limits.

Flood Profile - A graph of flood elevations along a stream.

Flood Stage - The vertical distance to the surface of the floodwater as measured from or compared to some arbitrarily fixed and generally accepted point such as a United States Geological Survey stream gage. Local residents may more commonly use the term "flood depth," which is the vertical distance from the water surface to some point such as the floor, ground, or road.

<u>Floodway</u> - The channel of the stream and those portions of the adjoining floodplain which carry and discharge floodwaters of a particular flood event.

Historic Flood - A flood known to have occurred in a specific area.

Maximum Known Flood - The largest flood known to have occurred on a stream or in an area.

Mean Sea Level - The average height of the sea for all stages of the tide over a 19-year period.

<u>Peak Discharge</u> - The greatest rate of flow normally expressed in cubic feet per second (cfs), occurring during a period of high water.

<u>Probable Maximum Flood</u> - The most severe flood that can reasonably be predicted to occur at a site as a result of hydrometeorological conditions.

<u>Reach</u> - Segments of a stream which mark boundaries such as the limits of a study, corporate limits, State or county lines, or other definable features.

Stream Gage - An instrument which makes regular observations of either the water surface elevation (measured from some arbitrary point) or streamflow at a particular site on a stream, canal, lake, or reservoir.

Stream Mileage - Distance measured along the centerline of the stream from some designated point, usually where the stream enters into a larger body of water.

<u>U.S. Coast and Geodetic Survey Levels</u> - The vertical control surveys conducted to establish permanent elevation references.

## Martin Creek

<u>Elevation</u> b	Number	Description
1539.2	TBM M2	A 60d nail in landside of 6-inch sourwood tree at left water's edge, 2 feet above ground at mile 1.10.
1541.4	TBM M3	A 60d nail in landside of 12-inch ash tree, 5 feet from left water's edge, 2 feet above ground, near mile 1.20.
1541.4	TBM M4	A 60d nail in streamside of 24-inch spruce pine on right bank, 5 feet from right water's edge, near mile 1.30.
1556.5	TBM M7	A 60d nail in landside of 12-inch wild cherry tree on right bank, 2 feet above ground, near mile 1.37.
1557.6	TBM M8	A 60d nail in streamside of 8-inch poplar tree, 1.7 feet above ground, 5 feet from right water's edge, near mile 1.37.
1563.0	TBM M9	A 60d nail in streamside of 24-inch elm, 10 feet from left water's edge in fence line, 30 feet downstream of fence corner, near mile 1.58.
1570.9	TBM M12*	A chiseled square on upstream right wingwall at mile 1.91.
1582.3	TBM M15	A 60d nail in landside of 6-inch poplar, 10 feet from left water's edge and 5 feet from old road, near mile 2.20.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.

b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

# Martin Creek

<u>Elevation</u> b	Number	Description
1577.7	TBM M16	A 60d nail in upstream side of 12-inch poplar tree at right water's edge, near mile 2.60.
1577.7	TBM M17	A 60d nail in downstream side of 12-inch elm tree at right water's edge, near mile 2.60.
1581.2	TBM M18	A 60d nail in 12-inch beech tree at left water's edge, near mile 2.80.
1589.3	TBM M19	A 60d nail in landside of 8-inch dogwood tree at right water's edge, 0.6 feet above ground, near mile 3.00.
1592.5	TBM M20	A 60d nail in 18-inch walnut tree on downstream side, 20 feet from right water's edge, near mile 3.30.
1595.3	TBM M21	A 60d nail in downstream side of 12-inch poplar tree and 4 feet from right water's edge, near mile 3.52.
1596.2	TBM M22	A 60d nail in downstream side of 4-inch walnut tree, 10 feet from right water's edge at section no. 6, near mile 3.52.
1595.1	TBM M23	A 60d nail in 4-inch willow tree, 5 feet from left water's edge, near mile 3.70.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

<sup>a. Bench marks are fourth-order accuracy unless otherwise indicated.
b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).</sup> 

# Martin Creek

<u>Elevation</u> b	Number	Description
1598.7	TBM M24	A 60d nail in streamside of power pole, 10 feet from left water's edge, near mile 3.70.
1604.9	TBM M25	A right downstream curb bolt, 1 foot from right end of bridge, near no. 95 on curb.
1620.8	TBM M27*	A chiseled square on right downstream corner of culvert headwall, near mile 4.40.
1619.1	TBM M28	A chiseled square on right upstream headwall near mile 4.50.
1622.6	TBM M29	A 60d nail in telephone pole No. 10-56 at mile 4.70.
1631.3	TBM M30	A chiseled square on right upstream headwall at mile 4.90 of Martin Creek.
1638.0	TBM M33	A 60d nail in upstream, landside of power pole at mile 5.40 of Martin Creek.
1644.1	TBM M34*	A chiseled square on left downstream headwall at mile 5.65 of Martin Creek.
1543.1	TBM M35*	A chiseled square on left downstream headwall at mile 5.82 of Martin Creek.
1642.9	TBM M36	A 60d nail in streamside of power pole, 1 foot above ground, near mile 5.90.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

