

TENNESSEE VALLEY AUTHORITY

PRELIMINARY REPORT

FLOODS ON SCOTT CREEK

IN VICINITY OF SYLVA, NORTH CAROLINA

Knoxville, Tennessee

May 1966

Tennessee Valley Authority

PRELIMINARY REPORT
FLOODS ON SCOTT CREEK
IN VICINITY OF SYLVA, NORTH CAROLINA

This is a brief report which relates to past floods and possible future floods on Scott Creek in the vicinity of Sylva, North Carolina. It was prepared at the request of the Sylva Planning Commission through the Western North Carolina Regional Planning Commission. Sylva is now engaged in a comprehensive planning program to guide future development. Information on the nature and extent of the flood problem was needed to assist in planning for the best use of land adjacent to Scott Creek. This investigation was expedited in order to assist with this immediate need.

Scott Creek is a major tributary of Tuckasegee River and joins the river at Dillsboro, North Carolina. The creek originates along the western slope of Balsam Mountain which marks the divide between Jackson and Haywood Counties. The entire watershed, with an area of 58.6 square miles, is in Jackson County and most of the drainage area lies within the Nantahala National Forest. The elevations around the rim of the watershed range up to 6,292 feet at Waterrock Knob in the northwestern corner. The creek flows generally southwestward to its mouth where the elevation is about 1,960 feet. The reach covered by this report extends from the mouth of Scott Creek upstream to the mouth of Kitchin Creek at mile 4.3. Plate 1 is a map of the area.

Profiles were obtained along the reach investigated to show the stream bed, water surface, top of bank, and the floods of January 1957 and April 1964. A spot elevation for the August 30, 1940, flood was also obtained. Twelve cross sections were taken at various intervals. The locations of these cross sections are shown on the attached map, Plate 1. Two selected cross sections are included in this report.

Town History

Sylva's beginnings go back to 1879, when General E. R. Hampton built a house and a store close to the sawmill he owned on Scott Creek, with the aim of starting a town. A post office was obtained the same year, and the settlement was named by General Hampton's youngest daughter, Mae, for William D. Sylva, an itinerant young Dane who made many friends in Webster and on Scott Creek before drifting on to Texas to seek his fortune. The Town of Sylva was chartered by the General Assembly in 1889.

The Jackson County seat was at Webster until 1913, when the railroad came through Sylva instead of Webster, as anticipated. C. J. Harris offered to build a new courthouse and jail in Sylva if the county seat were moved, and it was done that same year. The coming of the railroad, in addition to bringing the county seat to Sylva, doubtless encouraged the various economic enterprises that helped Sylva to grow, particularly those that made use of timber and Jackson County's other natural resources.

Floods of the Past

Little is known of floods on Scott Creek prior to the establishment of a recording stream gage in May 1928. There are brief periods of staff gage records on Scott Creek during 1907-1908 and 1921-1922, but no floods were recorded during these periods. Flood history investigations on the Tuckasegee River indicate that important floods occurred over the watershed in May 1840, March 1867, June 1876, November 1906, and March 1913, with the "May Fresh" of 1840 being the greatest. It is probable that large floods occurred on Scott Creek also, but there is no high water mark information available on the creek for these early floods.

Following are accounts of some of the larger known floods on Scott Creek:

Flood of March 26, 1936

The Times-News, Hendersonville, North Carolina, on Thursday, March 26, 1936, carried the following account of the flood:

Homes in Sylva were reported flooded and a number of people stopping at a nearby tourist camp on the banks of Scott Creek fled to safety when that stream reaching the highest point ever recalled inundated the cabin.

The plant of the Sylva Paperboard Company suspended operations temporarily. The establishment itself was not flooded.

There were two feet of water in the basement of the Sylva High School and classes were suspended.

Flood of August 30, 1940

This is one of the highest known floods on many streams in western North Carolina, including Scott Creek, and TVA engineers investigated the flood. The field report covering the Tuckasegee River watershed stated that the Sylva Paperboard Company on Scott Creek in Sylva had their office, chipper house, and machine shop flooded. Damage was estimated at \$3,000, plus \$1,200 in wages lost by employees off for 5-2/3 days, the shutdown resulting from the flood.