# Martin Creek

<u>Elevation</u> b	Number	Description
1649.1	TBM <b>H</b> 37*	A right downstream curb bolt at mile 6.11 of Martin Creek.
1604.9	TBM M38	A right upstream curb bolt at mile 3.95 of Martin Creek.
1607.2	TBM M39*	A 60d nail in pole, 40 feet downstream of section no. 9 on Martin Creek, near mile 4.16.
1611.3	TBM M40	A 60d nail in telephone pole, 10 feet upstream of field road at section no. 10 on Martin Creek, near mile 4.23.
1671.23	BM T 2	Located 4.4 miles (airline) south of Murphy, 89.8 feet southeast of Martin Creek School, in north corner of concrete filter plant of school; a standard tablet stamped "T 2 1933," painted "1670.05;" reference mark is 23.8 feet southeast of tablet, in top of northeast corner of filter plant concrete roof; a chiseled square 0.01 foot lower than the tablet. BM T 2 is third-order accuracy.
1599.83	BM 1598.6*	Located 2.9 miles south of Murphy, on road to Martin Creek, at entrance to old Midway Lake, center of west base of concrete bridge over small stream; chiseled square, guard rail painted "1598.6." BM 1598.6 is third-order accuracy.

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a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

#### Martin Creek

(Continued)

<u>Elevation</u> <sup>b</sup>	Number

BM HR-5

1530.77

## Description

Located 0.75 mile southeast of Murphy, about 70 feet north of highway, on fence line extending north to Hiwassee River, on left bank, 64.1 feet N 70°E of northeast corner of concrete block house, and 61.0 feet south along old fence line from TVA property marker 112-1; a standard TVA tablet stamped "HR-5" and set in concrete monument; steel post with control marker sign set 1 foot south of monument. BM HR5 is third-order accuracy.

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b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

### Nottely River

<u>Elevation</u> b	Number	Description
1531.9	TBM N3*	A 60d nail in downstream side of 12-inch red oak tree, 0.6 feet above ground, 60 feet from left water's edge, near mile 6.49.
1532.3	TBM N4	A 60d nail in downstream side of 24-inch oak tree, 0.7 feet above ground, 87 feet from left water's edge, near mile 6.49.
1547.7	TBM N2*	A 60d nail in streamside of power pole No. 276, 0.7 feet above ground, 27 feet west from centerline field road, ±30 feet from left water's edge, near mile 7.18.
1555.2	TBM N7*	A 60d nail in streamward side of 12-inch maple tree at intersection of drive and road, ±30 feet landward from wooden fence and cattle gate, ±300 feet from left bank, near mile 7.98.
1563.7	TBM N8*	A 60d nail in landward side of power pole No. 777, ±10 feet from streamward edge of road at upstream end of cabin area, ±200 feet from left water's edge, near mile 8.41.
1565.2	TBM N9*	A 60d nail in landward side of power pole, ±50 feet downstream from trailer, 10 feet from streamward edge of road, near mile 8.51.

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a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

## Nottely River

<u>Elevation</u> b	<u>Number</u>	<u>Description</u>
1566.9	TBM N10	A 60d nail on upstream side of power pole at intersection of Hilltop Road and Highway 64.
1598.3	TBM N11*	A chiseled square on left downstream wingwall of eastbound lane of Highway 64, painted "BM 1598.38."
1565.3	BM L&N 410*	A chiseled square located 7.6 miles by rail southwest of Murphy, 825 feet east of Ranger Depot, 8 feet below the base of rail, at northwest corner of northend of east stone abutment of railroad bridge No. 18 over Nottely River; steel post with control marker sign set 1 foot north of monument. BM L&N 410 is second-order accuracy.
1569.1	TBM N13*	A bolt on curb of right upstream wingwall of railroad bridge, near mile 10.26.
1569.9	TBM N15*	A 60d nail in 36-inch poplar tree, 50 feet from left water's edge, near mile 11.33.
1567.1	TBM N16*	A 60d nail in 14-inch wildberry tree, 20 feet from left water's edge, near mile 11.50.
1570.9	TBM N17*	A 60d nail in landside of 14-inch beech tree, 10 feet from left water's edge, near mile 11.70.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

### Nottely River

<u>Elevation</u> b	Number	Description
1575.9	TBM N18	A 60d nail in landside of cherry tree at water's edge, 0.8 foot above ground, near mile 12.90.
1582.1	TBM N19*	A chiseled square on left downstream wingwall at mile 13.22 of Nottely River.
1575.8	TBM N21*	A 60d nail in landside of three-prong poplar tree, 30 feet from right water's edge, near mile 13.98.
1577.5	TBM N22*	A 60d nail in downstream side of 12-inch birch tree, 40 feet from right water's edge, near mile 14.20.
1578.8	TBM N23*	A 60d nail in upstream side of 12-inch birch tree, 5 feet from right water's edge, near mile 14.30.
1579.7	TBM N24*	A 60d nail in downstream side of 12-inch birch tree, 10 feet from right water's edge, near mile 14.52.
1587.6	TBM N25*	A 60d nail in streamside of 6-inch maple tree, 130 feet from right water's edge and 15 feet from field road, at section no. 20, near mile 14.76.
1582.9	TBM N26	A 60d nail in upstream side of power pole, 5 feet downstream of drive, near mile 15.00.

 $<sup>^{\</sup>star}$ Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.

b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

### Nottely River

<u>Elevation</u> b	<u>Number</u>	Description
1584.2	TBM N27	A 60d nail in roadside of power pole at mile 15.20 of Nottely River.
1581.1	TBM N28*	A 60d nail in landside of 6-inch birch tree, 20 feet from left water's edge, near mile 15.40.
1581.2	TBM N30*	A 60d nail in upstream side of 12-inch birch tree at left water's edge, 5 feet downstream of 48-inch poplar tree, near mile 16.00.
1586.1	TBM N31*	A 60d nail in landside of 18-inch oak tree at right water's edge, near mile 16.20.
1581.4	TBM N32	A 60d nail in landside of power pole, downstream of private dam, 200 feet upstream of mouth of Gold Branch, near mile 16.35.
1588.8	TBM N33*	A 60d nail in streamside of power pole, 200 feet from right water's edge, 0.3 feet above ground, 30 feet from edge of road, near mile 16.60.
1588.9	TBM N35*	A 60d nail in landside of 18-inch hickory tree, 30 feet from right water's edge, 15 feet downstream of drive, near mile 17.07.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

## Nottely River

Elevation <sup>b</sup>	Number	<u>Description</u>
1592.9	TBM N36*	A 60d nail in landside of power pole, 100 feet from right water's edge, 25 feet upstream of Cobb Creek at section 26, near mile 17.36.
1590.8	TBM N37*	A 60d nail in 4-inch walnut tree at right water's edge at mile 17.50 of Nottely River.
1595.1	TBM N38*	A 60d nail in downstream side of 6-inch cherry tree at right water's edge, near mile 17.70.
1596.9	TBM N39*	A 60d nail in landside of 18-inch birch tree, 5 feet from right water's edge, near mile 18.12.
1598.1	TBM N40	A 60d nail in downstream side of 12-inch cherry tree, 50 feet from right water's edge and 5 feet upstream of field road, near mile 18.37.
1598.9	TBM N41*	A 60d nail in landside of 12-inch cherry tree, 5 feet from right water's edge and 40 feet streamward from field road at section No. 28, near mile 18.63.
1604.40	GAGE BM 1	Located at gaging station about 3,000 feet downstream from Nottely Dam, in center of top of headwall, 5.192 feet above zero of gage; a standard tablet, near mile 20.5. Gage BM 1 is third-order accuracy.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

## Nottely River

(Continued)

**Elevation**b

Number

Description

1619.58

GWM 195

Located 2.03 miles southwest of Bellview by road, and 275 feet southeast of center of Smith Bridge over Nottely River, 25 feet south and 50 feet east of T-road south along the east bank of the river, 160 feet south of the southwest corner of Thomas residence, about 15 feet above road and 9.5 feet above the bridge and is on point of hill, on quartzite outcrop; a standard tablet stamped "GWM ±95, 1936 1620," painted "USPBM 1619.8," near mile ±19.4. BM GWM 195 is second-order accuracy.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.

b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

## Peachtree Creek

<u>Elevation</u> b	Number	Description
1567.7	TBM P1*	A 60d nail in landside of 12-inch maple at left water's edge, 2.7 feet above water surface at section No. 4 on Peachtree Creek, near mile 0.95.
1581.8	TBM P2*	A 60d nail in landside of 8-inch cherry tree near rock outcrop ±15 feet from left water's edge at section No. 4A, near mile 1.38.
1588.0	TBM P3	A 60d nail in 24-inch beech tree at intersection of Peachtree Creek and Slow Creek, on left water's edge, ±2 feet above water surface.
1657.5	TBM P6*	A 60d nail in 25-inch beech tree, ±15 feet from end of bridge, ±20 feet from left water's edge at section No. 10A, near mile 3.46.
1678.7	TBM P7	A 60d nail in pole $\pm 30$ feet from road at section No. 11A, near mile 3.83.
1702.6	TBM P8*	A 60d nail in 20-inch poplar tree, ±15 feet from right water's edge, ±15 feet toward water from field road at section No. 13A, near mile 4.33.
1725.0	TBM P9	A 60d nail in 8-inch locust tree, ±20 feet from right water's edge, ±50 feet upstream of corn field.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.