Armour Leather Company on Scott Creek in Sylva estimated damages to bark, buildings, and equipment as \$2,000. Plant officials said that, had the crest been 4 inches higher, their tanning vats would have been flooded, destroying expensive liquors and hides amounting to many thousands of dollars. Employees lost one day amounting to about \$300 in wages.

Flood of January 31, 1957

General flooding occurred over much of the eastern half of the Tennessee Valley basin on this date. Scott Creek went out of its banks covering fields and threatening buildings. One family near Sylva was forced from their home because of the rising water. The creek rose to within a few feet of the railroad track at several

low trestles, and work crews used hand booms to remove logs from the upstream side to prevent jamming. Following the flood, the crest was marked in the vicinity of Sylva by TVA engineers.

Flood of April 7, 1964

This flood was about one foot lower than that of 1940. It was investigated and marked by TVA engineers. The Southern Railway track at the upper end of Mead Corporation was affected when 50 feet of track bed was damaged. Ballast was washed from under one rail, leaving it suspended. The track bed also was scoured to a lesser extent in downtown Sylva. These damages are estimated at \$1,000. In the Addie community above Sylva, a 6-inch water line under the creek broke and left the Harn Corporation plant out of water for a day. Since no water is used in production, this proved to be mostly a matter of inconvenience.

Somewhat heavier damage occurred at Dillsboro near the mouth of Scott Creek. A 4-inch water line was broken at a creek crossing. This has occurred several times in recent years. A footbridge serving two houses was knocked off its foundation, and 50 feet of Hemlock Lane street suffered scour damage to its blacktop surface. The Hemlock Lane vehicle bridge lost approximately 5 cubic yards of earth at one end when flood waters washed through the deteriorated timber left abutment and scoured out the material. The bridge continued in use until repairs were made. Also at Dillsboro, 100 feet of the right bank received extensive erosion at a slight left turn in the creek 100 yards downstream from the Hemlock Lane bridge.

Flood of March 26, 1965

The crest stage at the gage was just 0.3 foot lower than that of April 7, 1964, but the flood passed through Sylva without causing any accountable damage. At Dillsboro, the creek broke over the railroad and flooded a low-lying area occupied by 5 houses and an oil bulk plant. Water entered one house to a depth of an inch, and the oil plant was flooded 3 to 4 feet deep. The plant office floor was covered by 2 inches of water.

SCOTT CREEK ABOVE SYLVA, NORTH CAROLINA
FLOOD CREST ELEVATIONS ABOVE BANKFULL STAGE

All gage heights are referred to the U. S. Geological Survey gaging station located at Mile 3.32 about one mile upstream from the center of Sylva, North Carolina. Drainage Area = 50.7 square miles; zero elevation = 2,056.42 feet, USC&GS Supplementary Adjustment of 1936. Bankfull stage is 7 feet.

<u>Date of Crest</u>	<u>Gage Height</u>		<u>Discharge</u> cfs
	<u>Stage</u> feet	<u>Elevation</u> feet	
May 1840	(a)		
March 1867	(a)		
June 1876	(a)		
November 19, 1906	(a)		
March 27, 1913	(a)		
July 10, 1929	7.9 (b)	2,064.3	2,100
July 17, 1929	7.5 (b)	2,063.9	1,900
February 4, 1936	7.1 (b)	2,063.5	1,700
March 26, 1936	7.6 (b)	2,064.0	2,000
August 30, 1940	9.7 (b)	2,066.1	3,200
January 31, 1957	7.39	2,063.81	2,320
May 29, 1959	7.10	2,063.52	2,120
February 25, 1961	7.67	2,064.09	2,290
December 12, 1961	7.57	2,063.99	2,220
March 12, 1963	7.65	2,064.07	2,090
April 7, 1964	8.6	2,065.0	2,530
October 4, 1964	7.54	2,063.96	2,030
March 26, 1965	8.31	2,064.73	2,500
February 13, 1966(c)	7.75	2,064.17	2,160

- (a) Stage unknown--flood history investigations indicate that a large flood probably occurred on this date.
- (b) Estimated from correlation with gage at Sylva, Mile 2.61.
- (c) Provisional data--subject to revision.

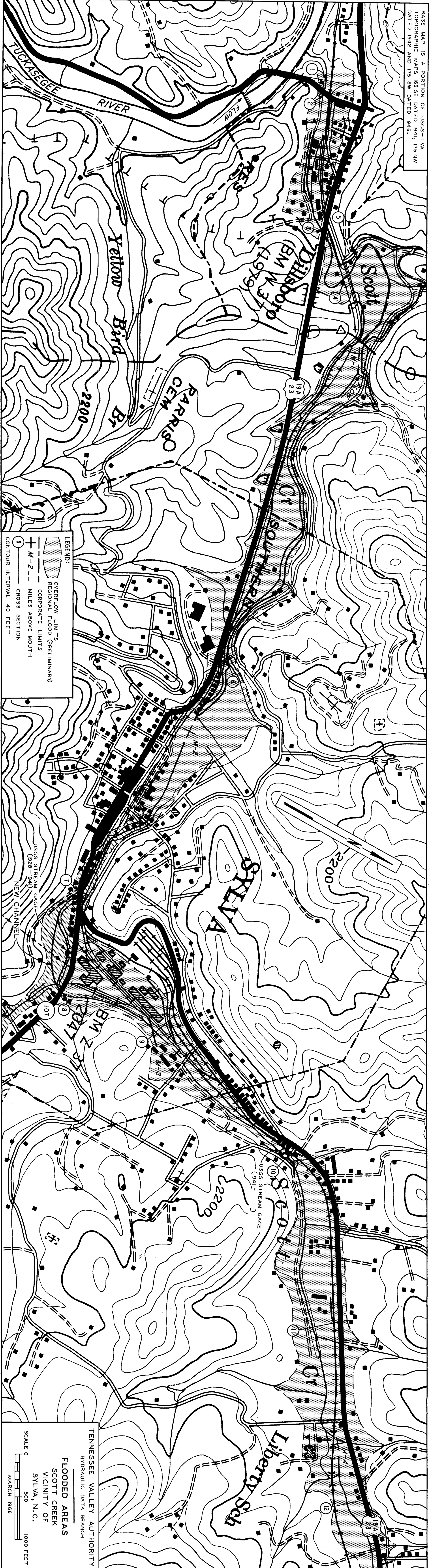
Floods of the Future

Known floods of the past have caused relatively minor damage at Sylva. The capacity of the Scott Creek channel is large in relation to the amount of water it must carry so there is little overflow of land adjacent to the stream. This, plus the fact that most developments along the creek are above the elevation that past floods have reached, has prevented serious loss.

It is reasonable to assume that the highest known floods on Scott Creek will be exceeded in the future. Large floods have been experienced in the past on similar streams within 50 miles of Sylva. Such floods could occur on Scott Creek. Floods comparable in magnitude to those experienced on neighboring streams are designated by TVA as Regional Floods. From information readily available in TVA files, a preliminary determination of a Regional Flood has been made for Scott Creek. A more thorough investigation could affect the magnitude of this flood. The area which would be flooded by the Regional Flood (Preliminary) is shown on the attached map of the area, Plate 1. The preliminary profile is shown on the profile sheet, Plate 2, but more complete information could alter its shape slightly. However, the profile of the Regional Flood (Preliminary) indicates the approximate magnitude of flooding which reasonably may be expected at Sylva.

Floods higher than the Regional Flood (Preliminary) are possible. Although determination of such floods is beyond the scope of this report, it would be necessary to consider them in the design of any flood control structures to be built in the area, or if one desired to locate in areas free from flooding.

BASE MAP IS A PORTION OF USGS-TVA
 TOPOGRAPHIC MAPS 166 SE DATED 1941, 175 NW
 DATED 1942 AND 175 SW DATED 1946.