b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

## Peachtree Creek

<u>Elevation</u> b	Number	Description
1568.996	BM GWM 79*	Located 4.17 miles east of Murphy along U.S. Highway 64, 0.17 miles east of a T-road northeast, on the west and of south headwall of a large concrete culvert over Peachtree Creek; a standard tablet stamped "GWM 79 1936," painted "USPBM." Reference mark is 57 feet northeast of tablet, on east end of north headwall of large concrete culvert; chiseled square 0.082 feet lower than tablet; at Highway 64 near mouth of Peachtree Creek. BM GWM 79 is second-order accuracy.
1624.3	BM MOODY*	A standard cap set on C.L. D.S. concrete headwall over Peachtree Creek on Highway 141, 1.6 miles northeast from junction of Highway 64E and 141, 9.7 feet from edge of road and 50.7 feet from C.L. of driveway.
1636.0	BM PEACHTREE 1975*	A standard disk set in top 10-inch cylinder, which is 4 inches below surface approximately 5.0 miles east of murphy. Approximately 500 feet north of Peachtree Elementary School and approximately 200 feet north of Intersection SR1519 and SR 1531, near northwest corner of paved area of the Texaco property.

 $<sup>^{\</sup>star}$ Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

### Peachtree Creek

<u>Elevation</u> b	Number	Description
1636.0	BM PEACHTREE 1975* (continued)	The mark is 22.2 feet east of the centerline of SR 1519, 24.6 feet northwest of the northwest corner of concrete base of Texaco sign 4.5 feet north of telephone pole 26 with metal pedestal at base and reference tag, 5.0 feet southsoutheast of base of guy wire, and 89.0 feet north-northwest of north end of gas pump island.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

## Slow Creek

<u>Elevation</u> b	Number	Description
1592.9	TBM S1	A 60d nail in upstream side of 12-inch sycamore tree on right side of creek, 1 inch above ground at section No. 1, near mile 0.20.
1592.7	TBM S1-A	A 60d nail $\pm 15$ feet upstream from S1 in 6-inch birch tree.
1603.2	TBM S2*	Left downstream curb bolt on bridge, near mile 0.66.
1601.7	TBM S3*	A 60d nail in 18-inch sycamore tree at section No. 3 on left water's edge, near mile 0.77.
1602.8	TBM S3-A	A 60d nail in 8-inch birch tree +25 feet upstream of TBM S3.
1612.5	TBM S4	A 60d nail in creek side of 24-inch birch tree at cross section No. 4, near mile 1.13.
1612.1	TBM S4-A	A 60d nail in corner of fence post +15 feet from TBM S4.
1628.4	TBM S7	At top of bolted flange on upstream side of bridge.
1634.3	TBM S8*	A 60d nail in 8-inch willow tree ±25 feet from left water's edge at section No. 8, 2.5 feet above ground, near mile 1.90.
1641.2	TBM S9*	A 60d nail in twin 3-inch sycamore trees, ±15 feet from left water's edge at section No. 9, near mile 2.37.

<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

a. Bench marks are fourth-order accuracy unless otherwise indicated.

b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

### Slow Creek

<u>Elevation</u> b	Number	<u>Description</u>
1684.9	TBM S13*	Chiseled square on northeast corner of Cannon Road Baptist Church sign, 2.8 feet above ground at Slow Creek mile 3.17.
1626.5	BM TRUETT*	A concrete monument set flush with ground on highway 141, 2.3 miles northeast of junction of Highway 64E and Highway 141 in front yard of Truett Baptist Association, 22.0 feet from brick sign 8.5 feet from edge highway 141.