LEGEND:

- OVERFLOW LIMITS
- REGIONAL FLOOD (PRELIMINARY)
- CORPORATE LIMITS
- MILES ABOVE MOUTH
- CROSS SECTION
- CONTOUR INTERVAL 40 FEET

USGS STREAM GAGE
 (1928-1941)
 NEW CHANNEL

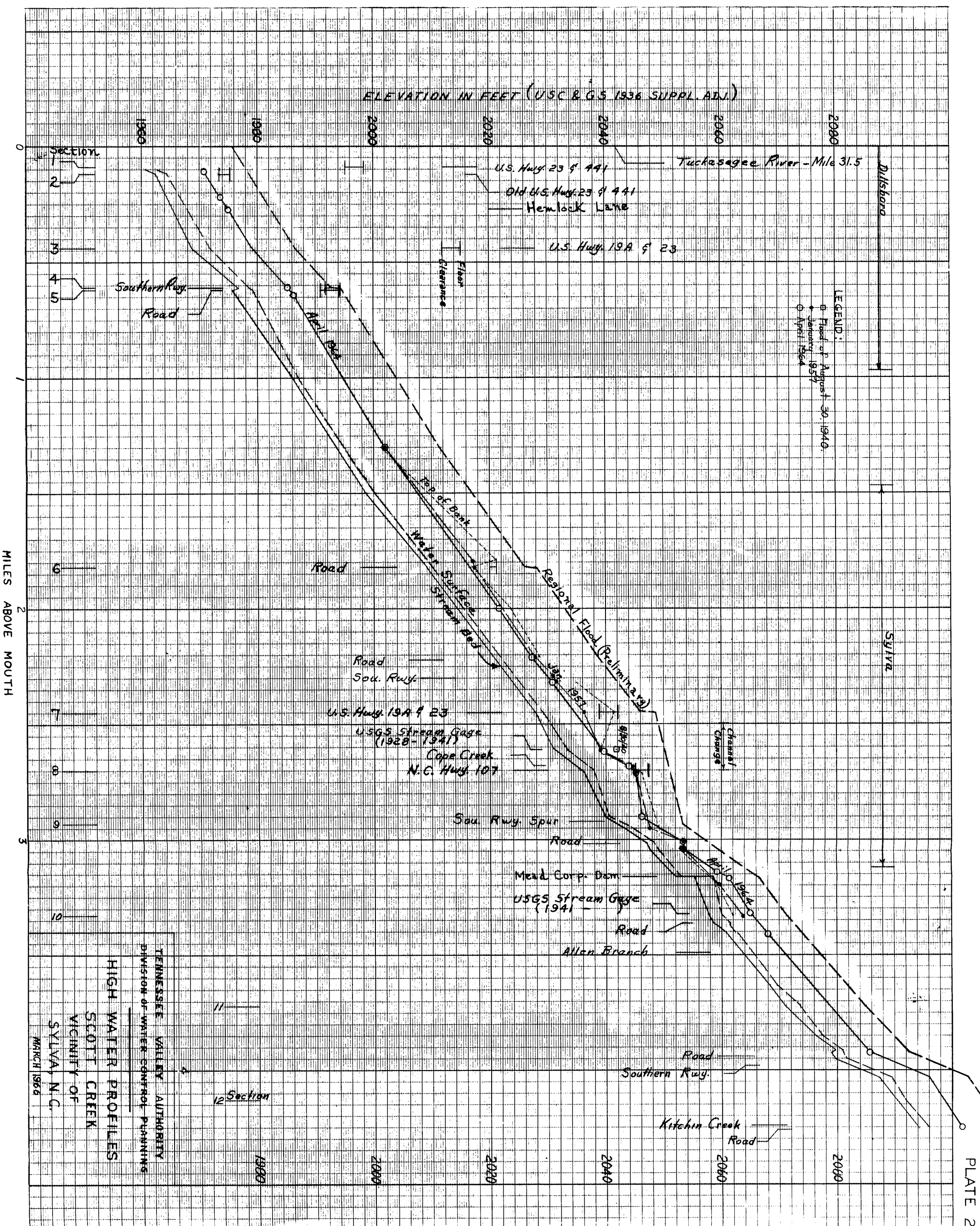
USGS STREAM GAGE
 (1941-)