Carlo Swift with a School

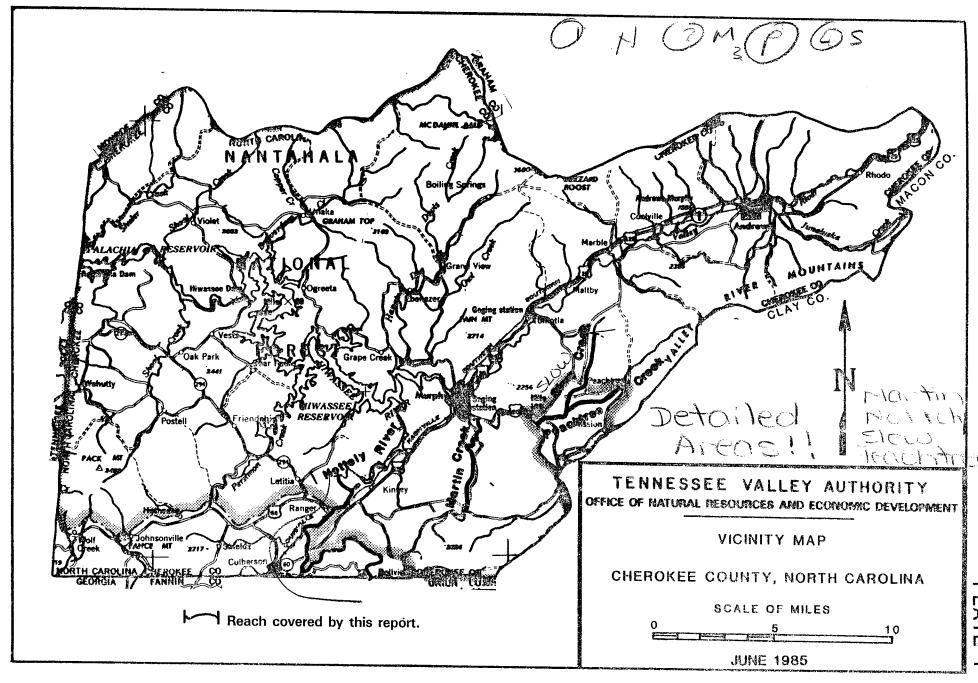
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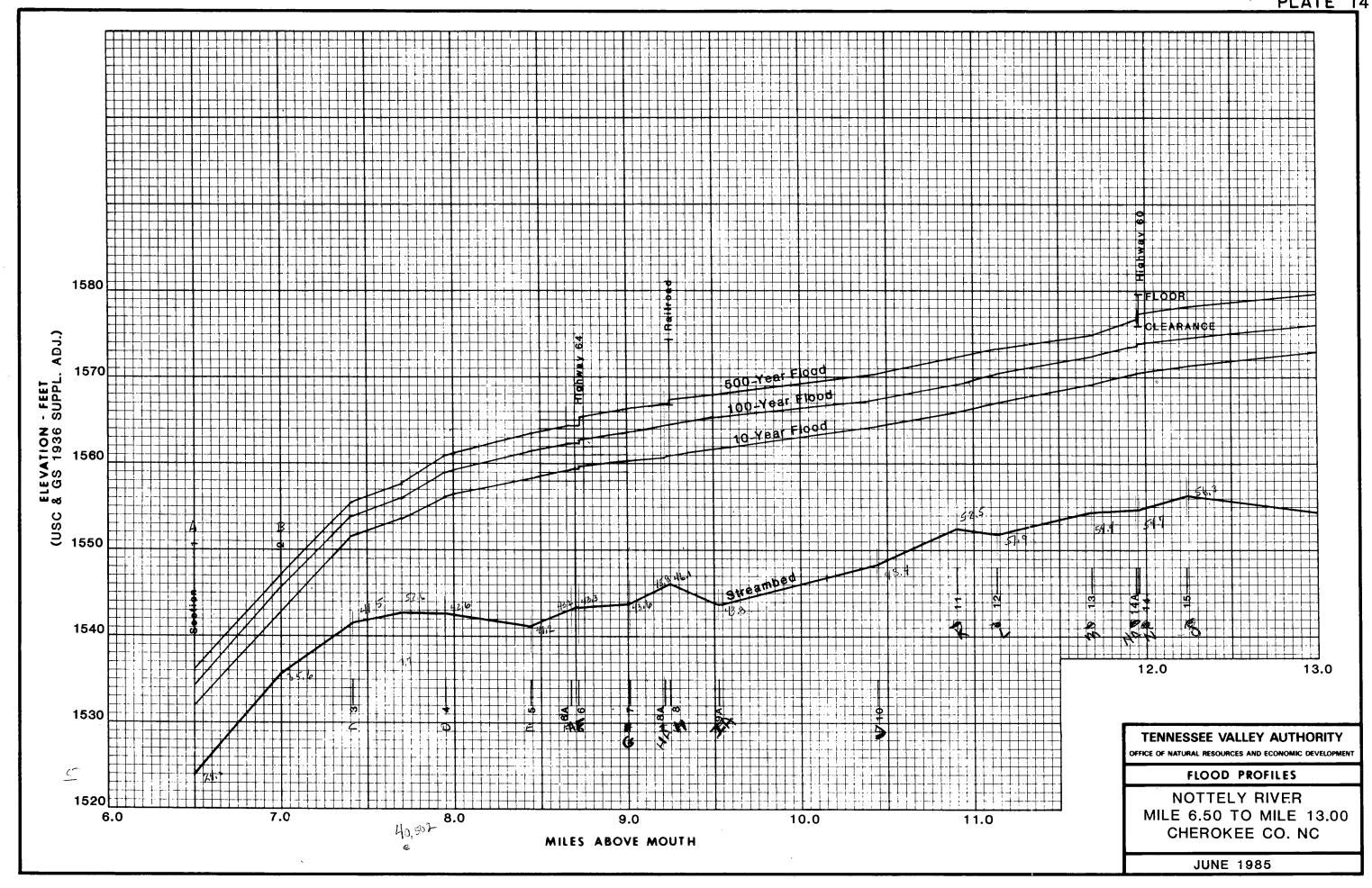
<sup>\*</sup>Only those bench marks (BM) and temporary bench marks (TBM) identified by an asterisk are located on the map plates.

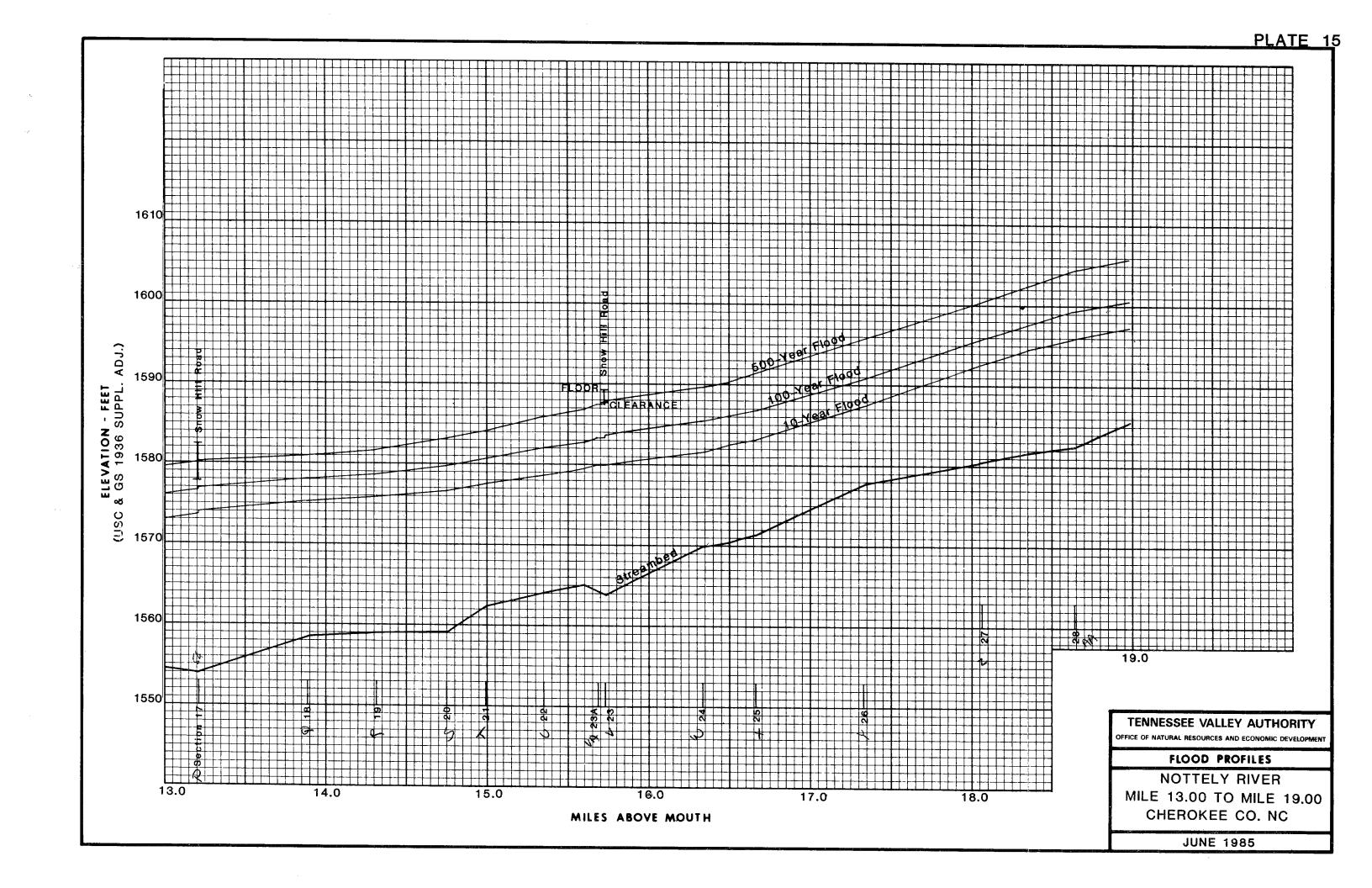
a. Bench marks are fourth-order accuracy unless otherwise indicated.b. Feet above mean sea level (USC&GS 1936 Supplementary Adjustment).