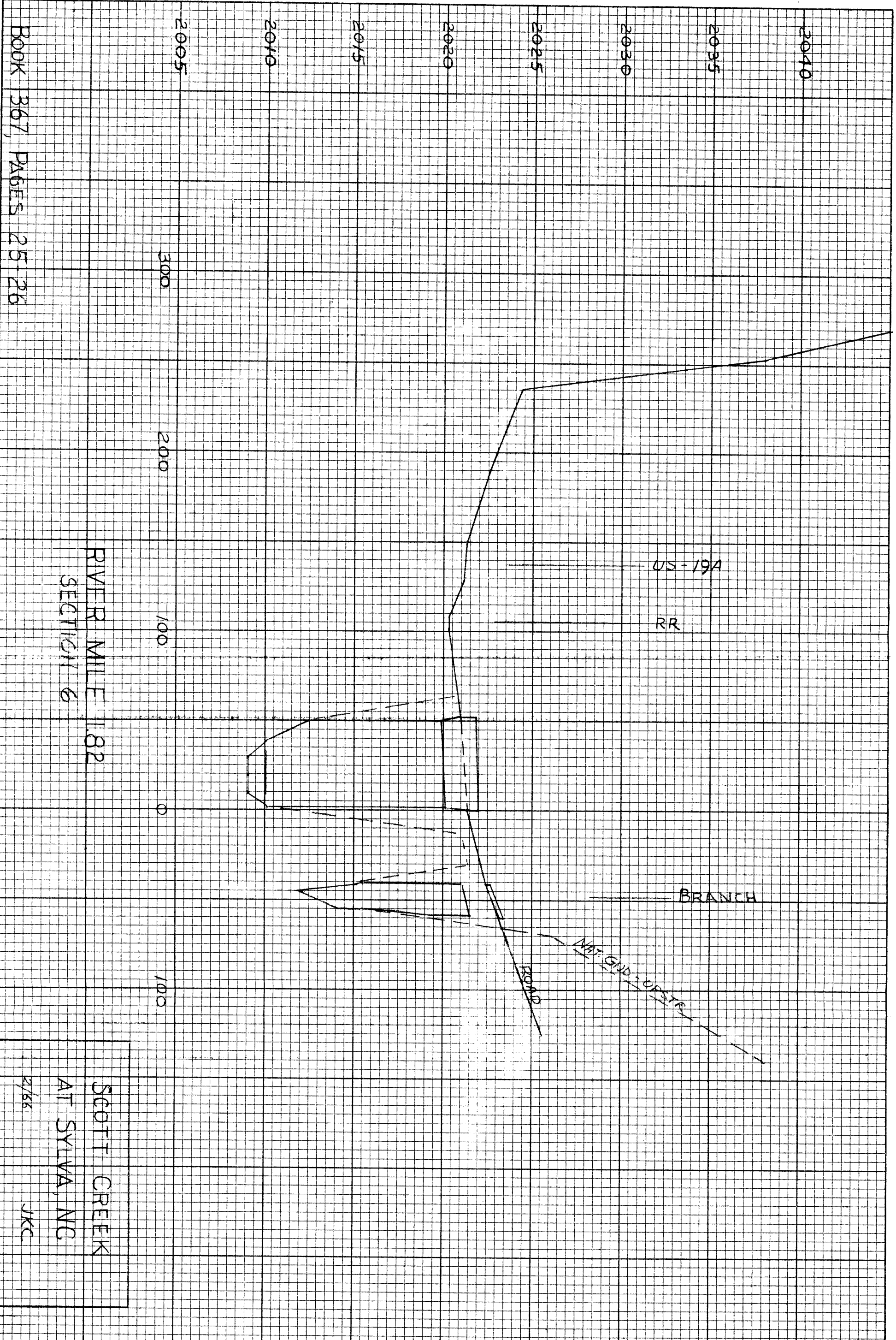
TENNESSEE VALLEY AUTHORITY
 HYDRAULIC DATA BRANCH

FLOODED AREAS
 SCOTT CREEK
 VICINITY OF
 SYLVA, N.C.

SCALE 0 500 1000 FEET

MARCH 1966





BOOK 367, PAGES 25-26

RIVER MILE 11.82
SECTION 6

SCOTT CREEK

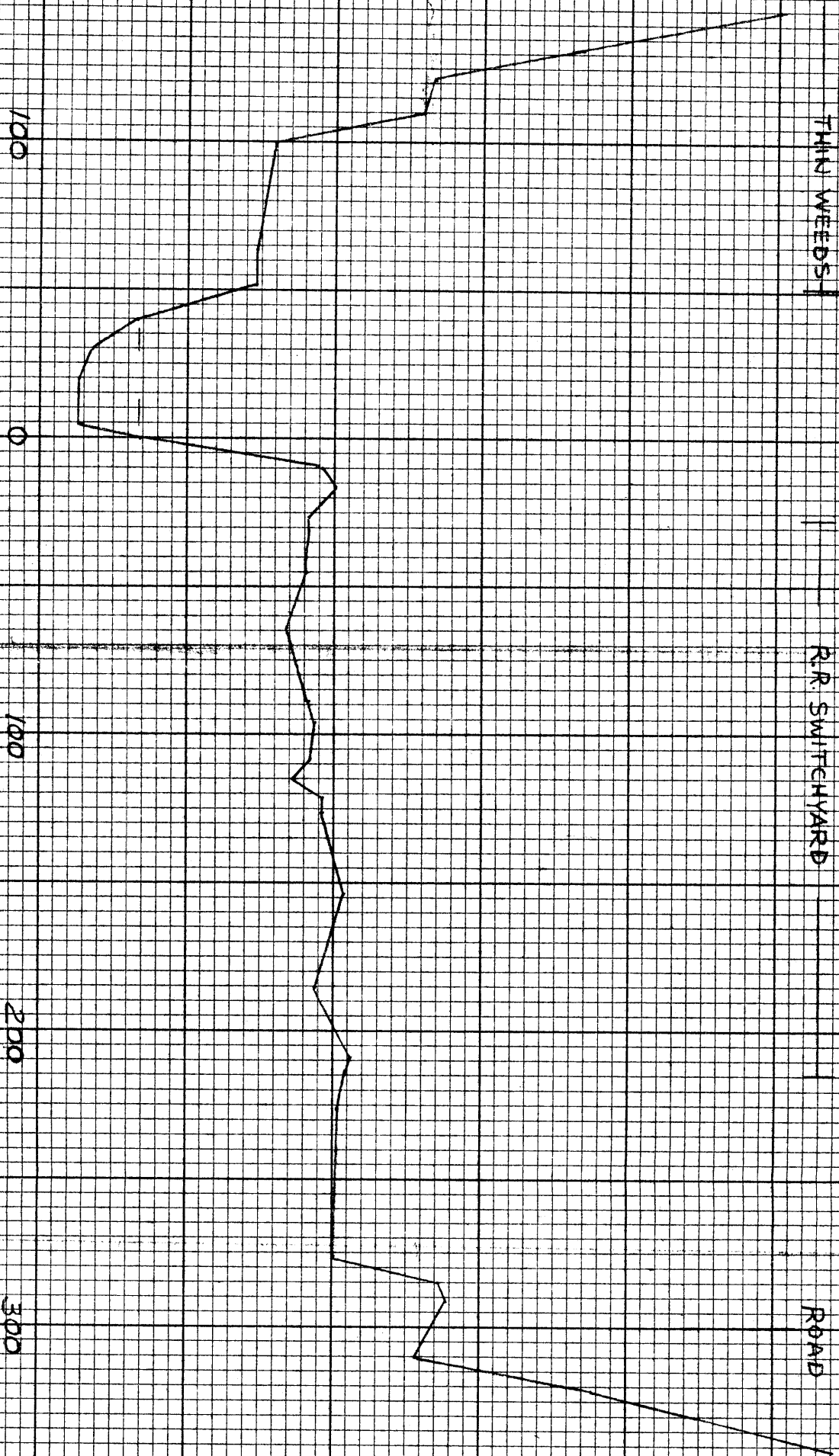
AT SYLVIA, NC

2/88

JKC

Book 1369, Page 7.

2070
2065
2060
2055
2050
2045
2040



MILE 2.93
SECTION 9

SCOTT CREEK AT SYLVA, NC.
3-7-66
JKC