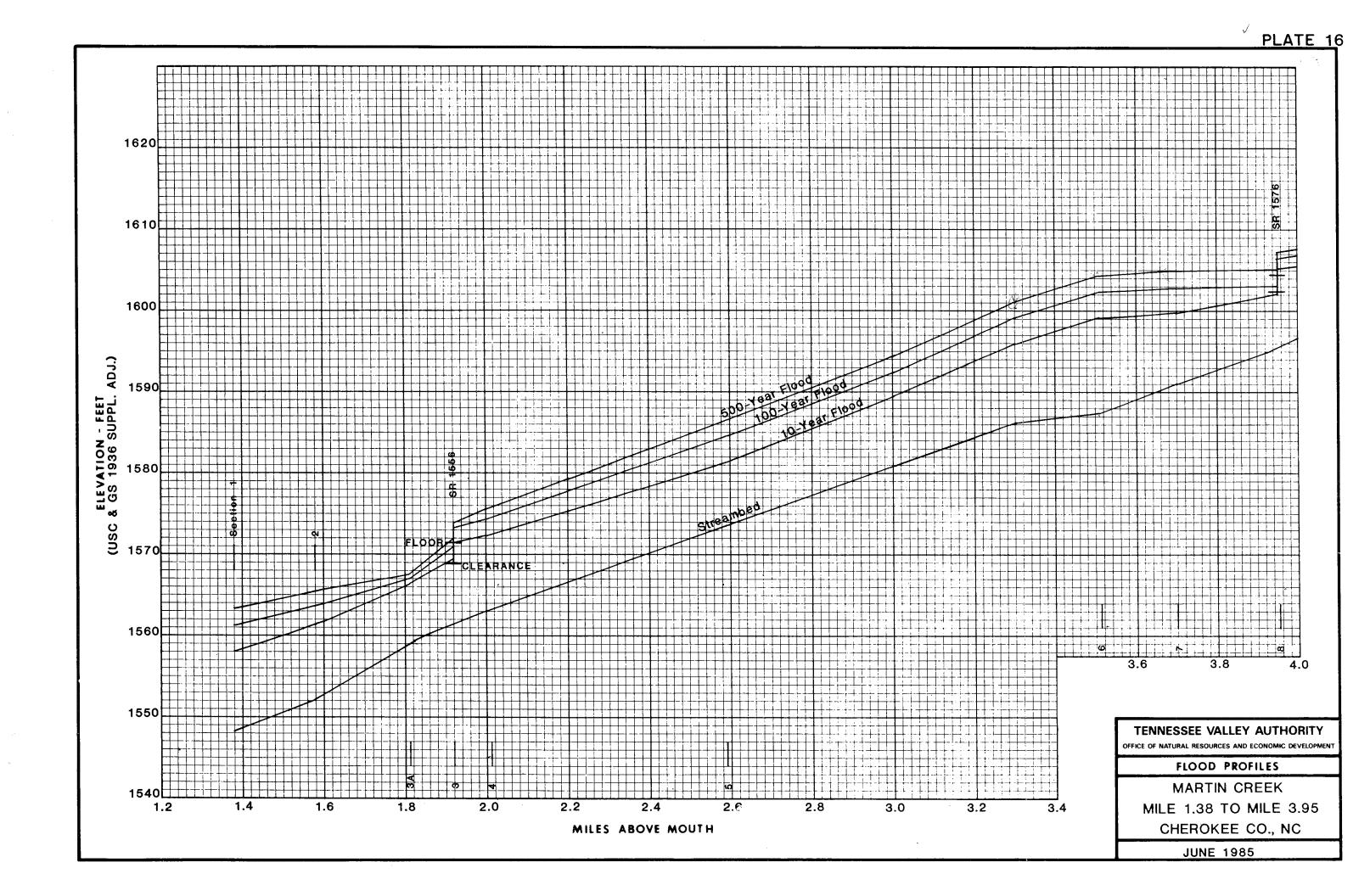
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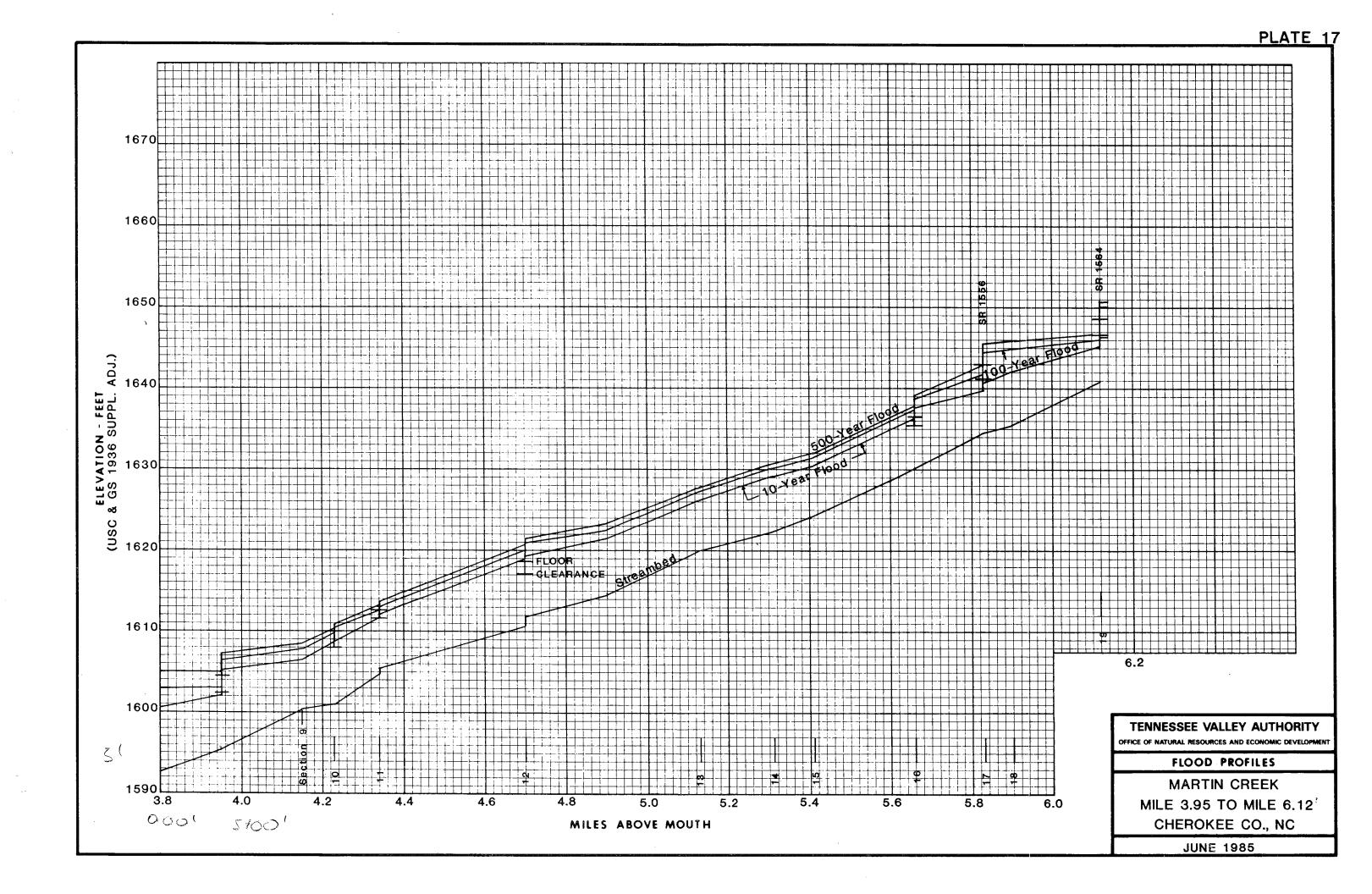
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- Tennessee Valley Authority, Office of Economic and Community Development, Floods on Valley River, Tatham Creek, and Junaluska Creek in the Vicinity of Andrews, North Carolina, Flood Report TVA/OECD/FPM-82/4, Knoxville, Tennessee, August 1982.
- 3. U.S. Water Resources Council, "Guidelines for Determining Flood Flow Frequency," Bulletin 17B of the Hydrology Committee, Washington, D.C., September 1981.
- 4. U.S. Army Corps of Engineers, <u>HEC-2 Water Surface Profiles Generalized</u>
  <u>Computer Program</u>, Hydrologic Engineering Center, Davis, California,
  April 1980.
- 5. Tennessee Valley Authority, <u>Guide for the Use of Technical Information</u> and Data for Floodplain Management in the Tennessee River Basin, October 1980.











MILES ABOVE MOUTH

CHEROKEE CO., NC

JUNE 1985

